4-24-2015

The 26th Annual Dr. George Perez Research Colloquium Abstracts of Presentations

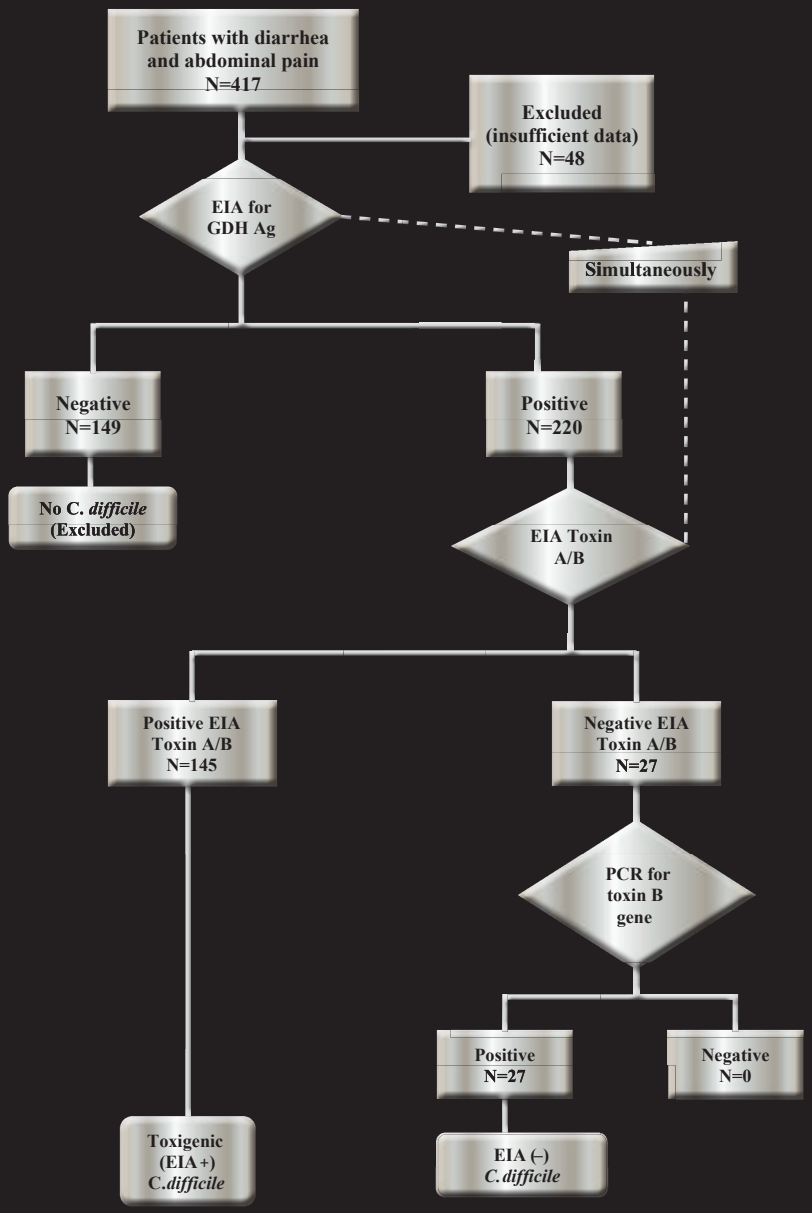
Seton Hall University

THE 26TH ANNUAL DR. GEORGE PEREZ
RESEARCH COLLOQUIUM

ABSTRACTS OF PRESENTATIONS

PRESENTED IN CONJUNCTION WITH THE
SETON HALL UNIVERSITY PETERSHEIM ACADEMIC EXPOSITION

24 APRIL 2015



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24 April 2015

Dear Colleagues and Students:

It is my distinct pleasure to greet you as you attend the 26th Annual Dr. George Perez Research Colloquium of the School of Health and Medical Sciences.

Since 1990, the Research Colloquium has been the vehicle for our faculty, residents, fellows and health sciences students to present the results of the scholarly pursuits in which they have been engaged. We also enjoy the participation of some of the medical students at the healthcare institutions that comprise our graduate medical education consortium. For this year's Research Colloquium, we are also happy to be joined by our colleagues from the Seton Hall College of Nursing and Seton Hall's newest partner in the realm of academic medicine, Hackensack University Medical Center.

We welcome, also, our keynote speaker, Danielle Ofri, MD, PhD. Dr. Ofri is an essayist, editor and practicing internist at Bellevue Hospital in New York City. Dr. Ofri's talk will deal with ways and means to reinvigorate members of the healthcare team who, all too often, are burdened by the many challenges they face on a daily basis.

Once again our program is being sponsored by MDAdvantage Insurance Company of New Jersey, a leading provider of medical professional liability insurance in New Jersey. As a company committed to investing in the future of New Jersey's healthcare system, MDAdvantage has been an ongoing partner in supporting medical education and encouraging the medical students, residents and young physicians of our state to realize their greatest potential.

I would also like to take this opportunity to thank my fellow faculty members who assisted in the preparation for today's event. I would also be remiss if I didn't recognize the many individuals from Seton Hall's administrative staff for making the Research Colloquium a success. Most of all, however, I thank the presenters and their co-authors for sharing the results of their studies with us.

Have a wonderful and productive day.

Collegially yours,

Vincent A. DeBari, PhD
Professor of Medicine and Director of Research

School of Health and Medical Sciences
400 South Orange Avenue • South Orange, New Jersey 07079

SETON HALL UNIVERSITY
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24 April 2015

Dear Colleagues and Students:

Welcome to the School of Health and Medical Sciences' (SHMS) 26th Annual Dr. George Perez Research Colloquium, presented in conjunction with the Seton Hall University Petersheim Academic Exposition. I am pleased that you could join us, as it is the collaborative exchange of knowledge that makes research and scholarly inquiry exciting.

Our annual Research Colloquium provides the venue to demonstrate SHMS' commitment to Interprofessional Education (IPE). The Research Colloquium showcases the leading research by the medical faculty, residents and fellows from our Division of Medical Residencies and Fellowships, as well as faculty and students from our Division of Health Sciences. Students and faculty from the University's Department of Biological Sciences also have been regular participants, and I am pleased to welcome the College of Nursing to this year's event.

In recognition of Seton Hall's recently announced partnership with Hackensack University Health Network (HUHN) to create a new school of medicine, I am pleased to welcome our colleagues from HUHN to the Research Colloquium. This new partnership, coupled with our ongoing legacy partnerships with the other hospitals where our medical residency and fellowship programs are based, brings innumerable opportunities for collaboration.

On behalf of all Research Colloquium participants, I extend my sincere thanks to Vincent DeBari, PhD, Professor of Medicine and Director of Research, for bringing together the nearly 300 platform and poster presentations that we will experience today. I also would like to thank the Petersheim Steering Committee, led by Jose Lopez, PhD, and Anthony Troha, PhD, co-chairs and assistant professors in the Seton Hall Department of Physics, for welcoming our continued participation in the Petersheim Academic Exposition.

To all of today's presenters – thank you! Your dedication and scholarship are critical to advancing our research mission.

Cordially,

Brian B. Shulman, PhD, CCC-SLP, ASHA Fellow, BCS-CL, FASAHP
Dean and Professor of Speech-Language Pathology

School of Health and Medical Sciences
400 South Orange Avenue • South Orange, New Jersey 07079

PROGRAM

7:30 a.m. – 8 a.m. .....Registration and Continental Breakfast

8 a.m. – 1 p.m. ..... Poster Session

Basic Medical Sciences (BMS)

Clinical Investigation (CI), except for Oral Presentations, listed on the following page

Clinical Vignettes (CV)

Health Sciences Research (HSR)

Research in Progress (IP)

NOTE: Posters must be removed at 1:00 p.m.

8:30 a.m. – 10 a.m. ..... Oral Presentations I

10:15 a.m. – 11 a.m. ..... Invited Speaker

Danielle Ofri, MD, PhD

"Surviving Medicine in the 21st Century"

11 a.m. – 11:30 a.m. .....Intermission and Light Refreshments

11:30 a.m. – 1 p.m. ..... Oral Presentations II

ORAL PRESENTATIONS

SESSION I: 8:30 - 10 a.m.

CI 02 **Platelet Reactivity Unit in Predicting Risk of Bleeding in Patients Undergoing Coronary Artery Bypass Graft Surgery**
Altheeb, Z.F.; Isbitan, A.; Shabiah, M.; Hamdan, A.; DeBari, V.; Shamoon, F.

CI 09 **The Characteristics of Rebound Nystagmus in Patients and Normal Subjects**
Bhatt, S.H; Patel, K.; Rosenberg, M.L.

CI 18 **A Comparison of Transient Elastography (Fibroscan) and The APRI Score, Two Non-Invasive Tests for Liver Fibrosis Staging in HIV/HCV Co-Infected Patients**
Dazley, J.; Sison, R.; Shukla, P.; Galang, H.; Szabela, E.; Slim, J.; Adebara, A.

CI 33 **Value of Neutrophil to Lymphocyte Ratio as a Predictor of Mortality in Patients Undergoing Aortic Valve Replacement**
Habib, M.; Thawabi, M.; Habib, H.; Hawatmeh, A.; Elkhalili, W.; Shamoon, F.; Zaher, M.

CI 36 **Utility of Brain Natriuretic Peptide Assay in Patients Presenting with Syncope to the Emergency Department**
Isbitan, A.A.; Altheeb, Z.F.; Patel, K.; Al-Nahar, Y.; Hamdan, A.; Shamoon, F.

INTERMISSION: 11 - 11:30 a.m.

SESSION II: 11:30 a.m. - 1 p.m.

CI 38 **The Incident Trends, Epidemiology, Mortality, and Economics Evaluation of Vertebral Osteomyelitis in the United States: A Nationwide Inpatient Database Study of 283,022 Cases from 1998 to 2010**
Issa, K.; Patel, S.; Shafa. E.; Faloon, M.; Sinha, K.; Hwang, K.; Emami, A.

CI 42 **Comparison of Thyroid Stimulating Hormone Level and PR Interval in Hypothyroid Patients Being Treated with Levothyroxine**
Khaddash, I.; Altheeb, Z.; Shahla, L.; Gupta, R.; Sheth, V.; DeBari, V.; Shamoon, F.

CI 67 **Laboratory and Clinical Features of EIA Toxin-Positive and EIA Toxin-Negative Community-Acquired Clostridium Difficile Infection**
Patel, H.; Randhawa, J.; Nanavati, S.; Marton, R.; Baddoura, W.; DeBari, V.

CI 68 **Poor Left Atrial Function is associated with Reduced Left Ventricular Ejection Fraction in Hospitalized Patients**
Patel, H.; Ariyarajah, V.; Haft, J.; Goldfarb, I.; Bikkina, M.; Shamoon, F.

CI 73 **ST-Segment Elevation Myocardial Infarction in Octogenarians: 30-day Mortality and Peri-Procedural Complications Compared to Younger Adults**
Shah, P.; Mechineni, A.; Yamini, S.; Bajaj, S.; Virk, H.; DeBari, V.; Shamoon, F.; Bikkina, M.

NOTE: *Throughout this Abstracts of Presentation publication, research denoted with an asterisk (*) indicates that it will be presented orally and not via a poster.*

INVITED SPEAKER

Photo by Joon Park

Excerpts from reviews of *What Doctors Feel* by Dr. Danielle Ofri:

"Taut, vivid prose … She writes for a lay audience with a practiced hand."

— *New York Times*

"Rich and deeply insightful … A fascinating journey into the heart and mind of a physician struggling to do the best for her patients while navigating an imperfect health care system."

— *Boston Globe*

Danielle Ofri, MD, PhD

Dr. Ofri writes regularly for the *New York Times* about medicine and the doctor-patient relationship. Her most recent book is *What Doctors Feel: How Emotions Affect the Practice of Medicine* (Beacon Press, 2014).

Dr. Ofri is an internist at Bellevue Hospital in New York City, the oldest public hospital in the country, and an Associate Professor of Medicine at New York University School of Medicine. She is the Editor-in-Chief of the *Bellevue Literary Review*. Her three other books are *Medicine in Translation: Journeys with My Patients* (Beacon Press, 2011), *Incidental Findings: Lessons from My Patients in the Art of Medicine* (Beacon Press, 2006) and *Singular Intimacies: Becoming a Doctor at Bellevue* (Beacon Press, 2009).

"Surviving Medicine in the 21st Century"

10:15 a.m.
Richard and Sheila Regan Field House

Disillusionment in medicine feels like it is reaching epidemic proportions. Many medical caregivers say they would never choose the field if they had to do it all over again. Medical error and burnout seem to be everywhere.

How do caregivers — and their patients — cope with disillusionment? How do we re-engage ourselves, our colleagues and our students?

It's probably too soon to close the book on the medical profession. Dr. Danielle Ofri discusses how we can survive, maybe even thrive, in this new era of medicine.

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TABLE OF CONTENTS

Basic Medical Sciences

Clinical Investigation

CI01 **Plasma Volume Contraction Estimated By Hematocrit And Cardiorenal Syndrome In Acute Heart Failure**
Alattar, F.; Aurshiya, R.; Abualayem, M.; Ford, D.; Shamoon, F.

***CI02** **Platelet Reactivity Unit in Predicting Risk of Bleeding in Patients Undergoing Coronary Artery Bypass Graft Surgery**
Altheeb, Z.F.; Isbitan, A.A.; Shabiah, M.; Hamdan, A.; DeBari, V.; Shamoon, F.

CI03 **Pediatric Appendicitis: Reaching the Finish Line Safely**
Avva, U.; Gold, N.; Khan, S.; Reid, K.; Stuart, J.; Themba, N.; Vijayan, R.

CI04 **The Use of a Reduced-Intensity Conditioning (RIC) Regimen in Patients Ages 2-30 Undergoing Allogeneic Transplantation for Sickle Cell Disease**
Banugaria, S; Gillio, A.P.; Haugh, J.; Durning, N.; Nycz, M.; Adler-Brecher, B.; Krajewski, J.

CI05 **Experience with Norvir 100 mg, Darunavir 800 mg, and Dolutegravir 50 mg (r/DRV/DTV) Once A Day In An Inner City Hiv Clinic in Newark, NJ, USA**
Barahona, F.; Bhattarai, S.; Slim, J.; Baca, N.; Parker, K.; Al-Saleh, H.; Abd Al Qader, M.

CI06 **Are Psychiatric Disorders And Obesity Becoming The Most Prevalent Non-Infectious Chronic Comorbid Conditions In Hiv Population?...**
Barahona, F.; Bhattarai, S.; Slim, J.; Al-Saleh, H.; Abd Al Qader, M.; Parker, K.; Baca, N.

CI07 **The Role of Glutamate and its EAAT Transporters in ADHD and Autism**
Bekker, Y.; Allan, H.

CI08 **Pharmacokinetic (PK) and Pharmacodynamic (PD) Results of a Novel, First-in-Class Modulator of Eukaryotic Translation Initiation Factor 5A (eIF5A) in Patients (pts) with Relapsed or Refractory B-Cell Malignancies: Data from a Phase 1-2 Study**
Bexon, B.; Craig, M.; Siegel, D.S.; Bensinger, W.; Novitzky, N.; McDonald, A.; Gutierrez, M.

***CI09** **The Charateristics of Rebound Nystagmus in Patients and Normal Subjects**
Bhatt, S.H.; Patel, K.; Rosenberg, M.L.

CI10 **A Phase IIa, Open-Label, Multicenter Study of Single-Agent MOR00208, an Fc-Optimized Anti-CD19 Antibody, in Patients with Relapsed or Refractory B-Cell Non-Hodgkin's Lymphoma**
Blum, K.A.; Maddocks, K.; Nagy, Z.; Zinzani, P.L.; Goy, A.; Provencio, M.; Robak, T.

CI11 **TGR-1202, a Novel Once Daily PI3KÎ´ Inhibitor, Demonstrates Clinical Activity with a Favorable Safety Profile, Lacking Hepatotoxicity, in Patients with Chronic Lymphocytic Leukemia and B-Cell Lymphoma**
Burris III, H.A.; Patel, M.R.; Brander, D.; O'Connor, O.A.; Deng, C.; Fenske, T.S.; Gutierrez, M.

CI12 **Serious Infections of Hospitalized Patients are Associated with a Higher Prevalence of Reported Beta Lactam Antibiotic Allergy**
Cai, B.; McGoey, B.A.; Michelis, M.A.

CI13 **Compounded Risk Factor for Candida Esophagitis With Concomitant Use of Proton Pump Inhibitors and Steroids**
Cavanagh, Y.; Shah, N.; DeBari, V.A.; Baddoura, W.

CI14 **Selinexor Demonstrates Marked Synergy with Dexamethasone (Sel-Dex) in Preclinical Models and in Patients with Heavily Pretreated Refractory Multiple Myeloma (MM)**
Chen, C.I.; Gutierrez, M.; Siegel, D.S.; Richter, J.R.; Wagner-Johnston, N.; Hofmeister, C.C.; Berdeja, J.G.

CI15 **A Phase I Dose-Escalation Study of Carfilzomib in Patients with Previously-Treated Systemic Light-Chain (AL) Amyloidosis**
Cohen, A.D.; Scott, E.C.; Liedtke, M.; Kaufman, J.L.; Landau, H.; Vesole, D.H.; Gomes, C.L.

CI16 **Bendamustine Plus Rituximab (BR) in the Treatment of Relapsed/Refractory Mantle Cell Lymphoma of a Phase 2 Study: Multivariate Analysis and Updated Final Results By Subgroup**
Czuczman, M.; Goy, A.; Lamonica, D.; Graf, D.; Munteanu, M.; Van Der Jagt, R.

CI17 **Hepatitis A Vaccine Response in HIV-Infected Patients: The Interchangeability of TWINRIX and HAVRIX, a Second Look**
Dazley, J.; Jimenez, H.; Szabela, E.; Abdalqadar, M.; Slim, J.

***CI18** **A Comparison of Transient Elastography (Fibroscan) and The APRI Score, Two Non-Invasive Tests for Liver Fibrosis Staging in HIV/HCV Co-Infected Patients**
Dazley, J.; Sison, R.; Shukla, P.; Galang, H.; Szabela, E.; Slim, J.; Adebara, A.

CI19 **Haploidentical Allogeneic Transplantation Provides Comparable Outcomes to HLA-Matched or Mismatched Unrelated Donor Grafts in Hematological Malignancies**
Donato, M.; Rowley, S.; Baker, M.; McKiernan, P.; Kim, D.; Vesole, D.; Skarbnik, A.

CI20 **Clinical Differences among Hispanics and Non-Hispanic Whites with Colorectal Cancer, a Single Institution's Experience over 20 years.**
Duma, N.; Gandhi, A.; Sanchez, L.; Castro, Y.; Jennis, A.; Bamboat, Z.; Gutierrez, M.

CI21 **Impact of Thyroid Hormones on Clinical Outcomes in Colorectal Cancer Patients**
Duma, N.; Streb, G.; Pievsky, D.; Sanchez, L.; Aleksic, S.; Gutierrez, M.

CI22 **Amiodarone Protocol Reduces Atrial Fibrillation and Decreases Mortality in Cardiac Surgery Patients**
Elkhalili, W.; Grinn, M.; Elzomor, W.; Cosenza, R.; Asgarian, K.A; Badami, C.; Connolly, M.

CI23 **Brentuximab Vedotin Monotherapy in DLBCL Patients with Undetectable CD30: Preliminary Results from a Phase 2 Study**
Feldman, T.; Bartlett, N.; Smith, M.; Advani, R.; Savage, K.; Palanca-Wessels, M.; Siddiqi, T.

CI24 **Gray Zone Lymphoma (GZL) with Features Intermediate Between Classical Hodgkin Lymphoma (cHL) and Diffuse Large B-Cell Lymphoma (DLBCL): Analysis of Tumor Immunophenotype (IP) and Critical Examination of Therapy with Associated Impact on Outcome**
Feldman, T.; Kritharis, A.; Vose, J.; Gascoyne, R.; Evens, A.; Blum, K.; Mato, A.

CI25 **Patient Characteristics and Initial Treatment Patterns in the United States for the Most Common Subtypes of Peripheral T-Cell Lymphoma (PTCL)**
Feldman, T.F; Pinter-Brown, L.PB; Foss, F.F.; Pro, B.P.; Gisselbrecht, C.G.; Kahl, B.K.; Park, S.P.

CI26 **Relapses of Diffuse Large B Cell Lymphoma in Rituximab Era Are Limited to the First Two Years After Frontline Therapy**
Feldman, T.F; Goy, A.G; Gromko, L.G.; Chow, K.F.C; Bhattacharyya, P.B; Glisch, C.G.; Mato, A.M.

CI27 **The Association of Serum Albumin Concentration and Mortality Risk in Acute Respiratory Distress Syndrome (ARDS)**
Ghazarian, Z.; Mathew, J.J.; Sekhon, R.; Staron, A.; Parikh, N.; Hanna, M.; Khan, M.A.

CI28 **Cytogenetic and Molecular Responses in Patients with Chronic-Phase Chronic Myeloid Leukemia (CP-CML) in a Prospective Observational Study (SIMPLICITY)**
Goldberg, S.; Mauro, M.; Gambacorti-Passerini, C.; Cortes, J.; Subar, M.; Mohamed, H.; Zyczynski, T.

CI29 **Mature Follow up from a Phase 2 Study of PI3K-Delta Inhibitor Idelalisib in Patients with Double (Rituximab and Alkylating Agent)-Refractory Indolent B-Cell Non-Hodgkin Lymphoma (iNHL)**
Gopal, A.K.; Kahl, B.S.; de Vos, S.; Wagner-Johnston, N.D.; Schuster, S.J.; Goy, A.H.; Jurczak, W.

CI30 **Anti-CD19 CAR T Cells Administered After Low-Dose Chemotherapy Can Induce Remissions of Chemotherapy-Refractory Diffuse Large B-Cell Lymphoma**
Goy, A.G.; Feldman, T.F.; Kochenderfer, J.K.; Rosenberg, S.R.; Klebanoff, C.K.; Sherry, R.S.; Yuan, C.Y.

CI31 **Preliminary Results of a Phase I Study of Nivolumab (BMS-936558) in Patients with Relapsed or Refractory Lymphoid Malignancies**
Gutierrez, M.G.; Lesokhin, A.L; Ansell, S.A.; Timmerman, J.T.

CI32 **Nivolumab in Patients with Relapsed or Refractory Hodgkin Lymphoma - Preliminary Safety, Efficacy and Biomarker Results of a Phase I Study**
Gutierrez, M.G.; Armand, P.A.; Ansell, S.A.; Shipp, M.S.

***CI33** **Value of Neutrophil to Lymphocyte Ratio as a Predictor of Mortality in Patients Undergoing Aortic Valve Replacement**
Habib, M.; Thawabi, M.; Habib, H.; Hawatmeh, A.; ElKhalili, W.; Shamoon, F.; Zaher, M.

CI34 **Utility of a Propofol-Based Saline Mixture as a Contrast Agent In Routine Transesophageal Echocardiography**
Habib, M.; Jmeian, A.; Abualayem, M.; Hawatmeh, A.; Hamdan, A.; Thawabi, M.; Shamoon, F.

CI35 **Front-Line, Dose-Escalated Immunochemotherapy is Associated with a Significant PFS (but not OS) Advantage in 401 Patients (Pts) with Double-Hit Lymphomas (DHL): A Systematic Review and Meta-Analysis**
Howlett, C.H.; Mato, A.M; Landsburg, D.L.; Goy, A.G.; Snedecor, S.S.; Cohen, J.C.; Schuster, S.S.

***CI36** **Utility of Brain Natriuretic Peptide Assay in Patients Presenting with Syncope to the Emergency Department**
Isbitan, A.A.; Altheeb, Z.F.; Patel, K.; Al-Nahar, Y.; Hamdan, A.; Shamoon, F.

CI37 **Bariatric Orthopaedics: Total Hip Arthroplasty in the Super-Obese Patients (BMI >50 kg/m2), Minimum 5 year Outcomes**
Issa, K.; Mcdermott, J.D.; Bartlomiej, C.; Harwin, S.F.; Mont, M.A.; Mcinerney, V.K.; Eifai, A.

***CI38** **The Incident Trends, Epidemiology, Mortality, and Economic Evaluation of Vertebral Osteomyelitis in the United States: A Nationwide Inpatient Database Study of 283,022 Cases from 1998 to 2010**
Issa, K.; Patel, S.; Shafa, E.; Faloon, M.; Sinha, K.; Hwang, K.; Emami, A.

CI39 **Demographic, Clinical and Treatment Characteristics of the CARRA Registry Systemic JIA Cohort**
Janow, G.J.; Schanberg, L.E.; Setoguchi, S.; Hasselblad, V.; Mellins, E.D.; Schneider, R.; Kimura, Y.

CI40 **Neurovascular Reconstruction of Ruptured and Non-Ruptured Intracranial Blood Blister Aneurysms With the Pipeline Flow Diverter**
Karimi, R.J.; Walzman, D.E.; Roth, P.A.

CI41 **Indatuximab Ravtansine (BT062) in Combination with Lenalidomide and Low-Dose Dexamethasone in Patients with Relapsed and/or Refractory Multiple Myeloma: Clinical Activity in Patients Already Exposed to Lenalidomide and Bortezomib**
Kelly David S. Siegel, MD, PhD5, Todd Zimmerman, MD6, Anand Karnad,, K.R.; Chanan-Khan, A.; Heffner, L.T.; Somlo, G.; Siegel, D.S.; Zimmerman, T.; Karnad, A.

***CI42** **Comparison of Thyroid Stimulating Hormone Level and PR Interval in Hypothyroid Patients Being Treated with Levothyroxine**
Khaddash, I.; Altheeb, Z.; Shahla, L.; Gupta, R.; Sheth, V.; DeBari, V.; Shamoon, F.

CI43 **Preliminary Results from the Childhood Arthritis and Rheumatology Research Alliance Systemic JIA Consensus Treatment Plans Pilot Study**
Kimura, Y.; DeWitt, E.M.; Mieszkalski, K.; Schanberg, L.E.

CI44 **A Pilot Study to Evaluate the Feasibility of Conducting Juvenile Localized Scleroderma Comparative Effectiveness Treatment Studies**
Li, S.C.; Torok, K.S.; Becker, M.L.; Dedeoglu, F.D.; Ferguson, P.J.; Fuhlbrigge, R.C.; Higgins, G.C.

CI45 **Rituximab (RTX) for the Treatment of Steroid Dependent Nephrotic Syndrome (SDNS)**
Lieberman, K.V.; Ettinger, L.; Picareli, C.

CI46 **Prograf For The Treatment Of Nephrotic Focal Segmental Glomerulosclerosis (FSFS) In Children: A Six Year Experience**
Lieberman, K.V.; Benchimol, C.; Vergara, M.

CI47 **An Emergency Medicine, Education-Based Patient Satisfaction Survey Created through Delphi Method Analysis**
London, K.S.; Singal, B.; Fowler, J.; Prepejchal, R.; Finefrock, D.C.

CI48 **Obesity Paradox In Long Term Survival After Trans-catheter Aortic Valve Replacement In Patients With Severe Aortic Stenosis**
Mathur, A.P.; Castro-Dominguez, Y.; Vaidya, P.; Cocke, T.; Elmann, E.; Di Luozzo, G.; Parrillo, J.E.

CI49 **Prognostic Impact of Improvement in Intra-Operative Pulmonary Artery Systolic Pressure and Left Ventricular Ejection Fraction in Patients Undergoing Trans-Catheter Aortic Valve Replacement**
Mathur, A.P.; Castro-Dominguez, Y.; Vaidya, P.; Cocke, T.; Elmann, E.; Di Luozzo, G.; Parrillo, J.E.

CI50 **Women Demonstrate Long Term Improvement after Trans-Catheter Aortic Valve Replacement in Severe Aortic Stenosis**
Mathur, A.P.; Castro-Dominguez, Y.; Vaidya, P.; Cocke, T.; Elmann, E.; Di Luozzo, G.; Parrillo, J.E.

CI51 **A Phase II Study of the Combination of FCR-Lite and Lenalidomide Followed By Lenalidomide Maintenance in Front-Line CLL: The FCR2 Regimen**
Mato, A.; Goy, A.; Feldam, T.; Morin, M.; Schuster, S.; Porter, D.; Chow, K.F.

CI52 **MM-008: A Phase 1 Trial Evaluating Pharmacokinetics and Tolerability of Pomalidomide + Low-Dose Dexamethasone in Patients with Relapsed or Refractory and Refractory Multiple Myeloma and Renal Impairment**
Matous, J.; Siegel, D.S.; Lonial, S.; Harvey, R.D.; Kasserra, C.; Li, Y.; Chen, M.

CI53 **Deep Molecular Response in Patients with Newly Diagnosed Chronic Myeloid Leukemia in Chronic Phase (CML-CP) Treated with Nilotinib: ENESTNext Update**
Mauro, M.J.; Dakhil, S.; Cortes, J.; Rizzieri, D.A.; Keir, C.H.; Yi, S.; Goldberg, S.L.

CI54 **All Anxiety Is Not The Same: The Relationship Between Autonomic Function and Anxiety in Parkinson's vs Other Patients**
Murthy, M; Cristini, J; Hanna, P.A.; Rosenberg, M.L.

CI55 **Cognitive Recovery and Neuropsychological Evaluation: A Prospective study in ED patients After Mild Traumatic Brain Injury**
Ogedegbe, C.; Azmi, H.; Voelbel, G.; Wylie, G.R.; Dobryakova, E.; Dave, P.; Feldman, J.

CI56 **BMI and Abdominal Ultrasound Image Quality: A Pilot Survey of Ultrasound Trained Technologists.**
Ogedegbe, C.; Brahee, D.; Nyirenda, T.; Hazelwood, V.; Morchel, H.; Patel, R.; Feldman, J.

CI57 **Relationship Between Rate of Intubation and CPAP Use in the Prehospital Setting**
Ogedegbe, C.; Knox, N.; Nyirenda, T.; Feldman, J.; Ashtyani, H.

CI58 **The Prevalence of Alcohol Use and Abuse among Geriatric Trauma Patients Presenting to the Emergency Department**
Ogedegbe, C.; Mammen, G.; Tariq, M.; Maresca, M.; Locurto, J.; Feldman, J.

CI59 **Making Rapid Triage Decisions in National Mass Casualty Disasters**
Ogedegbe, C.; Morchel, H.; Hazelwood, V.; Chaplin, B.; Hassler, C.; Feldman, J.

CI60 **A Novel Portable Telesonography System for Prehospital Trauma Care from an Austere, International Location**
Ogedegbe, C.; Morchel, H.; Hazelwood, V.; Hassler, C.; Feldman, J.

CI61 **Prospective Analysis of Laparoscopic Cholecystectomies Based on Post-Graduate Resident Level**
Parikh, S.P.; Castillo, R.C.; Szczech, E.C.; Moskowitz, R.; Sori, A.; Zuberi, J.; Elsawy, O.

CI62 **Does Low Risk Chest Pain, Utilizing The HEART Score for Early Discharge in the ED, Have a Decreased 30 Day Readmission Rate?**
Patel, C.P.; Charles, P.C.; Finefrock, D.F.; Bhuvanagiri, S.B.; Ogedegbe, C.O.

CI63 **Arthroscopic Surgery of the Ankle: Analysis and Follow-up Study of 108 Patients**
Patel, Y.; Patel, D.V.; McInerney, V.K.

CI64 **Revision Anterior Cruciate Ligament Reconstruction Using the Autogenous Bone-Patellar Tendon-Bone Graft: A Five- to Seven-Year Follow-up Study**
Patel, Y.; Patel, D.V.; McInerney, V.K.

CI65 **The Predictive Role of Thrombocytosis in Identifying Lung Carcinoma Patients in an Urban Medical Center**
Patel, A.S..; Abdeen, Y.; Katpally, R.; Shaaban, H.

CI66 **Can a Simple Test Like Serum Albumin Predict a Complicated Condition Like Cardiorenal Syndrome Type-1?**
Patel, H.; Rodriguez, A.; Abboud, J.; Bikkina, M.; Haft, J.; Shamoon, F.

***CI67** **Laboratory and Clinical Features of EIA Toxin-positive and EIA Toxin-Negative Community-Acquired Clostridium Difficile Infection**
Patel, H.; Randhawa, J.; Nanavati, S.; Marton, R.; Baddoura, W.; DeBari, V.

***CI68** **Poor Left Atrial Function is associated with Reduced Left Ventricular Ejection Fraction in Hospitalized Patients**
Patel, H.; Ariyarajah, V.; Haft, J.; Goldfarb, I.; Bikkina, M.; Shamoon, F.

CI69 **Does Antibiotic-Loaded Bone Graft Used in Scoliosis Surgery Lead to Superbugs?**
Patel, S.; Stadler, C.; Pourtaheri, S.; Shah, S.; Miller, F.

CI70 **Safety Results from the United States Cohort of the Ibrutinib Early Access Treatment Protocol (EAP: MCL4001) in Patients with Relapsed or Refractory Mantle Cell Lymphoma**
Peter, P.; Goy, A.; Ramchandren, R.; Ferrante, L.; Reddy, V.; Londhe, A.; Wildgust, M.

CI71 **Revisiting Abdominal Aortic Aneurysms (AAA): Factors that Correlate with the Risks and Formation as Well as Novel Treatment Techniques**
Rhoden, B.R.; Caceres, A.C.

CI72 **Does Bilevel Positive Airway Pressure Ventilation In Acute Asthma Exacerbation Prevent Mechanical Ventilation?**
Sekhon, R.; Mathew, J.J.; Ghazarian, Z.; Khan, M.A.

***CI73** **ST-Segment Elevation Myocardial Infarction in Octogenarians: 30-day Mortality and Peri-Procedural Complications Compared to Younger Adults**
Shah, P.; Mechineni, A.; Yamini, S.; Bajaj, S.; Virk, H.; DeBari, V.; Shamoon, F.; Bikkina, M.

CI74 **Mature Results of a Phase 1-2 Open-Label, Dose-Escalation Study of Intravenous SNS01-T in Patients (pts) with Relapsed or Refractory B-Cell Malignancies**
Siegel, D.S.; McDonald, A.; Novitzky, N.; Bensinger, W.; Craig, M.; Van Rhee, F.; Gutierrez, M.

CI75 **Updated Results from a Phase 2 Extension Study of Patients with Multiple Myeloma or Solid Tumors Previously Enrolled in Carfilzomib Company-Sponsored Phase 1 and 2 Clinical Trials (PX-171-010)**
Siegel, D.S.; Berdeja, J.G.; Infante, J.R.; Kaufman, J.L.; Wang, M.L.; Martin III, T.G.; Niesvizky, R.

CI76 **Updated Results from a Multicenter, Open-Label, Dose-Escalation Phase 1b/2 Study of Single-Agent Oprozomib in Patients with Waldenstrom's Macroglobulinemia (WM)**
Siegel, D.S.; Kaufman, J.L.; Raje, N.S.; Mikhael, J.R.; Kapoor, P; Treno, S.P.; Castillo, J.J.

CI77 **Subcutaneous (SQ) Bortezomib (BTZ) in Patients (Pts) with Relapsed Mantle Cell Lymphoma (MCL): Retrospective, Observational Study of Treatment Patterns and Outcomes in US Community Oncology Practices**
Skarbnik, A.; Ma, E.; Goy, A.; Lafeuille, M.; Duh, M.; Bonthapally, V.; Dow, E.

CI78 **Carfilzomib, Lenalidomide, and Dexamethasone vs Lenalidomide and Dexamethasone in Patients (Pts) with Relapsed Multiple Myeloma: Interim Results from ASPIRE, a Randomized, Open-Label, Multicenter Phase 3 Study**
Stewart, A.K.; Rajkumar, S.V.; Dimopoulos, M.A.; Masszi, T; Spicka, I; Oriol, A; Siegel, D.S.

CI79 **Smartphones and Sleep-Time Related Information and Communication Technology (STRICT): Impact on sleep patterns, insomnia and daytime functioning in American adolescents**
Upadhyay, H.; Polos, P.; Bhat, S.; Gupta, D.; Chokroverty, S.; DeBari, V.; O'Melly, R.

CI80 **Management of Safety Following Lenalidomide in Patients With Relapsed/ Refractory Mantle Cell Lymphoma**
Valentinetti, M.; Kdiry, S.; Rice, C.K.; Yannotti, K.M.L.

CI81 **Clinical Profile of Single-Agent Oprozomib in Patients (Pts) with Multiple Myeloma (MM): Updated Results from a Multicenter, Open-Label, Dose Escalation Phase 1b/2 Study**
Vij, R.; Savona, M.; Siegel, D.S.; Kaufman, J.L.; Badros, A.; Ghobrial, I.; Paner, A.

CI82 **Ibrutinib, Single Agent or in Combination with Dexamethasone, in Patients with Relapsed or Relapsed/Refractory Multiple Myeloma (MM): Preliminary Phase 2 Results**
Vij, R.; Huff, C.; Bensinger, W.; Siegel, D.S.; Jagannath, S.; Berdeja, J.; Lendvai, N.

CI83 **Efficacy and Safety of Single-Agent Ibrutinib in Patients with Mantle Cell Lymphoma Who Progressed after Bortezomib Therapy**
Wang, M.; Goy, A.; Martin, P.; Ramchandren, R.; Alexeeva, J.; Popat, R.; Avivi, I.

CI84 **Single-Agent Ibrutinib Demonstrates Safety and Durability of Response at 2 Years Follow-up in Patients with Relapsed or Refractory Mantle Cell Lymphoma: Updated Results of an International, Multicenter, Open-Label Phase 2 Study**
Wang, M.; Rule, S.; Martin, P.; Goy, A.; Auer, R.; Kahl, B.S.; Jurczak, W.

CI85 **Symptom and Treatment Characteristics of Juvenile Primary Fibromyalgia Syndrome: Are Males and Females Created Equal?**
Weiss, J.W.; Schikler, K.N.; Boneparth, A.; Hoffart, C.; Connelly, M.A.

CI86 **Incidence Of Early Left Ventricular Thrombus Formation After ST-Segment Elevation Myocardial Infarction In Primary Percutaneous Coronary Intervention Era: A Single-Center Experience**
Yamini, S.; Mechineni, A.; Shah, P.; Bajaj, S.; Virk, H.; Shamoon, F.; Bikkina, M.

Clinical Vignettes

CV01 **Subcutaneous Emphysema and Hypercarbia Following Laparascopic Hysterectomy**
Aboeed, A.; Mathew, J.J.; Ghazarian, Z.; Sekhon, R.; Khan, M.A.

CV02 **Hydroxychloroquine Induced Torsades Precipitates a Unique Combination of Myocardial Infarction and Takotsubo**
Abualayem, M.A.; Alattar, F.A.; Khalili, W.K.; Alkhateeb, A.A.

CV03 **Duodenal Perforation and Biliary Peritonitis Secondary To Biliary Stent Migration**
Adib, S.; Delatorre, A.; Grossman, M.A.

CV04 **A Case of Painless Leg with Moving Toes Syndrome**
Ahmad, M.; Imayama, I.; Upadhyay, H.; Bhat, S.; Gupta, D.; Hanna, P.; Chokoverty, S.

CV05 **Clinical and Epidemiologic Significance of Gender Difference in AIDS-Associated Kaposi Sarcoma**
Ahmad, R.; Basnet, A.; Viswanathan, L.; Sartawi, T.; Sonia, F.; Salamera, J.

CV06 **Mycoplasma Pneumoniae Triggering Thyrotoxicosis Which Exposes Non-Compaction Cardiomyopathy**
Ahmed, S.; Kadri, M.; Latif, N.; Slim, J.; Habib, H.

CV07 **A Case of Atypical Hemolytic Uremic Syndrome with Massive Proteinuria**
Akhtar, R.; Triolo, D.

CV08 **Severe Hypertriglyceridemia Presenting As Acute Pancreatitis in an Undiagnosed Patient with Type 2 Diabetes Mellitus**
Al- Dallal, R.; Kollu, V.; Basnet, A.; Osman, N.; Eckman, A.

CV09 **Unusual Presentation of Bladder Cancer with Cardiac Metastasis**
al-khateeb, A.J.; Hawatmeh, A.; Massarweh, F.; Abo, S.

CV10 **When Sgarbossa Criteria Do Not Predict MI:Dynamic and Concordant ST Elevation and LBBB as Presentation of Myocarditis**
Alattar, F.; Jmeian, A.; Saad, M.; Goldfarb, I.; Shamoon, F.

CV11 **Myocardial Bridging Detected by iFR and IVUS as a Cause of Chest Pain**
Alattar, F.; Shah, P.; Abualayem, M.; Shamoon, F.

CV12 **Medical versus Early Surgical Intervention: A Case of Toxic Megacolon in IBD**
Ambreen, B.; Moncayo, J.L.; Chowdhury, B.; Wallach, S.; Pantelick, J.

CV13 **Cerebral Malaria Caused By Non-Falciparum Malaria**
Amireh, S; Aurshiya, R; Szabela, M; Shaaban, H; Boghossian, J; Slim, J.

CV14 **A Case of Parapharyngeal Abscess in a Young Male**
Amodu, A; Buhkari, S; Miriyala, V; Zijoo, R; Colella, R; Smith, J.M.

CV15 **Cauda Equina Syndrome: A Bewildering Diagnosis in a Young Hispanic Male**
Amodu, A.; Zijoo, R; Moncayo, J.L.; Wallach, S.; Smith, J.M.

CV16 **A Case of Malaria with Mixed Parasitemia**
Amodu, A.; Iyer, P.; Tahir, M.; Lopez, J.; Mathai, S.; Christmas, D.; Pantelick, J.

CV17 **Myopericarditis Secondary to a Recent Tdap Vaccination**
Arolli, T.; Shamoon, F.; Patel, K.

CV18 **Recurrent Stroke Secondary to Large Atrial Myxoma**
Aung, M.; Iyer, P.; Ursani, M.; Siddiqui, W.; Kososky, C.; Wallach, S.; Barn, K.

CV19 **Pontine Infarction -A Case of Millard-Gubler Syndrome**
Awan, M..U; Barenbaum, S.; Miriyala, V.; Tabowada, J.; Kososky, C.; Wallach, S.

CV20 **A Rare Case of Primary Hodgkin Lymphoma of the Rectum**
Awan, M.U.; Ambreen, B.; Karabulut, N.; Kish, K.; Conaway, H.

CV21 **Spontanous Retroperitoneal Hemhorrage: A Case Report**
Badin, K.M.; Shahla, L.; Michael, P.

CV22 **Adenosine-Induced Ventricular Tachycardia Complicating Fractional Flow Reserve Measurement**
Bajaj, S; Shah, P; Virk, H; Shamoon, F; Bikkina, M; Bajaj

CV23 **A Rare Presentation of Polymicrobial Bacteremia**
Barahona, F.; Slim, J.; Boghossian, J.; Sison, R.

CV24 **Clostridium Perfringens Septic Arthritis in a Natural Joint**
Barahona, F.R.; Slim, J.; Boghossian, J.; Sison, R.

CV25 **Xanthogranulomatous Cholecystitis in a Patient with Acalculous Cholecystitis and an Innocuous Appearing Gallbladder**
Basnet, A.; Jofre, S.; Aman, I.; Fish, H.; Butler, J.

CV26 **Malignant Triton Tumors in Sisters with Clinical Neurofibromatosis Type**
Basnet, A.; Jofre, S.; Capo, G.

CV27 **Non-Healing Ulcer**
Bataineh, A.; Jumean, K.; Rajasingam, J.; Hanafy, K.

CV28 **Crazy Paving Appearance: A Case Of Chronic Dyspnea**
Bhatti, H.; Iyer, P.; Zia, S.; Ejidike, M.; Siddiqui, W.; Seelagy, M.; Wallach, S.

CV29 **Acute Wilson's Disease Managed by Hemodialysis and Chelating Agent**
Botros, Y.; Asslo, F.; Volfson, A.

CV30 **Babesiosis in an Immunocompetent Patient**
Bulos, S.; Imayama, I.; Blanco Jr., R.; Moser, R.; Chowdhury, B.; Smith, J. M.

CV31 **Endoscopic Ultrasound Guided Drainage of Peri-Rectal Abscess**
Cavanagh, Y.; Shah, N.; Hosein, K.; Shaikh, S.

CV32 **Multiple Intussusceptions in an Anabolic Steroid Abuser**
Cavanagh, Y.; Shah, N.; Thomas, A.B.; Gupta, A.

CV33 **Urinary Tract Infection and Staghorn Calculus Associated with Raoultella Planticola**
Cavanagh, Y.; Alford, J.; Rabbat, M.

CV34 **Sotalol Induced Torsades de Pointes Ventricular Tachycardia**
D' Souza, R.; Kollu, V.; Pullatt, R.

CV35 **Anti-N-Methyl-D-Aspartate Receptor (NMDAR) Encephalitis Associated with Ovarian Teratoma: A Challenging Diagnosis**
D'Souza, R.; Salamera, J.; Rajpal, S.; Joshi, N.

CV36 **A Case of NSTEMI without Angiographically Significant Coronary Artery Disease: Cardiac Syndrome X**
Dessalinies, N.; Iyer, P.; Ambreen, B.; Siddqui, W.; Wingfeld, E.; Wallach, S.

CV37 **Central Neurogenic Hyperventilation in a Conscious Patient: Are Opiods the Only Resource as a Bridge Therapy?**
Gavilanes, A.J.; D'Souza, R.; Remolina, C.; Schanzer, B.

CV38 **Non-Secreting Non-Fibrotic Hepatocellular Carcinoma in an Average Risk Population**
Gavilanes, A.J.; Asslo, F.; DelaTorre, A.; Baddoura, W.

CV39 **A Case of Superior Mesenteric Artery Dissection: The Important Facts in Order to Elucidate Treatment**
Gavilanes, A.J.; Meyreles, G.; DePena-Fernandez, J.

CV40 **A Susceptible Bowel: The Natural Course After Disseminated Histoplasmosis**
Gavilanes, A.J.; Salamera, J.; Pandya-Berry, S.

CV41 **A Calcium Delema: A Case of Idiopathic Milk Alkali Syndrome**
Goddard, K.K.; Ford, D.O.; Mcanally, J.F.

CV42 **Neovascularity and Fistulous Communication on Coronary Angiography in a Patient with Left Atrial Thrombus and Severe Mitral Valve Stenosis**
Habib, M.G; Shamoon, F.

CV43 **Spontaneous Isolated Infra-Renal Abdominal Aortic Dissection, A Rare Cause of Abdominal Pain**
Habib, H.; Thawabi, M.; Shamoon, F.

CV44 **Grave's Disease Unmasking Underlying Left Ventricular Non-Compaction**
Habib, H.; Rampal, U.; Shamoon, F.

CV45 **A Case Report on Complications of Right-Sided Infective Endocarditis and Its Implications**
Hao, F. Y. I.; Shittu, K.; Barahona, F.; Shamoon, F.; Slim, J.

CV46 **A Case of Ascending Aortic Dissection with Concurrent Acute Myocardial Infarction, Stroke and Pericardial Tamponade**
Hawatmeh, A.Y; Isbitan, A; Abu Arqoub, A.H; Jumean, K.H; Shamoon, F.

CV47 **Cannabinoids Hyperemesis Syndrome**
Hawatmeh, A.Y; Abu Arqoub, A.H; Massarweh, F.M; Jumean, K.H.

CV48 **Spontaneous Rupture of Hepatocellular Carcinoma**
Hawatmeh, A.Y; Abu Arqoub, A.H; Jumean, K.H; Shaaban, H.

CV49 **Percutaneous Endoscopic Gastrostomy Tube Migration Associated with Acute Pancreatitis**
Hawatmeh, A.Y.; Al-Khateeb, A.J.; Jumean, K.H.; Abu Arqoub, A.H.

CV50 **Persistent Left Superior Vena Cava**
Hawatmeh, A.Y.; Abu Arqoub, A.H.; Jumean, K.H.

CV51 **A Case of Hepatitis C Virus Infection and Type I Membrano-Proliferative Glomerulonephritis without Cryogloburinemia**
Imayama, I.; Dessalines, N.; Ejidike, M.; Mettupalli, N.; Aung, M.; Sheikh, S.; Smith, J. M.

CV52 **A Case of Guide Wire Fracture with Minimal Manipulation: Case Report and Literature Review**
Isbitan, A.A; Abu Arqoub, A.; Hawatmeh, A.; jmeian, A.; Shamoon, F.

CV53 **Ruptured Left Ventricular Pseudoaneurysm: A Possible Complication of Power Injector Assisted Ventricular Angiography. A Case Report and Review of the Literature**
Isbitan, A.A.; Hawatmeh, A.; Abu Arqoob, A.; Altheeb, Z.F.; Shamoon, F.

CV54 **A Interesting Case of Rhabdomyolysis Due to Ingestion of Energy Drink Volt**
Iyer, P.; Miriyala, V.; Tatari, A.; Khan, M.; Aung, M.; Datla, A.R.; Smith, M.J.

CV55 **Kaposi's Sarcoma Following Initiation of HAART**
Jani, P.; Lanham, S.; Aurshiya, R.; Kibra, S.; Poonai, D.; Ibranya, G.

CV56 **A Case of Respiratory Failure with Dual Infectious Etiology**
Jerome, M.; Slim, J.; Dazely, J.

CV57 **Left Ventricular Aneurysm and Ventricular Tachycardia as Initial Presentation of Cardiac Sarcoidosis**
Jmeian, A; Thawabi, M; Goldfarb, I; Shamoon, F.

CV58 ***Hafnia alvei* as an Unusual Causative Agent for Skin and Soft Tissue Infection**
Johnson, T.

CV59 **Peritoneal Tuberculosis Mimicking Advanced Ovarian Carcinoma**
Jumean, K.H.; Abu Arqoub, A.H.; Hawatmeh, A.Y; Massarweh, F.

CV60 **Warfarin-induced Leukocytoclastic Vasculitis**
Jumean, K.H.; Hawatmeh, A.Y.; AlNabulsi, M.S.; Abu Arqoub, A.H.

CV61 **Mondor's Disease of the Penis: A Forgotten Entity**
Jumean, K.H.; Al Hadidi, M.; Hawatmeh, A.Y; Abu Arqoub, A.H.; Hanify, K.

CV62 **Bilateral Thalamic Stroke Due to Occlusion of the Artery of Percheron in a Patient with a Patent Foramen Ovale**
Jumean, K.H.; Lanham, S.; Hawatmeh, A.Y.; Abu Arqoub, A.H.; Qaqa, F.Z.; Jani, P.; Weisbrot, F.

CV63 **Mucinous Neoplasm of the Appendix and Pseudomyxoma Peritonei**
Jumean, K.H.; Abu Arqoub, A.H.; Hawatmeh, A.Y; Bataineh, A.B.

CV64 **Fatal HSV-1 Pneumonia in Patient with Medically Controlled HIV Infection (High CD4, Low Viral Load)**
Kadri, M.; Yim, H.; Patel, V.; Dabu, J.; Miller, R.

CV65 **Metoclopramide induced Parkinsonism in an Intensive Care Patient with Vomiting**
Kaleel, A.; Mozaffarian, D.; Ibrahim, M.

CV66 **Orolingual Angioedema in an Acute Stroke Patient After TPA Administration**
Kaleel, A; Kaleel, H.R; Kirmani, J.F.

CV67 **Lymphangioma-Like Kaposi Sarcoma Presenting as Stasis Verruciformis-A Case Report**
Khaladj, M.; Agunbiade, M.; Kotzias, G.

CV68 **Split Thickness Skin Graft as a Successful Limb Salvage Option for Treatment of Diabetic Wounds Complicated with Subcutaneous Emphysema**
Khaladj, M.; Mohiuddin, A.; Siddiqui, A.; Lalehparvar, S.; Safar, S.

CV69 **Adult Polycystic Kidney Disease: A Rare Cause of Uncontrolled Hypertension in a Young Man**
Khan, M.Y.; Siddiqui, W.; Iyer, P.; Blanco, R.J.; Ursani, A.; Hussain, A.; Conaway, H.

CV70 **Acute Iron Poisoning in an Adult**
Kollu, V.; Butler, J.

CV71 **Oncologic Brainstem Herniation**
Krathen, J.A.; Zia, S.; Iyer, P.S.; Wang, S.S.; Seelagy, M.M.

CV72 **Prader Willi Syndrome and Medication Sensitivity**
Kwok, E.

CV73 **Sickle Cell Disease and Recurrent Psychosis**
Kwok, E.

CV74 **Recurrent Pneumonia in an Adult Secondary to Aspiration of a Molar Tooth**
Latif, N.; Ahmed, S.; Abdeen, Y.; Miller, R.

CV75 **Terminal Complement Blockade By Eculizumab (Ecu) For Vero-Toxin E.coli (VTEC) Associated Hemolytic-Uremic Syndrome (HUS)**
Lieberman, K.V.; Ettinger, L.; Picareli, C.

CV76 **A Case of Type A Aortic Dissection Diagnosed by Percutaneous Coronary Intervention**
Lindner, M.A.

CV77 **Mantle Cell Lymphoma Presenting With Ascitis**
Lotfalla, M.; Al Nabulsi, M.; Cholankeril, M.; Basnet, A.; Osman, N.

CV78 **A Case of Staphylococcus Intermedius Vertebral Osteomyelitis**
Lu, A.H.; Kollu, V.; Farrer, W.

CV79 **Streptococcus Pyogenes Pneumonia with Pleuritis**
Mathew, J.J.; Sekhon, R.; Ghazarian, Z.; Khan, M.A.

CV80 **Hepatocellular Carcinoma in the Setting of Acute Intermittent Porphyria: A Case Report**
Mathews, M.; Paish, L.; Kumar, A.; Khan, N.; Maroules, M.

CV81 **Hypercalcemia in Advanced Prostatic Carcinoma: A Rare Event**
Mathews, M.; Kumar, A.; Awkar, N.; Dhaliwal, D.; Maroules, M.

CV82 **A Case of Posterior Circulation Stroke Mimicking Transient Global Amnesia**
Mechineni, A.; Khan, N.; Khan, A.

CV83 **Acute Aortic Dissection With Rupture Into The Right Ventricular Outflow Tract**
Mechineni, A.; Bajaj, S.; Yamini, S.; Manda, J.; Shah, P.; Bikkina, M.; Shamoon, F.

CV84 **Diabetes Ketoacidosis in Thin Young Type 2 Diabetes Mellitus Patient**
Meloro, R.T.; Wallach, S.

CV85 **Intravenous Bisphosphonate Induced Hypocalcemia**
Meloro, R.T; Mohan, V.

CV86 **Baclofen Induced Brain Death**
Meloro, R.T.; Ursani, M.A.; Sasinowska, S.; Imayama, I.; Kososky, C.; Seelagy, M.M.

CV87 **A Case of Graves Disease Requiring Total Thyroidectomy**
Miriyala, V.; Zijoo, R.; Amodu, A.; Bukhari, S.; Moncayo, J.L.; Mohan, V.

CV88 **Meningiomas; Not as Harmless as They Seem**
Miriyala, V.; Imayama, I.; Ramanujam, S.; Kososky, C.

CV89 **Acute Aphemia in a Young Adult Male with Congestive Heart Failure**
Mozaffarian, D.; Kaleel, A.

CV90 ***Enterobacter Cloacae*-Induced Right Heart Valve Infective Endocarditis in a Woman without Valvular Disease**
Nemani, K. C.; Salamera, J.; Butler, J.

CV91 **Dual Left Anterior Descending Artery System: One Native, One Aberrant**
Nemani, K. C.; Patel, H. R.; Millman, A. E.; Shamoon, F. E.; Joshi, M. B.

CV92 **Diabetic Predisposition to *Klebsiella Pneumoniae* Pyogenic Liver Abscesses**
Nemani, K. C.; Syed, J. A.; Isaac, L.; Brescia, M.

CV93 **Primary Tuberculosis Presenting as Pleural Effusion in a Young HIV-Seronegative Patient**
Pandya, S.; Kollu, V.; Salamera, J.

CV94 **Disseminated Histoplasmosis Mimicking Colon Malignancy**
Pandya, S.; Salamera, J.; Ahmed, M.

CV95 **Septic Emboli Causing Acute ST-elevation Myocardial Infarction**
Patel, K.M.; Cholankeril, M.; Bikkina, M.; Shamoon, F.

CV96 **Infective Endocarditis Associated C3 Glomerulonephritis: A Case Report**
Patel, A.S.; Hawatmeh, A.; Ahmed, S.; Massarweh, F.; Abu-Taleb, A.

CV97 **Arrythmogenic Right Ventricular Dysplasia/Cardiomyopathy (ARVD/C) and Cathecholaminergic Polymorphic Ventricular Tachycardia (CPVT): A Phenotypic Spectrum Seen in Same Patient**
Patel, H.; Shah, P.; Patel, K.; Rampal, U.; Costeas, C.; Shamoon, F.; Tiyyagura, S.

CV98 **Takotsubo Cardiomyopathy Presenting as Acute Stroke: Case Report and Literature Review**
Patel, H.; Shah, P.; Patel, K.; Rampal, U.; Habib, M.; Hamdan, A.; Shamoon, F.

CV99 **Small Bowel Obstruction Mimicking Acute ST-Elevation Myocardial Infarction**
Patel, K.M.; Chang, N.L.; Shulik, O.; DePasquale, J.; Shamoon, F.

CV100 **DTAP-Vaccine induced Myopericarditis Mimicking ST-Elevation Myocardial Infarction in an Adult**
Patel, K.M.; Peralta, P.; Correia, J.J.; Shamoon, F.

CV101 **Renal Artery Stenosis in Young Female without Fibromuscular Dysplasia**
Peralta, P.; Cholankeril, M.; Koneru, J.; Shamoon, F.

CV102 **Leuconostoc Induced Endocarditis in a Patient with No Risk Factors: A Case Presentation**
Peralta, P.J.; Osman, N.; Jaffry, S.; Sabato, L.

CV103 **Transient ST Elevation with Persantine Nuclear Stress Test: A Good Indicator for Emergent Cardiac Laboratory Activation**
Rampal, U.; Pullatt, R.; Shamoon, F.

CV104 **Iatrogenic Inferior Vena Cava Syndrome Secondary to Delayed Partial Embolization of an Atrial Septal Defect Occluder Device: Challenging Clinical Scenario**
Saad, M.; Suleiman, A.; Shamoon, F.

CV105 **Anterior Wall Transmural Myocardial Infarction Complicating CREST Syndrome: A Case Report**
Saad, M.; Cholankeril, M.; Koneru, J.; Shamoon, F.

CV106 **Significant Improvement of the Timed 25 Foot Walk (T25FW) after Administration of Dalfampridine in Secondary Progressive Multiple Sclerosis**
Salehi, M.; Kaleel, A.S.

CV107 **A Bedside Test to Distinguish a Myasthenic from a Vascular Cause of Bilateral Ino**
Samaan, M.M.; Rosenberg, M.

CV108 **Adult Onset Langerhans Cell Histiocytosis Misdiagnosed as Toxoplasmosis**
Sartawi, T.; Kollu, V.; Basnet, A.; Seneviratne, C.; Ahmad, R.; Capo, G.

CV109 **Telescoping Technique to Engage Left Main in a Massively Dilated Aortic Root and Ascending Aorta**
Shah, P.; Bikkina, M.; Virk, H.

CV110 **Thrombus Formation in Left Atrium on Dabigatran Therapy**
Shah, P.; Soyombo, A.; Virk, H.; Bikkina, M.

CV111 **ST Elevation Myocardial Infarction with Acute Limb Ischemia**
Shah, P.; Bajaj, S.; Shamoon, F.

CV112 **Unusual Case of Idiopathic Pulmonary Arterial Hypertension in a Young Male: A Report of a Case**
Sharaan, A.S.; Shashpal, F.S.; Salamera, J.S.

CV113 **Neurosyphilis Mimicking Symptoms of Recurrent TIA**
Shashpal, F.; Ahmad, R.; Ahmed, S.; Pandya, S.; Schanzer, B.

CV114 **A Case of Spontaneous Coronary Artery Dissection in Young Healthy Women**
Siddiqui, W.; Iyer, P.; Dessalinies, N.; Amba, S.; Tatari, A.; Wingfeld, E.; Wallach, S.

CV115 **Ventricular Septal Rupture: A Rare Complication of Right Ventricular Myocardial Infarction: A Case Report**
Siddiqui, W.; Iyer, P.; Amba, S.; Aung, M.; Khan, M.; Ejidike, M.; Muddassir, S.

CV116 **Rare Case of Gastric Antral Vascular Ectasia in a Cirrhotic Patient**
Sonia, F.; Chiavetta, C.

CV117 **The Significant Role of Consultation Psychiatrist in Preventing, Identifying and Treating Wernicke's Encephalopathy**
Spariosu, M.; Coira, D.

CV118 **Acute Thrombus Formation within a Coronary Artery Aneurysmal Segment During Coronary Angiogram**
Suleiman, A.; Saad, M.; Shamoon, F.

CV118 **Unusual Presentation of a Femoral Artery Pseudoaneurysm After Left Cardiac Catheterization**
Suleiman, A.; Saad, M.; Shamoon, F.

CV120 **Elevated Cardiac Enzymes with Normal Coronary Angiography After IVIG Infusion**
Suleiman, A.; Saad, M.; Shamoon, F.

CV121 **Kikuchi-Fujimoto Disease a.k.a Histiocytic Necrotizing Lymphadenitis in an African-American Male**
Szabela, M.E.Y.; Rana, S.B.; Boghossian, J.

CV122 **Late Presentation of Infantile Laryngeal Agenesis**
Szczech, E.; Parikh, S.P.; Burjonrappa, S.

CV123 **Duodenal Atresia with a Normal Abdominal Radiograph**
Szczech, E.; Parikh, S.; Bhattacharyya, N.

CV124 **Goodpasture's Syndrome**
Tahir, M.H.; Bukhari, S.; Bulos, S.; Siddiqui, W.; Ramanujam, S.; Datla, A.; Seelagy, M.

CV125 **Cryptococcal Antigenemia in an Asymptomatic HIV Positive Patient**
Tahir, M.H.; Iyer, P.; Amba, S.; Krathen, J.; Siddiqui, W.; Amodu, A.; Smith, M.J.

CV126 **Brachial Artery Septic Emboli Causing Complete Occlusion**
Tatari, A.; Bukhari, S.; Awan, M.; Siddiqui, W.; Muddassir, S.; Wallach, S.

CV127 **A Purple Foot, a Unique Presentation of Microembolism**
Tatari, A.; Bhatti, H.; Khan, M.Y.; Pantelick, J.; Wallach, S.

CV128 **B-Cell Lymphoma of the Thoracic Spine Presenting with Spinal Cord Pressure Syndrome**
Thomas, T.; Fouerte, E.

CV129 **A Rare Case of Moyamoya Disease in a 40 Year Old Caucasian Female**
Tseng, G.; Medel, R.; Iyer, P.; Tatari, A.; Sasinowska, S.; Kososky, C.; Wallach, S.

CV130 **Adult Patent Ductus Arteriosis in Two Siblings : Case Report and Investigation**
Tseng, G.; Awan, M.; Hussain, A.; Zia, S.; Krathan, J.; Cheboratev, O.; Pantelick, J.

CV131 **Takotsubo Cardiomyopathy in a Patient Admitted with Acute Myasthenic Crisis**
Tseng, G.; Dessalines, N.; Awan, M.U; Muddassir, S.; Tabowada, J.; Rosvold, D.

CV132 **Vagus Nerve Stimulator: A Hidden Culprit for Sleep-Disorder Breathing**
Upadhyay, H.; Ming, S.; Bhat, S.; Gupta, D.; Chokroverty, S.

CV133 **Obstructive Sleep Apnea (OSA): Is Tracheostomy a Limiting Factor for Diagnosis and Treatment?**
Upadhyay, H.; Polos, P.; Gupta, D.; Bhat, S.; Ahmad, M.; Rubinstein, M.

CV134 **Langerhans Cell Histiocytosis and Grave's Disease: A Case Report of An Unusual Association**
Viswanathan, L.; Eckman, A.

CV135 **"Special K": A Rare Case of Cardio-Pulmonary Toxicity Masquerading as Pneumonia and Heart Failure**
Yamini, S.; Manda, J.

CV136 **Adult Hemophagocytic Lymphohistiocytosis: A single Center Experience with a Rare Disease**
Yamini, S.; Awkar, N.; Maroules, M.; Ismail, M.

CV137 **A Rare New Onset Junctional Bradycardia with Retrograde Conduction and Ataxia Resulting from Oral Phenytoin Toxicity: The Eclectic Side Effect Profile for Which Clinicians Should Look**
Yamini, S.; Patel, D.; Manda, J.

CV138 **A Case Of Granulomatosis With Polyangitis**
Zia, S.; Iyer, P.; Awan, M.U.; Mettupalli, N.; Hussain, M.; Sasinowska, S.; Pantelick, J.

CV139 **A Case of Stage IV Non Small Cell Lung Carcinoma with Siadh and Superior Vena Cava Syndrome**
Zia, S.; Iyer, P.; Amba, S.; Siddiqui, W.J; Rosvold, E.; Smith, J.M.

CV140 **Isolated Cryptococcal Pneumonia in Idiopathic CD4+ Lymphocytopenia**
Zia, S.; Moncayo, J.L.; Bhatti, H.; Meloro, R.; Ambreen, B.; Krathen, J.; Wallach, S.

CV141 **Plasmapharesis for Treatment of Transverse Myelitis Secondary to Multiple Sclerosis**
Zijoo, R.; Amba, S.; Bukhari, S.; Amodu, A.; Nadeem, S.; Moser, R.; Smith, J.M.

CV142 **Immune Thrombocytopenic Purpura Secondary to Antibiotics**
Zijoo, R.; Tatari, A.; Pantelick, J.; Wallach, S.

CV143 **A Male Patient with Breast Cancer, Prostate Cancer and Lymphoma**
Zijoo, R.; Iyer, P.; Mughal, A.; Conaway, H.

CV144 **Occult Primary Breast Carcinoma**
Zijoo, R.; Rosvold, E.; Kish, K.; Mechanic, L.; Pantelick, J.

CV145 **Kikuchi-Fujimoto Disease, a.k.a. Histiocytic Necrotizing Lymphadenitis in an African American Male**
Szabela, M.E.Y.; Rana, S.B.; Boghossian, J.

Health Sciences Research

HSR01 **Balance Across the Menstrual Cycle**
Baker, J.; Smith, C.; Odubayo, Y.; Maher, C.; Hill-Lombardi, V.

HSR02 **The Effect of Saddle Positioning on Joint Kinematics and Muscle Recruitment for Triathlon Cycling in the Aero Position.**
Boergers, R.J.; London, L.H; McDonald, B.M.

HSR03 **Ergonomic Risk of Development of Upper Quadrant Work Related Musculoskeletal Disorders in Forklift Operators and its Relationship to Posture, Operator Stance / Cab Design, and Task**
Brush, L.M.; Cruz, A.B.; Schopperth, C.L.; Duff, J.M.

HSR04 **Autism Spectrum Disorder (ASD) and Immunizations: College Students' Beliefs**
Desmarais, B.M.; Viereck, A.M.; Berfet, S.K.; Newby, D.S.; Jurgensen, L.M.; Goonetilleke, J.A.

HSR05 **Considerations for Writing Instruction in Children with High Functioning Autism**
Gauntlett, D.N.; Koutsoftas, A.D.

HSR06 **Participation Instruments: A Systematic Review**
George, K.W.; Monteleone, S.A.; Shevardnadze, A.

HSR07 **The Most Cited Articles regarding Anterior Cruciate Ligament Injuries in the Past 20 Years**
Goljan, P.; Pierce, C.M.; Scillia, A.J.; Festa, A.; Patel, D.V.; McInerney, V.K.; Feagin, J.A.

HSR08 **The Effect of Dynamic Warm-Up on Strength**
Henze, M; Rock, P; Carroll, R; Cunningham, M; Phillips, HJ; Hill-Lombardi, V.

HSR09 **The Impact of Cycling Exercise on Physiological, Functional and Psychosocial Outcomes in Persons with Multiple Sclerosis: A Systematic Review**
Inirio, D.; Taylor, J.M.

HSR10 **Factors and Attitudes that Impact the Completion of Advance Directives**
Isaacson, A.S.; Appleman, J.M.; Armenia, S.J.; Poland, M.D.; Samsky, E.N.; Sedrak, M.M.

HSR11 **Use of Arterial Pulse Wave Analysis Following Concussion: A Perspective on Post-Injury Cardiovascular Autonomic Function**
LaFountaine, M.; Megherian, K.; Ambrogio, A.; Hurley, J.; Hill-Lombardi, V.

HSR12 **Antipsychotic Quality Reporting: Effects on Antipsychotic and Psychoactive Medication Use**
Lucas, J.A.; Bowblis, J.R.; Brunt, C.S.

HSR13 **Barriers to CPR Training Among College Aged Students**
Manappuram, B.; Grajales, K.; Pathickal, S.; Franco, J.

HSR14 **Development of a Chemical, Radiological, Environmental Threat Warning System for a Disaster Response Mobile Hospital**
Morchel, H.; Bonin, C.; Ogedegbe, C.; DelMoro, G.; Feldman, J.; Goncalves, T.; Cerbone, J.

HSR15 **Attitudes Regarding the Utilization of Ultraviolet Radiation in Healthcare Facilities for Infection Control**
Morris, E.A.; McKeever, K.M.; Schilder, V.G.; Turner, J.A.

HSR16 **It's The Way You Said It! Evaluation of Emotional Tone in Aprosodia**
Odejar, M.; Patel, S.M.

HSR17 **Solo Flipped Learning Environment: Merging Ideas to Foster Critical Thinking**
Pinto Zipp, G.; Maher, G.

HSR18 **Caffeine Consumption and its Side Effects: A Comparative Study of Healthcare Students in the Didactic versus Clinical Phase of Study**
Pry, K.N.; Costa, C.; Sweeney, M.A.; Pellechio, S; Walden, C.E.; Hanifin, C.

HSR19 **HPV Knowledge Among College-Aged Students**
Roessler, L.; Logue, M.; Cangialosi, ML..; Peluso, H.J.; Rizzolo, D.

HSR20 **The Role of Shape Cues in Preschoolers' Word Learning**
Saks, J.; Capone Singleton, N.

HSR21 **The Association of a Long-Term Shoulder and Neck Strengthening Program and Injuries of the Head, Neck, and Shoulder: A Retrospective Study**
Sivo, A.; DeCuffa, J.; Amicucci, J.; McCartney, J.; Hill-Lombardi, V.

HSR22 **Lacrosse Helmet Removal Versus Helmet Facemask Removal: A Comparison of Time and Head and Neck Movement**
Smith, G.A.; Olini, K.J.; Bird, A.; Boergers, R.J.

HSR23 **Five Types of Knowledge for Spelling: A Developmental Study**
Wilson, O.; Koutsoftas, A.

Research in Progress

IP01 **The Relationship Between Menstrual Cycle Changes, Postural Control and Balance: A Systematic Review**
Barthel, C.L.; Crowley, D.C.; Greenfield, A.C.; Maher, C.M.

IP02 **Biting and Chewing Development in Young Children: A Pilot Study**
Capone-Singleton, N.C; Goodrich, E.A; Walter, E.J; Patel, N.V.

IP03 **Cell Phone Use Changes Walking Strategies**
Fina, M.J.; Perniola, R.P.; Wilson, D.O.; Stiskal, D.M.

IP04 **Correlation between Speech and Language Fluency in Normal Adult Speakers**
Gardner, M.E; Dayalu, V.N; Koutsoftas, A.D.

IP05 **Concurrent Validity of the Shaw Gait Assessment Tool in Individuals with Incomplete Spinal Cord Injury**
Haggan, J.H.; Esemplare, N.E.; Liesch, J.L.; Sutor, T.S.; Nair, P.N.

IP06 **Insulin Resistance and Microvascular Function in Persons with SCI**
LaFountaine, M.; Blankenship, S.; VanderGroef, K.; Najafi, J.

IP07 **The Application of Hyperspectral Imaging to Evaluate the Extent of Burn Injury**
Morchel, H.; Sheby, D.; Hazelood, V.; Carlisle, A.; Kaul, S.; DeVinck, D.; Hasser, C.

IP08 **Writing Analysis in Children with Hearing Impairments: An Exploratory Study**
Odiase, J.E; Koutsoftas, A.

IP09 **Inter-Rater Reliability of Novice Learners Using the Behaviorally-Anchored Lift Task Evaluation (BALTE)**
Phillips, H.J.; Papaccio, M.; Kratch, A.; Antonios, M.

IP10 **Gender Differences in Surface Electromyography and Postural Stability in Healthy Seton Hall University 3rd Year Doctor of Physical Therapy Students During a Step Down Task**
Quevedo, D.; Tababa, B.; Tonon, A.

IP11 **“It’s All in Your Head” – The Psychiatrist’s Role in the Diagnosis and Management of Conversion Disorder in Medical Settings: Case Series and Literature Review**
Spariosu, M.; Coira, D.

IP12 **Writing Macrostructure in Children with and without Language-Learning Disabilities**
Tinagero, K.L.; Koutsoftas, A.

IP13 **The Effect of Dual Tasking on Spatiotemporal Gait Parameters in Older Adults During Incline Walking Under Various Task Conditions: A Review of the Literature**
Zipp, G.; Maher, C.; Sholander, P.; Lee, A.

Basic Medical Sciences

BMS01

Syndecan-1 and FGF2 as Stratification Biomarkers for Hodgkin's Lymphoma

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INTRODUCTION: Hodgkin's lymphoma (HL) is a rare lymphoid malignancy with a treatment failure in about 10% of patients who become refractory to therapy, and 20-30% of patients who relapse a few years after diagnosis. Treatment of poor outcome (PO) HL patients remains a challenge as no biomarkers exist to identify this patient population. Discovery and validation of effective biomarkers for poor outcome HL could save substantial medical costs by bringing personalized medicine closer and improving treatment outcomes.

METHODS: Bioinformatics data mining was used to generate 151 candidate biomarkers, which were screened against a library of 10 HL cell lines. Expression of fibroblast growth factor-2 (FGF2) and Syndecan-1 (SDC1) by CD30+ cells from HL patient samples representing good and poor outcomes were analyzed by qRT-PCR, immunohistochemical, and immunofluorescence analyses.

RESULTS: Boinformatics data mining results identified 151 possible HL biomarkers. FGF2 and SDC1 were overexpressed in all HL cell lines, and the overexpression was HL specific when compared to non-Hodgkin lymphoma (NHL) tissues. Furthermore, FGF2 and SDC1 protein expression was significantly elevated in peripheral blood leukocytes of chemo-naive HL patient samples when compared to NHL sections and normal lymph node controls. The expression of FGF2 and SDC1 genes in the PO HL patients samples was elevated 24 times for FGF2 and 56 times for SDC1; respectively, as compared to the good outcome (GO) group. The PO group showed higher expression of CD30, CD68, transforming growth factor beta (TGFÎ_) and matrix metallopeptidase 9 (MMP9) compared to the GO group.

CONCLUSION: Taken together, bioinformatics data analysis identified biomarkers that could be useful in identifying poor outcome HL patients. We also identified subsets of circulating CD30+/CD15+ cells that express FGF2 and SDC1 in this patient population. Validating the use of SDC1 and FGF2 as a stratification biomarker pair could build a vision for the near future to improve current therapies and promote personalized medicine for poor outcome HL patients.

BMS13

The Difference in Time Constant in Patients and Normal Subjects

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INTRODUCTION: Rebound nystagmus (RN) refers to nystagmus noted on return to primary position after sustained lateral gaze to one side. RN was once considered to be a pathological phenomenon found only in patients. We have previously presented evidence that it is found consistently in normal subjects and that the nystagmus fatigues with a reproducible time constant (TC). Further investigation was initiated in order to discover whether there was a significant difference between the TC of patients and normal subjects.

METHODS: Data from 59 normal subjects and 89 neurologic patients with different problems was used. All first fixated in primary position, then 45Â° to the left, back to primary position, then 45Â° to the right, and back to primary position, each phase lasting 40 seconds. The TC was obtained by fitting the slow phase velocities to an exponential model. Only trials with a reliable fit (R2 > 0.2) and at least 3 sequential beats of nystagmus were included.

RESULTS: A reliable TC was found in 35/52 (67%) normal subjects in light conditions and in 29/51 (57%) normal subjects under dark conditions. In patients a reliable TC was found under light conditions in 42/89 (47%) and in 29/70 (41%) under dark conditions. The average TC in normal subjects in light was 6.28 (std 2.94) while in patients it was very similar at 6.57, (std 2.97). The average TC in normal subjects in the dark was 11.66 (std 6.06) and in patients it was 9.02 (std 3.76). The average amplitude in normals in the light was 0.82o (std 0.16) and was 1.20 o (std 0.18) in patients. In the dark, normal subjects had an amplitude of 1.53 o (std 0.30) and patients had a value of 2.0o (std 0.23). Patients were also separated into different groups based on pathophysiology but no diagnosis showed values of significant difference compared to controls.

CONCLUSION: The significantly greater incidence of RN in the light in normal subjects compared to patients was surprising and is of unclear etiology. It may reflect a better ability of normal subjects to concentrate on the task and maintain far eccentric gaze. The greater amplitude of RN in patients in the light may explain why the rebound seen clinically is always pathological. Hopefully future work with additional patients will lead to better localization of these findings.

BMS03

Epithelial HIF Plays a Protective Role in Gut Graft Versus Host Disease

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INTRODUCTION: Acute graft-versus-host disease (GVHD) is a major cause of nonrelapse morbidity and mortality following allogeneic blood and marrow transplantation (BMT). Acute gut GVHD affects more than 60% of patients and is a leading cause of death. The mechanisms for the early, conditioning-related, intestinal injuries that are the precipitating event leading to GVHD or how subsequent gut-specific GVHD actually disrupts intestinal homeostasis have not been fully explored. Given that inflammatory bowel disease (IBD) and GVHD share many pathogenic mechanisms and intestinal epithelial hypoxia-inducible factor (HIF) afforded protection in IBD models, we hypothesize that the persistent activation of HIF will protect the intestinal epithelium from conditioning and alloreactive T cell-induced gut damage.

METHODS: The effects of epithelial HIF-1 and HIF-2 on GVHD-induced crypt damage was tested in a fully MHC mismatched B10.BR(H2k)>B6(H2b) BMT model, using conditional intestinal epithelial HIF-1Î±Î"IE and HIF-2Î±Î"IE knockout mice that lack HIF-1Î± and HIF-2Î± in the intestinal epithelium. 8 days, post-BMT, the histopathologic damage of the jejenum was assessed by H&E staining and gene expression of intestinal stem cell (ISC) markers and niche factors was quantified by real-time PCR analysis. Crypt proliferation and apoptosis was determined by immunohistochemistry using Ki67 and TUNEL respectively. Survival studies were also performed.

RESULTS: Histopathologic assessment of H&E stained ileums of HIF-1Î±IE mice showed more severe crypt damage, loss of Paneth cells and fewer regenerating crypts as compared to wild-type (WT) mice, 8 days post-BMT. Loss of epithelial HIF-1 reduced the expression of two ISC markers, Lgr5 ($p<0.01$) and Sox9 mRNA levels ($p<0.05$) and the expression of ISC niche factors, Reg3Î_ ($p<0.01$) and Notch-dependent Hes-1 ($p<0.001$) in the ileum compared to WT mice, post-BMT. Hyperplastic crypts that are characteristic of regenerating crypts after radiation-induced damage were observed in Ki67-stained ileal sections of WT mice post-BMT whereas fewer regenerating Ki67-labeled crypts were evident in HIF-1Î±IE mice. In control WT and HIF-1Î±IE (receiving T cell depleted BM), Ki67+-proliferating cells resided at the crypt base. A higher incidence of apoptotic cells was found in HIF-1Î±IE mice post-BMT compared to WT. Loss of epithelial HIF-2 also caused significant histopathologic crypt damage in the jejenum versus WT mice, 8d post-BMT. Finally, loss of epithelial HIF-1 or epithelial HIF-2 reduced overall survival time.

CONCLUSION: Taken together, our findings suggest that intestinal epithelial HIF-1 and HIF-2 may protect the intestinal stem cell niche from GVHD-induced injury and preserve intestinal regeneration in response to gut GVHD.

BMS04

Novel Chromatin Modifying Gene Alterations and Significant Survival Association of ATM and TP53 in Mantle Cell Lymphoma

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INTRODUCTION: The survival of mantle cell lymphoma (MCL) has improved due to the use of dose-intensive strategies in younger patients achieving a deeper and earlier response (including molecular CR) and the application of novel therapies in the relapsed/refractory setting, where patients are typically chemoresistant. A number of prognostic factors have been reported in MCL including MIPI, Ki67 and blastoid variants among others, the latter being frequently associated with del 17p or p53 mutations and a particularly poor outcome. Recent studies have begun to describe the genomic landscape of MCL by whole-genome, whole-exome and targeted sequencing. However, comprehensive evaluation of genomic alterations remains to be elucidated.

METHODS: We studied 33 FFPE or cryopreserved blood MCL specimens by performing integrated DNA and RNA sequencing or DNA sequencing alone. All samples were obtained at diagnosis prior to frontline R-HyperCVAD therapy. In this MCL cohort, treated at our institution, the median age was 59 y (range 35-75), all were stage IV, median Ki-67 was 30 % (range 5-80%), MIPI was low risk (27%), intermediate risk (30%), high risk (42%), and there were 4 blastoid variants (2 with del 17p by FISH or cytogenetics). The FoundationOne Heme assay was used Â for comprehensive genomic profiling of all genes.Â Briefly, genomic DNA and total RNA were extracted and captured using custom bait-sets targeting all exons of 405 cancer-related genes by DNA-Seq, and 265 frequently rearranged genes by RNA-Seq.

RESULTS: In total, we identified 125 genomic alterations with an average of 3.8 per sample, including 45 base substitutions/indels, 33 truncations, 1 gene amplification, 6 gene deletions, and 40 rearrangements. ATM and TP53 were among the most frequently al-

tered genes, found in 45% and 18% (though 3x more frequent than by baseline FISH/cytogenetics) of the samples, respectively. The most common genes with potential therapeutic implications were ATM (PARP inhibitors), CDKN2A and CCND1 (CDK4/6 inhibitors) and NOTCH1 (Notch1 inhibitors). Gene alterations of chromatin remodeling pathway were identified in 18 out of 33 samples, including SMARCB1 (4), SMARCA4 (2), ARID1A (3), ARID2 (1), PBRM1 (1), CHD2 (1), WHSC1 (5), MLL2 (2), SETD2 (1), EZH2 (1), and ASXL1 (1). Alterations in SMARCB1 (also known as SNF5 and INI1) and ARID1A, members of the SWI/SNF chromatin-remodeling complex, have not been reported in MCL previously. Other frequently altered genes included NOTCH1/2 (12%), and the cell cycle genes CDKN2A/B (9%). 3. Mutations of TP53 and ATM were correlated with both the short overall survival (OS) and progress free survival (PFS) in our cohort.

CONCLUSION: We identified relevant genomic alterations in MCL patients from baseline peripheral blood and/or tissue in all samples tested. We discovered novel recurrent mutations in chromatin remodeling genes SMARCB1 and ARID1A in MCL, and demonstrated that 55% of tumors carried alterations in epigenetic regulation overall. In our frontline cohort of MCL pts treated with R-HyperCVAD, we identified the significant poor prognostic value of the alteration of ATM and TP53 on outcome. These findings highlight the possibilities for improved prognosis and novel therapeutic strategies based on comprehensive genomic analysis of these pathways.

BMS05

A Rare Case of Tortuosity and Lateral Deviation of the Abdominal Aorta

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INTRODUCTION: A rare case of tortuosity and lateral deviation of the abdominal aorta (AA) was observed during dissection of an adult male specimen. The AA was deviated to the right side, lying anterior to the inferior vena cava (IVC). A laterally deviated AA may be incorrectly mistaken for an aneurysm when palpated through the abdominal wall. A tortuous AA may also cause compression of the IVC. Knowledge of such cases has important surgical and clinical implications.

METHOD: During instructional dissection of 30 embalmed adult cadavers, an unusual tortuous course and lateral deviation of the abdominal aorta (AA) was observed in 1 Afro-American male specimen. Classically, the AA begins at the aortic hiatus of the diaphragm and assumes a straight and axisymmetric course through the abdomen. After giving off its major branches, it terminates at the body of L4, by dividing into two common iliac arteries.

RESULTS: The presence of deviation of the abdominal aorta is rare. In the present study, the abdominal aorta was deviated to the right inferior to the origin of the superior mesenteric aorta, lying anterior to and possibly compressing the inferior vena cava. The lateral AA included the inferior mesenteric artery and deviated to the left before terminating at its bifurcation.

DISCUSSION: Tortuosity of the AA is of clinical significance since it may be mistaken for an aortic aneurysm when palpated through the abdominal wall as a pulsatile mass. Knowledge of such cases has important clinical significance in an abdominal operation or invasive arterial procedure. A tortuous AA may also cause compression of the inferior vena cava resulting in fibrosis and cirrhosis of the liver.

BMS06

Linguofacial Trunk Arising from a Lateral External Carotid Artery: A Rare Anatomic Variant

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INTRODUCTION: The present study describes a rare case encountered during cadaveric dissection, in which the right lingual and facial arteries arise together from a common linguofacial trunk, from a lateral external carotid artery (ECA). In this conformation, the linguofacial trunk coursed medially, crossing and partially obscuring the internal carotid artery (ICA), potentially limiting access to the ICA during carotid endarterectomy. The transposition of the ECA and ICA and presence of a linguofacial trunk could have profound surgical implications.

METHODS: During cadaveric dissection in this year's class of Functional Human Anatomy, a rare anatomic variant was found at the level of the right carotid triangle of an adult male specimen.

RESULTS: On that side, the common carotid artery bifurcated between C3 and C4 and the positions of the external carotid artery (ECA) and internal carotid artery (ICA) beyond the bifurcation was transposed, such that the ECA was located lateral to the ICA. In addition, the right lingual and facial branches of the ECA originated from a common linguofacial trunk, which coursed medially, crossing and partially obscuring the ICA and potentially limiting surgical access to the vessel. The hypoglossal nerve passed lateral to the ECA before medially crossing the linguofacial trunk to lie deep to the digastric. The configuration of the contralateral carotid arteries was normal, and the lingual and facial arteries arose separately from the ECA.

Angiographic and ultrasound studies have suggested the prevalence of a lateral ECA to be ~4-12%, most often on the right (Teal et al., 1973). The occurrence of a unilateral linguofacial trunk arising directly from the ECA is ~15% (Yadav et al. 2014). This is the first report describing a right linguofacial trunk originating from a lateral ECA, which would limit ICA exposure and require care to avoid hypoglossal nerve damage.

DISCUSSION: Variations in the position and branching pattern of the ECA are rare, and have important implications in the surgical field. The rotation of the ECA and ICA and the presence of a linguofacial trunk, hampers access to the ICA, and increase the risk of iatrogenic injury to the hypoglossal nerve.

BMS07

Alpha-Synuclein Pathology in the Laryngeal Nerves in Parkinson's Disease

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INTRODUCTION: Voice and speech disorders, dysphagia and aspiration are common in patients with Parkinson's disease (PD). Despite the high incidence of these upper airway disorders in PD, a large gap in our knowledge is that the underlying pathology is poorly understood. In this study, human larynges were obtained from 5 deceased human subjects with clinically diagnosed and neuropathologically confirmed PD and 4 healthy controls. The laryngeal nerves were immunostained for phosphorylated Î±-synuclein. The results showed the presence of Î±-synuclein-positive axons in all the PD subjects and in none of the controls. These findings suggest that the laryngeal related disorders in PD may be due to degeneration of the laryngeal nerves caused by Î±-synuclein pathology.

METHODS: We studied autopsied human larynges from subjects with PD (n=5) and age-matched healthy controls (n=4) (Fig. 1). Three nerve samples were taken from cervical vagus nerve (X), recurrent laryngeal nerve (RLN), and internal branch of the superior laryngeal nerve (ISLN) (Fig. 2). The tissue samples were fixed with 10% formalin, cut longitudinally and immunostained. Nerve sections were pretreated with 1:100 proteinase K for 20 min, incubated overnight in anti-Î±-synuclein monoclonal antibody (psyn no. 64; diluted 1:1000), incubated with a secondary biotinylated antibody (anti-mouse IgG diluted 1:1000) for 2 hours, treated with avidin-biotin complex, with A and B components of the Vectastain kit both at 1:1000 dilution for 30 min and treated with diaminobenzidine.

RESULTS: In the group of subjects with PD, there were 4 men and 1 woman, mean age was 78 years (range, 73-84), and the mean disease duration of PD at time of death was 16 years (range, 11-20). The mean Hoehn and Yahr stage was 3.2 (range, 2-4); 1 subject was stage 2; 2 subjects were stage 3; and 2 subjects were stage 4. The 4 healthy controls included 2 men and 2 women without neuromuscular disorders. The mean age of the healthy subjects was 75 years (range, 70-80). PD-induced degeneration of the peripheral nerves controlling the larynx was identified. Anti-Î±-synuclein immunohistochemistry showed axonal synucleinopathy lesions in the X, RLN, and ISLN in all PD samples and in none of the controls. In PD, the Î±-synuclein-immunoreactive axons commonly appeared as threads and dots (Fig. 3). In this series, the X and ISLN had a high density of Î±-synuclein-positive axons as compared with the RLN (Fig. 3).

CONCLUSION: This is to our knowledge the first demonstration of Î±-synuclein pathology in the laryngeal nerves in subjects with PD. Our preliminary observations suggest that voice and speech disorders and aspiration commonly seen in PD patients may be due to Î±-synuclein pathology in the laryngeal nerves. Sensory nerve lesions could diminish laryngeal sensation and cough reflexes, while motor nerve pathology results in impaired glottic closure, dysphasia, vocal fold atrophy and bowing. All of these changes could impair laryngeal functions. Further studies in a large sample size are needed for a better understanding of the mechanism of laryngeal dysfunction in PD and therefore provide direction for therapeutic strategies.

BMS08

Efficacy of Topical Perfluoro(t-butylcyclohexane) (FtBu), Oxygen-Saturated Gel in a Model of Delayed Wound Healing: Partial Thickness Burn Wound with Pseudomonas Infection in Swine

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INTRODUCTION: Annually, there are more than 1 million burns, resulting in more than 700 000 emergency department visits, 45 000 admissions, and nearly 4500 deaths in the United States alone. Swine have been used to evaluate dermal materials and wound healing properties of experimental materials, as they reliably mimic human skin. Here we evaluate the effects of perfluoro(t-butylcyclohexane) (FtBu) oxygen-saturated gel on the healing of partial thickness burn wounds infected with Pseudomonas Aeruginosa in swine compared to control treatments over 22 days.

METHODS: 3 swine subjects acquired 16 thermal wounds each on their back using a heated 3cm x 5cm brass template. Day 1 post injury, all wounds were infected with 1 x 106 colony forming units of

Pseudomonas aeruginosa by injecting the inoculum under the eschar and left overnight. Test material was FtBu gel on adhesive pad along with 3 different controls; N=12 for each. Wound size, healing rate, condition of wound dressing/skin, and histological evaluations were made. Histological data was all gathered from the hematoxylin and eosin stained tissue.

RESULTS: The FtBu Gel showed the most advanced re-epithelialization appearance on post op days 14, 15. By 22 days, it appeared that all groups equalize in their rates of healing. For comparison of wound area 0.785 (mm2) with 4 wound dressing treatments for 22-day follow-up, a Two-way ANOVA model, with repeated measurements on each Day, indicated there was a significant dressing effect (P=0.0006) and pairwise comparisons were performed using Tukey-Kramer adjustment for multiple comparisons. For histology parameters for the 4 wound dressing treatments after 22-day follow-up, all entries were presented as frequency (percentages). Categorical variables were compared across dressing types using Fisher's exact test. Comparison between dressing types in skin thickness (epidermis + dermis) was performed using one-way ANOVA. Kruskal-Wallis test, due to the non-normality thickness values.

CONCLUSION: Grossly, FtBu gel groups had a slightly faster but not significant rate of re-epithelialization compared to control groups. A better understanding of FtBu oxygen-saturated gel mechanism of action at the cellular level, at different concentrations is required further to better delineate its effects on the burn wound healing cascade of events.

BMS09

A Role for MMP-3 in the Modulation of Early T Cell Responses in GVHD

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INTRODUCTION: During graft-versus-host disease (GVHD), activated alloreactive T cells recirculate from the secondary lymphoid organs and extravasate via the blood vessels into target tissues, causing pathology which if severe enough can ultimately lead to mortality. We hypothesized that differences at the level of the host issue may have an influence on GVHD development. In order for alloreactive T cells to infiltrate target tissues, they must traverse the extracellular matrix (ECM) and the involvement of ECM structural and regulatory proteins, specifically matrix metalloproteinases (MMP), is much less definedWe therefore examined the expression patterns and potential function of MMP-3 in the development of GVHD.

METHODS: Small intestine tissue samples were collected from either lethally irradiated (9 Gy, split dose) BALB.B or CXB-2 mice receiving only 2 X 106 anti-Thy 1 mAb + C′ treated (T cell- depleted) B6 bone marrow cells (ATBM) for hematopoietic reconstitution. Samples were collected on days 8, 20 and 30 post-irradiation and homogenized using a mechanical dissociator (Miltenyi Biotec).. Expression of MMP-3 was determined using real time PCR analysis. IFN-ïÅ§ production by donor T cells was evaluated using ELISPOT assays where responder presensitized B6 enriched T cells were cocultured with either BALB.B or MMP-3 KO stimulator splenocytes (exposed to 15 Gy irradiation).

RESULTS: Relative gene expression of MMP-3 using GAPDH as an endogenous control was significantly lower (39.9% decrease, $p<0.05$) at day 8 following irradiation of hosts in BALB.B mice when compared to CXB2 mice. No significant differences in expression levels were observed at later timepoints (20 and 30 days post-irradiation). GVHD experiments comparing MMP-3 knockout (KO) mice on a BALB.B background with BALB.B controls, revealed that a lack of MMP-3 caused a decrease in the median survival time (MST) of recipient mice from day 40 to day 31($p=0.06$). ELISPOT assays studying B6 T cell alloresponses against BALB.B or MMP-3 KO splenocytes showed an increase in mean IFNïÅ§+ spots in MMP-3 KO-stimulated wells from 205.7 to 241.7 ($p=0.098$) when compared to BALB.B controls.

CONCLUSION: Taken together, these data suggest: 1) a protective role for MMP-3 in the early stages of GVHD development in the B6-> BALB.B model; and 2) a potential involvement of both tissue and immune associated MMP-3 in the development of GVHD.

BMS10

Experimental Radiation (2400 MU/min/ 50cGy) In Vitro Achieved Significant Increase in Apoptosis on Melanoma Cells with Superior Survival of Normal Cells when Compared to 400MU/min

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INTRODUCTION: Purpose: Purpose of this study was to investigate apoptotic effects of 10MV x-rays at high dose rate (2400 MU/min) combined with a low total dose (50cGy) in malignant melanoma cells in vitro. Concurrently, the preservation of normal melanocytes (HEM), keratinocytes (HEK) and stromal cells (HEF) and radio-sensitization using mitochondrial inhibitors were also studied.

METHODS: The cells were cultured in T25 flasks and were radiated using a linear accelerator with 400 or

2400 MU/min dose rates and total doses from 25-100 cGy. Cell counting, Colony Assays, Mitotracker fluorescent and bright fileld imaging, and MTT assay were used to investigate mitochondrial respiration, cell proliferation/death and radio-resistant cell morphology. Genes involved in mitochondrial respiration, apoptosis, cell division and signaling were quantitatively analyzed by qRT-PCR. Mitochondrial respiration was partially blocked by mitochondrial inhibitors.

RESULTS: The apoptosis in melanoma cells were 30% higher and normal melanocyte survival was preserved 80 % with 50cGy delivered at 2400 MU/min than 50cGy delivered at a dose rate of 400MU/min in vitro setting($p<0.005$). qRT-PCR data confirmed significant upregulation of apoptosis genes (AIF, FAS, FASL, Casp 3, Casp8, Casp9, TP53) in cancer cells and DNA repair and cell proliferation genes (MSH2, CCND1,CCND2, MDM2, MDM4) in HEM, HEK and HEF. Cell counts showed 60% and 68% reduction at 7 days post-radiation for the aggressive metastatic cells ($p<.0.001$) and for sensitive cells, respectively. Colony assays demonstrated 30% more cell killing with 2400MU/min than 400 MU/min and preserved 75% normal primary cells. Dose rate 2400 MU/min caused higher mitochondrial respiration than 400 MU/min which was directly related to total dose of radiation delivered to cells. Respiratory chain genes (NDUFS2, UCRC, SDHC, ATPAF2) were down regulated, suggesting that the increased respiration activity after radiation was related to post-translational activation. Mitochondrial inhibition increased cell kill to 74% ($p<0.005$) with inhibitor O and to 83% with inhibitor R while HEM maintained 60% survival.

CONCLUSION: 10 MV x-rays at high dose rate with low total dose (2400 MU/min|50cGy) significantly enhances radio-sensitivity of melanoma cells while reducing radio-toxicity on normal cells. Additionally, blocking mitochondrial respiration proportionately increases melanoma cell kill with this dose rate. Our model implicates potential novel radio therapeutic options and opens untested field of radiotherapy research.

BMS11

Modified Nerve-Muscle-Endplate Band Grafting Technique for Muscle Reinnervation

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INTRODUCTION: As the presently used reinnervation methods result in poor functional recovery, we developed a new technique called nerve-muscle-endplate band grafting (NMEG) to treat paralyzed muscle. The idea is that transferring a NMEG from a donor muscle to a neighboring paralyzed muscle could preserve numerous intact motor endplates and nerve terminals which provide a rich source of axonal regeneration. Our initially designed NMEG, which was implanted into an endplate-free area in the recipient muscle, yielded partial functional recovery. We recently refined surgical procedure by transplanting the NMEG pedicle into the native motor zone (NMZ) of the target muscle. Our experiments showed that the NMEG-NMZ procedure resulted in successful reinnervation and optimal recovery of maximal muscle force.

METHODS: In this study 15 adult SD rats were used. The right sternomastoid (SM) muscle (recipient) was experimentally denervated and immediately reinnervated with a NMEG harvested from the ipsilateral sternohyoid (SH) muscle (donor). The NMEG was composed of a block of muscle (~6x6x3 mm), an intact donor nerve branch with axon terminals, and an endplate band with numerous neuromuscular junctions. The NMEG was implanted to the native motor zone (NMZ) in the recipient muscle (Figs.1 & 2). After a 3-month recovery period, the treated muscles were evaluated by the use of tetanic force measurement, histological and immunocytochemical analyses. The contralateral SM muscle served as a control. The results from the NMEG-NMZ technique were also compared with those from our initially designed NMEG procedure.

RESULTS: The results showed that NMEG-NMZ technique resulted in better muscle reinnervation and functional recovery as compared with our initially designed NMEG procedure. There were several major findings. First, the weight of the SM muscles reinnervated with NMEG-NMZ was greater than that of the muscles treated with initially designed NMED procedure (Fig. 3). Second, the NMEG-NMZ reinnervated muscles exhibited extensive nerve regeneration, axon-endplate connections, and full muscle reinnervation (Fig. 4). Finally, the NMEG-NMZ technique yielded better functional recovery than the NMEG procedure (Fig. 5). Optimal outcomes from the NMEG-NMZ technique can be attributed to the fact that the regenerating axons from the implanted NMEG pedicle could easily reach and reinnervate the denervated motor endplates in the recipient muscle, thereby leading to optimal functional recovery.

CONCLUSION: The NMEG-NMZ technique may become a valuable tool in the treatment of skeletal muscle denervation in certain clinical situations.

BMS12

Kallikrein Family Proteases KLK6 and KLK7 are Potential Early Detection and Diagnostic Biomarkers for Serous and Papillary Serous Ovarian Cancer Subtypes

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INTRODUCTION: Ovarian cancer (OVC) has the highest mortality rate among gynecologic malignancies. Although the 5-year survival rate of OVC is around 90% when detected in its early stages (I/II), nearly 80% of new cases are diagnosed in advanced stages (III/IV) because of the asymptomatic nature of the disease. Early detection of ovarian cancer remains a challenge due to widespread metastases and a lack of biomarkers. This study aimed to identify relevant biomarkers for serum-based early-detection of OVC.

METHODS: Bioinformatics analysis and expression screening in ovarian cancer cell lines were employed. Selected biomarkers were further validated in biospecimens of diverse cancer types and ovarian cancer subtypes. For non-invasive detection, expression of biomarker proteins was evaluated in serum samples of ovarian cancer patients in different stages of the malignancy.

RESULTS: Two kallikrein serine protease family members (KLK6 and KLK7) were significantly overexpressed relative to normal controls in most of the OVC cell lines examined. mRNA overexpression was specific to OVC, in particular to serous and papillary serous subtypes. In situ hybridization and histopathology further confirmed significantly elevated levels of KLK6 and KLK7 mRNA and proteins in tissue epithelium and a lack of expression in neighboring stroma. Lastly, KLK6 and KLK7 protein levels were significantly elevated in serum samples from serous and papillary serous subtypes in the early stages of OVC. Their use could potentially decrease the high "false negative" rates found in the same patients with the common OVC biomarkers human epididymis protein 4 (HE4) and cancer antigen 125 (CA-125).

CONCLUSION: KLK6 and KLK7 mRNA and protein overexpression is directly associated with the appearance of early-stage ovarian tumors and can be measured both in patient tissue and in serum samples. Assays based on KLK6 and KLK7 expression may provide specific and sensitive information for early detection of ovarian cancer and their use can improve sensitivity /specificity of biomarkers currently used in the clinic.

BMS13

Downregulation of Osteoblastic N-Cadherin Decreases Primary Multiple Myeloma Cell - Osteoblast Interactions

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INTRODUCTION: Recent reports have shown that in multiple myeloma (MM), direct adhesive interactions between MM cells and the bone marrow stroma are responsible for the development of drug resistance and relapse. This phenomenon termed "cell adhesion-mediated drug resistance" (CAMDR) is thought to be one of the major mechanisms by which multiple myeloma cells (MMC) escape the cytotoxic effects of therapeutic agents. Using a novel 3D tissue microfluidic platform, we found that OSB played a key role in the ex vivo maintenance and expansion of MMC. In this study, we evaluated the role of osteoblastic N-cadherin in regulating MMC-OSB interactions as a first step to elucidate the role of this molecule in the development of CAMDR in MM.

METHODS: Knockdown of N-cadherin protein expression in the human OSB cell line hFOB 1.19 was achieved using shRNA lentiviral technology. Patient-derived bone marrow mononuclear cells (BMMC) containing malignant MMC were cocultured in the microfluidic device with either N-cadherin+OSB or with a mixture composed of N-cadherin-OSB and N-cadherin+OSB. Monitoring and quantification of MMC-OSB interactions was performed using time lapsed images and fluorescence microscopy.

RESULTS: Real-time images showed that CD138+ MMC were preferentially adhered to N-cadherin+ OSB. The retention of CD138+ MMC, based on the scaffold constitution, was determined by flow cytometric analyses as the CD138+ MMC/OSB ratio. Notably, after a 2 day coculture period, only 32.78% Â± 4.15% CD138+ MMC was retained in the tissue scaffold containing N-cadherin-OSB compared to 70.21% Â± 4.64% retention in the mock transfected OSB group.

CONCLUSION: For the first time, we demonstrated here that osteoblastic N-cadherin is responsible, at least in part, for the development of strong interactions between MMC with stromal elements from the tumor microenvironment. Our data suggest a new therapeutic intervention area in the modulation of N-cadherin expression by OSB as a way to render MMC more susceptible to drug treatments and potentially decrease CAMDR.

Clinical Investigation

CI01

Plasma Volume Contraction Estimated by Hematocrit and Cardiorenal Syndrome in Acute Heart Failure

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INTRODUCTION: Cardiorenal syndrome is associated with worse outcome in hospitalized patients with CHF. Estimated plasma volume contraction using hematocrit during diuresis can help avoiding overdiuresis and worsening renal function.

METHODS: CHF patients who were admitted to Trinitas and Saint Michael hospitals were prospectively observed during hospitalization. Daily weight, CBC, kidney function, and diuretic doses were recorded daily. Change in plasma volume was estimated using Strauss formula.

RESULTS: A total of 119 pts (56 men) were studied. The median age 70 (60-83). Average dose of lasix was 80 mg IV daily. Cardiorenal syndrome (cr rise >0.3) developed in 42%. Patients with plasma volume contraction on second day of diuresis were 2.3 more likely to develop cardiorenal syndrome (p:0.038). No relationship was found between diuretic dose, weight change with either plasma volume contraction or cardiorenal syndrome.

CONCLUSION: Plasma volume contraction after 24 hr of diuresis, not weight change, may help predict cardiorenal syndrome in hospitalized CHF patient.

*CI02

Platelet Reactivity Unit in Predicting Risk of Bleeding in Patients Undergoing Coronary Artery Bypass Graft Surgery

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INTRODUCTION: Bleeding is a common complication of cardiac surgery, accounting for a significant proportion of the total transfusions performed in the United States and Europe. Response to antiplatelet therapy varies from one patient to another. Hence, platelet reactivity tests have recently been proven useful in predicting long-term outcomes in the setting of acute coronary syndromes (ACS). Tailoring antiplatelet therapy based on platelet assay results should be considered in patients undergoing major surgeries like coronary artery bypass graft (CABG) surgery.

METHODS: Spectively enrolled 238 patients underwent CABG in a 700-bed teaching tertiary hospital in northern New Jersey. All elements of the Study were collected retrospectively. Data collection based on obtaining preoperative platelet reactivity unit (PRU) values and postoperative outcomes for patients who had CABG done. Age, sex, race, Body Mass Index (BMI), medications and comorbidities were also considered in the study. We used the hospital electronic medical records and operative reports in the data collection phase.

RESULTS: Total number of patients evaluated in this study was 238. Postoperative bleeding has been reported in 43 (18%) of the patients, while 195 (82%) patients did not experience bleeding after the surgery. Consequently, bleeding was further divided into minor and major depending on PLATO criteria. Out of the patients with bleeding, minor and major bleeding have occurred in 41 (95%) and 2 (5%) patients respectively. A range of 150-200 PRU suggests the likelihood of bleeding after CABG surgery. (OR:3.3; CI:1.5 to 6: P<0.01).

CONCLUSION: In conclusion, by using PRU values as a method to assess platelet reactivity and antiplatelet responsiveness, our findings suggest that it may be possible to stratify patients undergoing CABG surgery for the risk of postoperative bleeding particularly patients on dual antiplatelet therapy.

CI03

Pediatric Appendicitis: Reaching the Finish Line Safely

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INTRODUCTION: We evaluate patients with abdominal pain suspected of having acute appendicitis in the pediatric emergency room; the process could be very challenging. We have to balance between accuracy and safety while arriving at the diagnosis. CT is widely being used as the modality of choice during the diagnostic process. Recent studies brought to awareness the deleterious effects of the radiation especially in children. We want to bring a balance between these two and still reach the finish line safely.

METHODS: It is a retrospectively reviewed charts of 436 children <22 years of age who were admitted from the ED with the diagnosis of acute appendicitis from November of 2010- December of 2013. We gathered data on the patients as well as health care professionals involved in caring those patients using electronic

medical records. We procured time line of events to establish a time frame it took to complete the process. The patients are divided into 3 groups, which are US positive, US inconclusive /US showing secondary signs of inflammation and those who only had CT scan of the abdomen and pelvis.

RESULTS: The preliminary results are as follows. There are a total of 437 patients in the analysis, 311 (71%) of them underwent ultrasound for appendicitis, of which 178 are positive, 133 are inconclusive or showed secondary signs of inflammation with out visualization of appendix. 119 patients had CT scan without US. About 109 patients had both CT and US. Of the 113 patients who were in the Category of non-visualization of the appendix 109 patients underwent CT scans. The analysis of the first 3 different groups did show statistically significant differences in the patient characteristics; like age, BMI duration of the symptomatology. It did not show much difference in the physician characteristics. Rest of the analysis is still underway.

CONCLUSION: Preliminary analysis suggests that there are differences between the different groups with respect to the patient characteristics including age, BMI, duration of the symptoms. Older age with high BMI; CT scan of the abdomen and pelvis is still superior to the US of the appendix as the diagnostic modality. Where as US still could be the first modality when the children are young, thin with shorter duration of the symptoms. The differences among physicians taking care of the children are not significant.

CI04

The Use of a Reduced-Intensity Conditioning (RIC) Regimen in Patients Ages 2-30 Undergoing Allogeneic Transplantation for Sickle Cell Disease

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INTRODUCTION: Sickle cell disease affects 72,000 individuals in the US. Stem cell transplantation is the only cure for SCD. Studies show matched sibling transplants after myeloablative conditioning have acceptable results,but with potential long-term complications. Only 14% of patients will have sibling donors,and results have been less promising with higher rates of transplant related mortality using alternative donors. Historically,only pediatric patients were considered candidates for HSCT,but a study demonstrated that young adult SCD patients may be able to tolerate a RIC HSCT. In an attempt to minimize the risk of TRM while still maximizing the available donors,this study examines the use of a RIC regimen for either matched sibling or alternative donor HSCT in SCD patients ages 2-30.

METHODS: Patients were deemed eligible for matched sibling HSCT if they had SCD, and for alternative donor HSCT if they had SCD with severe features with a 9-10/10 unrelated donor or 5-6/6 UCB in the donor registry. The conditioning regimen consisted of Alemtuzumab, Fludarabine, and Melphalan. Post-HCST, donor chimerism and hemoglobin S (HbS) percentages were followed closely, and there was strict monitoring for post-HSCT complications, including graft rejection, graft vs. host disease (GVHD), infectious complications, and other post-HSCT issues.

RESULTS: 11 patients (8 related donors, 3 unrelated donors) with median age of 8.1 years (range: 2.3-23 years) were enrolled. For related HSCT, the probabilities of primary neutrophil & platelet engraftment, grade II-IV acute GVHD, chronic GVHD, and graft rejection were 100%, 37%, 12.5%, and 0%, respectively. Donor chimerisms ranged from 96-100% with HbS% between 0-43%, with median follow-up of 19 months (range: 3-24 months). Probability of 1-yr DFS and OS were 100% & 100%. For alternative donor HSCT, the probabilities of primary neutrophil & platelet engraftment, grade II-IV GVHD, chronic GVHD, and graft rejection were 100%, 33%, 33%, and 33%, respectively. Donor chimerisms ranged from 0-100% with HbS% between 0-18%, with median follow-up of 8 months (range: 2-25 months). Probability of 1-yr DFS and OS were 33% & 66%.

CONCLUSION: Our results show that this regimen followed by matched sibling HSCT is well tolerated, but the results were discouraging for alternative donor HSCT. Because of this, we are currently developing a protocol using post-transplant cyclophosphamide in alternative donor HSCT for SCD.

CI05

Experience with Norvir 100 mg, Darunavir 800 mg, and Dolutegravir 50 mg (r/DRV/DTV) Once a Day In An Inner City HIV Clinic in Newark, NJ

Barahona, F.; Bhattarai, S.; Slim, J.; Baca, N.; Parker, K.; Al-Saleh, H.; Abd Al Qader, M.; Saint Michael's Medical Center

INTRODUCTION: Most randomized controlled studies for treatment of HIV include three drugs. Attempts to reduce this number to two active agents have yielded mixed results. We present a retrospective study of patients treated with r/DRV/DTV in our inner city HIV clinic in Newark, NJ, USA.

METHODS: A retrospective chart review of patients who were prescribed r/DRV/DTV daily, and had at least two follow up visits before January/1/2015 was done. We collected epidemiological data, and determined

baseline resistance, response to therapy, adverse events, comorbidities, non-antiretroviral medications (ART) and drug-drug interactions.

RESULTS: Out of 1217 patients, 37 were prescribed r/DRV/DTV daily. Twenty five out of 37 patients had at least two follow up visits before January/1/2015. Their mean age was 52 years, seventeen were male. Twenty were African Americans. Most common risk factor for HIV acquisition was heterosexual contact. A resistant virus was found in fifteen patients. The most common comorbidities were hypertension, chronic kidney disease and chronic pain syndrome. The most common prescribed non-ART medications were amlodipine and tramadol, with two recognized drug-drug interactions (increased amlodipine and tramadol serum concentrations) however no adverse effects were found.

CONCLUSION: This regimen of two potent retroviral agents was well tolerated, quiet efficacious and should be considered especially in patients with chronic kidney disease and limited ART options. ART/non-ART drug interactions were not found to be clinically significant. More RCTs comparing r/DRV/DTV to other commonly used three drugs combination should be undertaken.

CI06

Are Psychiatric Disorders And Obesity Becoming The Most Prevalent Non-Infectious Chronic Comorbid Conditions In Hiv Population?

Barahona, F.; Bhattarai, S.; Slim, J.; Al-Saleh, H.; Abd Al Qader, M.; Parker, K.; Baca, N.; Saint Michael's Medical Center

INTRODUCTION: The life expectancy of HIV infected patients has improved thanks to the widespread availability of antiretroviral therapy however the reduction in AIDS-related mortality carries an increasing number of chronic noninfectious comorbid conditions. In addition, those with HIV may be at higher risk for age-associated comorbid diseases.

METHODS: A retrospective chart review of patients who had at least two visits in a period between July/1/2013 and December/31/2014 at an inner city HIV clinic in Newark, NJ was done in order to collect their epidemiological data and to determine their most common non-infectious chronic comorbid conditions.

RESULTS: The most prevalent non-infectious chronic comorbid conditions in 1217 patients who followed in our clinic between July/1/2013 and December/31/2014 were essential hypertension (469 patients), psychiatric disorders (390 patients), obesity (295 patients), hyperlipidemia (235 patients), chronic pain syndrome (225 patients). Of the 390 patients with psychiatric disorders 211 patients had major depressive disorder, 106 had anxiety. The total number of males with depression and anxiety were 113 and 55 respectively and their range of age was 19-69 years-old. The BMI range of obese patients was 30-58 kg/m2. 121 patients were found to have extreme obesity, 75 of whom were female. 75% of female patients and 67% of male patients within the eight most common non infectious chronic comorbidities were African Americans.

CONCLUSION: The three most common non-infectious chronic comorbid conditions in an inner city HIV clinic of Newark, NJ were hypertension, psychiatric disorders, and obesity. Depression, anxiety and extreme obesity are becoming the new health thread in HIV patients especially in African Americans. More insight into incidence, prevalence and risk factors of non-AIDS comorbidity among HIV-infected individuals is therefore essential to optimize policies for prevention and management.

CI07

The Role of Glutamate and its EAAT Transporters in ADHD and Autism

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INTRODUCTION: Glutamate excess is found in numerous neurodegenerative diseases such as Alzheimer's, ALS, Huntington's, and Parkinson's, as well as in acute injury such as stroke. The same findings have been shown in Attention deficit hyperactivity disorder (ADHD) and Autism spectrum disorder (ASD). Aberrant glutamate signaling is tied to the pathophysiology behind many of these illnesses, leading to the neurobiological and behavioral alterations often present. Whether the rise of the neurotransmitter is due to a deficiency in or malfunction of transporters that act to clear glutamate is unclear and needs to be investigated.

METHODS: A search of PubMed, UpToDate, and PsycINFO (EBSCO) was done to gather information, supplemented with articles found through the search engine Google Scholar. Websites that contained relevant information in support of research for this article were also found using Google.

RESULTS: This literature review examines the relationship between neurodevelopmental disorders and glutamate. Of the 5 subtypes of Na+-dependent high affinity glutamate transporter receptors that function to clear glutamate, EAAT1 and EAAT2 are found to be most abundant in the brain and are mainly expressed in astroglial cells. Of specific concern to ADHD and Autism are EAAT1 and EAAT2, transporters that clear glutamate. If there is defective functioning or a deficiency in the EAAT1/2 transporters, glutamate cannot be cleared and builds up, stimulating neurons to their demise. In ADHD, the deficiency in dopamine allows

for uncontrolled glutamate release, leading to inattentiveness. The repetitive and hyperexcitable behaviors seen in ASD can also be attributed to increased stimulation by glutamate.

CONCLUSION: Knowing the role of glutamate and its EAAT transporters can aid in the design of medications targeted to improve the quality of life and functional capacity in ADHD and ASD. Whether treatments act to upregulate EAAT transporters or to normalize their numbers, the overall target of medications should be to decrease glutamate accumulation in order to minimize excitotoxicity. Treatments that focus on upregulating EAAT transporters show promising results.

CI08

Pharmacokinetic (PK) and Pharmacodynamic (PD) Results of a Novel, First-in-Class Modulator of Eukaryotic Translation Initiation Factor 5A (eIF5A) in Patients with Relapsed or Refractory B-Cell Malignancies: Data from a Phase 1-2 Study

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INTRODUCTION: eIF5A is the only known protein to be modified by hypusination and is highly conserved across species. Hypusinated eIF5A, the predominant form in normal and cancer cells, is involved in cell survival and inflammatory pathway activation. siRNAs targeting eIF5A inhibit NF-kB activation and reduce pro-inflammatory cytokine production. Accumulation of the unhypusinated lysine form of eIF5A is associated with apoptosis.

METHODS: PK and PD secondary endpoints included characterization of PK by measuring pExp5A plasmid DNA and eIF5A siRNA in blood and bone marrow (BM), assessing potential immunogenicity of SNS01-T by measuring serum concentrations of antibodies against SNS01-T nanoparticles, and measuring serum concentrations of select proinflammatory cytokines by enzyme-linked immunosorbent assay in serum and plasma samples. Blood PK timepoints were 30 minutes before the first infusion and at 30 minutes, 2, 6, and 24 hours after the first infusions on Week 1, Week 3, and Week 6 and at the 4, 8, and 12 week visits after the last infusion; BM samples were collected 1 day after the final infusion.

RESULTS: Plasmid and siRNA blood levels generally peaked 30 minutes post-dosing at weeks 1, 3 and 6 of dosing. Both plasmid and siRNA exhibited rapid clearance from the blood, with levels dropping to near pre-dosing levels within 24 hours of administration. pExp5A plasmid DNA was detectable in the bone marrow of 2 pts at cohort 1, 2 at cohort 2, 1 at cohort 3 and 1 at cohort 4. eIF5A siRNA was not detectable in bone marrow. No antibodies to SNS01-T nanoparticles were detected at any timepoint at any dose level. Cytokines remained within the expected range of inter-patient variability, similar to baseline across all timepoints at the first 2 dose levels.

CONCLUSION: PCR analysis demonstrated the presence of both plasmid DNA and siRNA components of SNS01-T in blood at all dose levels, with a dose-dependent increase in plasmid copy number. Plasmid DNA was also detected in bone marrow collected 24 hours after the final infusion of SNS01-T. Pro-inflammatory cytokines did increase within hours of infusion but returned to baseline within 24 hours, synchronous with clinical infusion reactions (see Abstract 70148). No evidence of an anti-SNS01-T antibody response was observed in any subject.

*CI09

The Charateristics of Rebound Nystagmus in Patients and Normal Subjects

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INTRODUCTION: Rebound nystagmus (RN) refers to nystagmus noted on return to primary position after sustained lateral gaze to one side. RN was once considered to be a pathological phenomenon found only in patients. We have previously presented evidence that it is found consistently in normal subjects and that the nystagmus fatigues with a reproducible time constant (TC). Further investigation was initiated in order to discover whether there was a significant difference between the TC of patients and normal subjects.

METHODS: Data from 59 normal subjects and 89 neurologic patients with different problems was used. All first fixated in primary position, then 45Â° to the left, back to primary position, then 45Â° to the right, and back to primary position, each phase lasting 40 seconds. The TC was obtained by fitting the slow phase velocities to an exponential model. Only trials with a reliable fit (R2 > 0.2) and at least 3 sequential beats of nystagmus were included.

RESULTS: A reliable TC was found in 35/52 (67%) normal subjects in light conditions and in 29/51 (57%) under dark conditions. In patients, a reliable TC was found in 42/89 (47%) under light conditions and in 29/70 (41%) under dark conditions. The average TC in normal subjects in light was 6.28 (std 2.94) while in patients it was very similar at 6.57, (std 2.97). The average TC in normal subjects in the dark was 11.66 (std 6.06) and in patients it was 9.02 (std 3.76). The average amplitude in normals in the light was 0.82o (std 0.16)

and was 1.20 o (std 0.18) in patients. In the dark, normal subjects had an amplitude of 1.53 o (std 0.30) and patients had a value of 2.0o (std 0.23). There was statistical significance in the incidence of rebound and amplitude in the light condition. Patients were also separated into different groups based on pathophysiology but no diagnosis showed values of significant difference compared to controls.

CONCLUSION: The significantly greater incidence of RN in the light in normal subjects compared to patients was surprising and is of unclear etiology. It may reflect a better ability of normal subjects to concentrate on the task and maintain far eccentric gaze. The greater amplitude of RN in patients in the light may explain why the rebound seen clinically is always pathological. Hopefully future work with additional patients will lead to better localization of these findings.

CI10

A Phase IIa, Open-Label, Multicenter Study of Single-Agent MOR00208, an Fc-Optimized Anti-CD19 Antibody, in Patients with Relapsed or Refractory B-Cell Non-Hodgkin's Lymphoma

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INTRODUCTION: A number of second-generation monoclonal antibodies (mAbs) that target the antigens CD20 and CD19 have been evaluated across a range of non-Hodgkin's lymphoma (NHL) subtypes combined with chemotherapy, as a single agent, or as maintenance therapy. Although these agents are usually well tolerated and have demonstrated clinical activity in patients (pts) with NHL, there is still a high unmet medical need for pts with refractory or relapsed NHL. MOR00208 is an Fc-engineered humanized mAb that targets the antigen CD19 and possesses significantly enhanced antibody-dependent cell-mediated cytotoxicity, a key mechanism for tumor cell killing.

METHODS: Non-randomized, phase IIa, open-label, multicenter study (NCT01685008) designed to assess efficacy and safety of single-agent MOR00208 in pts 18 years with relapsed or refractory NHL previously treated with rituximab, who were not candidates for high-dose therapy with stem cell support. Eligibility: pts with DLBCL, FL, MCL, and other indolent NHL (iNHL), who had received at least one prior rituximab-containing therapy; ECOG PS 0-2, measurable disease ≥1.5 cm, adequate bone marrow function, renal and liver function test.

RESULTS: Herein we report the efficacy results for the 51 pts enrolled in stage 1 and the safety for 85 pts enrolled to date in stages 1 and 2 of this trial. The median age for all 51 stage 1 pts was 70 (35-90) years, 46 had stage III-IV disease, and the median number of prior therapies was 3 (2-4). Treatment cohorts consisted of DLBCL (n=14), FL (n=14), MCL (n=12) and iNHL (n=11). The investigator assessed overall response rate in stage 1 over all NHL subtypes was 24% (12/51), with responses observed in the DLBCL, FL, and iNHL cohorts (Table). As of February 2014, 62/85 (72.9%) stage 1 and stage 2 pts had developed treatment emergent adverse events (TEAEs). The most frequently reported TEAEs of any grade were thrombocytopenia (11.8%), anemia and headache (10.6% each), and neutropenia (9.4%). Infusion-related toxicities were all grade 1-2 (except for one case of dyspnea of grade 4). There have been no treatment-related deaths. Most of the TEAEs occurred in pts with DLBCL (30/36 [83.3%]). In pts with DLBCL, the most frequently reported grade 3 TEAEs were neutropenia (13.9%), thrombocytopenia and anemia (8.3% each).

CONCLUSION: The Fc-engineered humanized anti-CD19 antibody, M0R00208, is well tolerated without significant infusional toxicity and demonstrates preliminary efficacy in pts with relapsed/refractory DLBCL, FL, and iNHL. Accrual to stage 2 for pts with DLBCL and FL is ongoing.

CI11

TGR-1202, a Novel Once Daily PI3KÎ´ Inhibitor, Demonstrates Clinical Activity with a Favorable Safety Profile, Lacking Hepatotoxicity, in Patients with Chronic Lymphocytic Leukemia and B-Cell Lymphoma

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INTRODUCTION: TGR-1202 is a novel oral, next generation PI3KÎ´ inhibitor which notably lacks the hepatotoxicity associated with other PI3KÎ´ inhibitors. Preliminary data from an ongoing Ph I study of TGR-1202 demonstrated clinical activity in patients with advanced hematologic malignancies (ASCO 2014). Herein we present updated results from this Phase I, first in human study of TGR-1202 in patients with relapsed and/or refractory CLL and B-cell lymphoma.

METHODS: TGR-1202 is administered orally once daily following a 3+3 dose escalation design. Previously treated patients with an ECOG PS â‰¥ 2 and confirmed diagnosis of B-cell non-Hodgkin lymphoma (NHL), chronic lymphocytic leukemia (CLL), or other lymphoproliferative disorders are eligible. Endpoints include safety, PK/PD, and efficacy.

RESULTS: 49 patients have been enrolled to date of various lymphoma subtypes including CLL, follicular

lymphoma (FL), Hodgkin's lymphoma (HL), DLBCL, mantle cell lymphoma (MCL), and marginal zone lymphoma (MZL). Demographics: 76% male, ECOG 0/1/2: 17/31/1, median age of 59 yrs (range: 22-85), median prior treatment regimens: 3 (range: 1-14), and 43% were refractory to prior treatment. 35 patients have been treated at doses ≥800 mg of a previous formulation where a threshold effect in activity was observed, and 6 have been treated with an improved micronized formulation (≥200 mg). TGR-1202 was well tolerated and no MTD has been reached to date. The only Grade 3 AE occurring in >5% of patients was neutropenia (8%).

CONCLUSION: TGR-1202 is well tolerated in patients with relapsed and/or refractory hematologic malignancies with no reported hepatotoxicity or events of colitis and promising clinical activity. Enrollment continues in expansion cohorts and with the micronized formulation.

CI12

Serious Infections of Hospitalized Patients are Associated with a Higher Prevalence of Reported Beta Lactam Antibiotic Allergy

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INTRODUCTION: To determine if having a vancomycin resistant enterococcus (VRE), methicillin resistant Staphylococcus aureus (MRSA) and Clostridium difficile (C-diff) infections are associated with a higher prevalence of reported beta lactam antibiotic allergy in hospitalized patients.

METHODS: A retrospective study of the charts of patients with documented VRE, MRSA and C-diff hospitalized in 2013 at Hackensack University Medical Center were evaluated for a reported beta lactam antibiotic allergy. The number of patients hospitalized during this time period and the total number of patients allergic to a beta lactam antibiotic were also determined. Infected patients were evaluated for prevalence of beta lactam antibiotic allergy.

RESULTS: There were 44,733 admissions for 2013 with 5,299 reporting a beta lactam allergy making a prevalence of 11.8%. A total of 798 subjects matched our criteria having these serious infections (prevalence 1.8%), of which 53.9% were male. The study included 41 patients infected with VRE, 390 with MRSA and 367 with C-diff. Of the infected patients, 164 (20.5%) reported beta lactam allergy. This is 1.75 times the prevalence of beta lactam allergy for this hospitalized group. The mean age of patients with a beta lactam allergy was 69.7 years and without was 60.6 years. There were 138 in-hospital deaths with this group of which 21 (12.8%) had a history of beta lactam allergy.

CONCLUSION: Serious infections caused by multi-drug resistant organisms in these hospitalized patients during 2013 reflected higher prevalence of patients with a reported beta lactam allergy. Results were not age or sex dependent and all diagnosis' were included.

CI13

Compounded Risk Factor for Candida Esophagitis With Concomitant Use of Proton Pump Inhibitors and Steroids

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INTRODUCTION: The role of gastric acid suppressors as predisposing factors for Candida esophagitis (CE) was investigated in a retrospective case-control study of AIDS-negative patients from January 2001 to 2012. The diagnosis of CE was made endoscopically. Our data suggest that CE occurs in patients who have previously been treated with antibiotics, steroids or gastric acid suppression therapy. These findings are consistent with recent reports and support our hypothesis that treatment with proton pump inhibitors (PPI) predisposes to the development of CE.

METHODS: Eighty-four patients diagnosed with Candida Esophagitis were retrospectively identified following endoscopy that was conducted between January 2001 and January 2012. The study was conducted at two large, urban, academic medical centers in northeast USA. These patients were matched with 336 controls who were matched based on age and gender. The controls also underwent endoscopy but had no observed CE. We excluded all known HIV positive patients from our study.

RESULTS: In this retrospective case control study involving eighty-four non HIV/AIDS patients with esophageal candidiasis, we found that the previously recognized risk factors such as steroid therapy, diabetes (type I and II), carcinoma, chemotherapy/radiation, hypothyroidism, antibiotics, and chronic liver disease, did correlate with the development of esophageal candidiasis. However, the most prominent finding was the strong, statistically significant association of PPI use and steroid use with esophageal candidiasis.

CONCLUSION: Esophageal candidiasis is known to occur in immuno-compromised patients, but has only infrequently been reported in immuno-competent hosts. The exact mechanisms are unknown, but a number of theories have been postulated. Esophageal candidiasis appears to occur when colonization of the esophagus is followed by invasion of the epithelial

layer. To our knowledge, this is the largest case control study imply a statistically significant association of PPI and steroids with CE.

CI14

Selinexor Demonstrates Marked Synergy with Dexamethasone (Sel-Dex) in Preclinical Models and in Patients with Heavily Pretreated Refractory Multiple Myeloma (MM)

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INTRODUCTION: Selinexor (KPT-330) is an oral Selective Inhibitor of Nuclear Export (SINE) XPO1 antagonist in Phase 1 and 2 clinical studies. Selinexor forces nuclear retention and reactivation of tumor suppressor proteins (TSPs) and reduction of many proto-oncogenes, including MDM2, MYC and Cyclin D. In addition, selinexor potently deactivates NF-Î°B, through forced nuclear retention of IÎ°BÎ±. Together these effects induce selective apoptosis in MM cells and inhibition of NF-Î°B dependent osteoclast activation. XPO1 is also responsible for nuclear export of glucocorticoid receptor.

METHODS: In vitro tumor cell viability measurements were based on MTT (CellTiter 96Â¨/Promega) and combination indices were calculated using CalcuSyn software. For xenograft studies, utilized NOD-SCID mice with subcutaneous inoculation of MM.1s cells. GR nuclear localization was measured with immunofluorescent anti-GR (phosphor-S211) antibody and quantitative imaging. To assess GR transcriptional activation, GR binding to a GCR consensus sequence was measured in nuclear extracts using an ELISA method (GR ELISA kit/Affymetrix).

RESULTS: In MM.1s cells Sel-Dex showed synergy for nuclear retention of the DEX activated GR (Ser211-phosphorylated) and concomitant GR transcriptional activation. Sel-Dex showed highly synergistic cytotoxicity in MM.1s cells in vitro and in vivo, with a corresponding increase in apoptosis. Selinexor alone was potently cytotoxic in the DEX resistant MM cell lines MM.1R and ANBL6, but addition of DEX provided no additional effect. Twenty-eight pts with heavily pretreated refractory MM (16 M, 12 F; median age 62; ECOG PS 0/1: 7/21; median prior regimens: 6) received selinexor at 30 - 60 mg/m2 with either 0, <20, or 20 mgs DEX. All pts have received a proteasome inhibitor and an Imid and the majority of pts have received pomalidomide (68%) and/or carfilzomib (36%).

CONCLUSION: Sel-Dex combination is markedly synergistic in preclinical models, which is supported by the preliminary clinical data presented. One potential mechanism underlying this synergy is amplification of GR activity due to combined effects of selinexor-induced nuclear retention of activated GR coupled with DEX-mediated GR agonism. These results provide a promising basis for continuing study of Sel-Dex for treatment of pts with refractory MM.

CI15

A Phase I Dose-Escalation Study of Carfilzomib in Patients with Previously-Treated Systemic Light-Chain (AL) Amyloidosis

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INTRODUCTION: The proteasome inhibitor (PI) bortezomib is active in AL amyloidosis. Carfilzomib (CFZ) is a novel irreversible PI approved for relapsed/refractory multiple myeloma, with less neurologic toxicity than bortezomib, but its safety and efficacy in AL amyloidosis is not known. We report the first results of a multi-center, Phase I, dose-finding study of CFZ in AL (NCT01789242).

METHODS: Patients had relapsed AL after â‰¥1 prior therapy. Patients with advanced cardiac involvement (Mayo stage III, LVEF<40%, or NYHA Class III/IV) were excluded. A standard 3+3 dose escalation schedule was used, with planned cohorts of 27, 36, 45, and 56 mg/m2. CFZ was given as a 30-minute infusion on days 1, 2, 8, 9, 15, 16 of a 28-day cycle, starting at 20 mg/m2 on cycle 1, days 1,2, then escalating starting day 8.

RESULTS: As of 7/17/14, 12 patients have enrolled. Median age was 62 (range 58-81); 50% were male. Median time from diagnosis was 2.8 years, with median of 2 prior regimens (range 1-4). Eleven patients (92%) had prior bortezomib (5 were refractory); 50% prior IMiDs; 50% prior stem cell transplant. Median # of involved organs was 1 (range 1-2), including 5 patients with heart, 5 kidney, 1 liver, 2 GI tract, and 4 peripheral/autonomic nerve. Median NT-proBNP was 854 pg/ml (range 93 - 9702); 3 and 9 patients were Mayo cardiac stage I and II, respectively. Three patients each were treated at 20/27 and 20/36 mg/m2, with no DLTs.

CONCLUSION: Carfilzomib monotherapy is feasible and effective in relapsed/refractory AL amyloidosis, with MTD identified as 20/36 mg/m2 as a 30-minute infusion. Cardiac events are common in this population, and may be related to drug, underlying disease or both, suggesting a role for monitoring with cardiac biomarkers and serial echocardiograms. Preliminary hematologic response rates are promising in this bortezomib-exposed population, and organ assessments are ongoing. Further study is warranted.

CI16

Bendamustine Plus Rituximab (BR) in the Treatment of Relapsed/Refractory Mantle Cell Lymphoma of a Phase 2 Study: Multivariate Analysis and Updated Final Results By Subgroup

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INTRODUCTION: Mantle cell lymphoma (MCL) is an aggressive non-Hodgkin lymphoma that usually presents as advanced-stage disease. Relapse is common, and management of relapsed/refractory MCL is difficult due to a limited number of approved agents and numerous comorbidities seen in this typically elderly patient population. We conducted a study of bendamustine plus rituximab (BR) in patients with relapsed/refractory MCL and presented preliminary results (Czuczman et al, ASH 2012, Abstract 3662). Final data are being analyzed in a multivariate analysis of baseline demographic and disease factors affecting outcomes for this study, and we present below the final data for individual subgroups for best overall response, DOR, and progression free survival (PFS).

METHODS: Relapsed disease was defined as having achieved CR with a previous therapy but demonstrating recurrent disease >6 mo after the last dose. Refractory disease was defined as either a lack of CR while undergoing previous therapy or the loss of CR <6 mo after the last dose. Bendamustine 90 mg/m2 was administered on days 1 & 2; rituximab 375 mg/m2 was administered on day 1 of a 28-day cycle. The treatment period was 6 cycles, but patients without disease progression and without a documented CR could receive up to 8 cycles. For the multivariate analysis, logistical regression will be used to examine the predictive value of baseline variables associated with response in categorical analyses.

RESULTS: 45 pts received â‰¥1 dose of BR. Median treatment - 6 cycles. For the entire cohort, the overall response rate (ORR) was 82%. Final data among pts w/ relapsed (n=21) & refractory (n=24) MCL show ORRs of 90% (n=19; CR 16 [76%], PR 3 [14%], 2 not calculable [NC]); and 75% (n=18; CR 5 [21%], PR 13 [54%], 1 NC), respectively. Median DOR (95% CI) was 19.7 mo and 15.3 mo and median PFS was 23.1 mo and 17.1, for relapsed and refractory pts, respectively. ORRs based on pts' response to most recent prior rituximab treatment were CR, 95% (n=18; CR 15, PR 3); PR, 89% (n=8; CR 3, PR 5); SD, 56% (n=5; CR 1, PR 4); PD, 71% (n=5; CR 1, PR 4); unknown, 100% (n=1; CR 1). DORs based on response to prior rituximab: CR, 17.0 mo; PR, 17.9 mo; SD, 35.3 mo; PD, 14.3 mo (3.9, NC); unknown was NC. PFS results were: CR, 22.1 mo; PR, 18.1 mo; SD, 17.9 mo; PD, 13.8 mo (5.4, NC); unknown was NC. In subgroups based on MIPI category, the ORR of pts in categories â‰¤3 was 92% (n=22; CR 14, PR 8); in 4-5 was 92% (n=11; CR 5, PR 6); in >5 was 44% (n=4; CR 2, PR 2). DORs based on risk category: â‰¤3, 20.6 mo ; 4-5, 11.1 mo; >5, NC (5.1, NC). PFS results were: â‰¤3, 23.2 mo; 4-5, 12.8 mo ; >5, 7.9 mo (2.0, NC).

CONCLUSION: The multivariate analysis is intended to indicate which patient characteristics are most closely associated with efficacy endpoints such as durability of response to BR. BR showed efficacy across a wide range of patient subgroups with relapsed/refractory MCL. In the subgroup of patients with relapsed MCL, CR was more common than PR, while patients with refractory MCL were more likely to achieve PR than CR. This information may be used to help guide treatment decisions when considering BR in heavily treated MCL patients. The BR regimen is generally well-tolerated and may serve as the backbone to which other active agents can be added in the study regimens to further improve anti-lymphoma activity.

CI17

Hepatitis A Vaccine Response in HIV-Infected Patients: The Interchangeability of TWINRIX and HAVRIX, a Second Look

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INTRODUCTION: Hepatitis A virus (HAV) is a continuing health concern among immunocompromised patients such as those with HIV. The rates of seroconversion for HAV among vaccinated HIV positive individuals are less than the general population. The guidelines are non-specific regarding TWINRIX vs. HAVRIX, regardless of immune status. Our objective to analyze the effects of variables including category of vaccination and the immunologic response to hepatitis A vaccination in the HIV positive patient who may be on highly active antiretroviral therapy.

METHODS: We conducted a randomized prospective study over the years of 2012-2015 in a clinic with a 1217 patient load. Patient were included if they had a negative HAV antibody and received either a series of a dose of HAVRIX or TWINRIX given 6 months apart, followed by a repeat HAV antibody to determine seroconversion. Variables were then extrapolated in order to come up with valuable descriptive data.

RESULTS: Conversion rates were 81% in the HAVRIX population vs. 100% in the TWINRIX group. 55% of the HAVRIX group had a CD4, T cell count of < 350 cell/mm(3), 36% of the TWINRIX had a T cell count < 350 cell/mm(3). 64% of the TWINRIX group is

African American, 27% is Caucasian, with the remainder being Hispanic. HAVRIX group has 72% African American, 18% is Caucasian and the remainder again was Hispanic. 64% of both groups are male. Half of the non-responders did not attain viral suppression.

CONCLUSION: The rates of seroconversion may be deficient after HAV vaccination in HIV positive patients. Virologic suppression and the CD4 count at the time of vaccination may contribute. Subjects who received TWINRIX seemed to be more sensitive to these variables with completion of the series than the alternative. The advantage of TWINRIX vs. HAVRIX as a combined product continues to be a concern due to the vulnerability that immunocompromised patients have to acquiring acute hepatitis A infection.

*CI18

A Comparison of Transient Elastography (Fibroscan) and The APRI Score, Two Non-Invasive Tests for Liver Fibrosis Staging in HIV/HCV Co-Infected Patients

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INTRODUCTION: Transient elasticity is a non-invasive alternative to liver biopsy for detecting hepatic fibrosis. Many studies have compared elas-tography to percutaneous biopsy. Our objective is to perform a retrospective chart review comparing fibroscan to APRI scoring for hepatic fibrosis using percutaneous biopsy as the gold standard for the staging of liver fibrosis due to causes such as infection with hepatitis C virus. A selection of studies was based on reported accuracy of fibroscan and APRI score compared with liver biopsy.

METHODS: The charts of 623 subjects who received elasticity scans were reviewed. Eighty four are HIV and hepatitis C positive and had a percutaneous biopsy and were included. Gross liver appearance was assessed and biopsy specimens were blindly evaluated by a pathologist. Elastography (FibroScan) was used to measure liver stiffness. A ROC curve analysis comparison of the two diagnostic tests was used, and a P-value of â‰_0.05 was regarded as significant.

RESULTS: The mean age is 58.2 ± 6.3 years. 49 (58.3%) were male. 61 (72.6%) were black and 78 (92.9%) had Hepatitis C genotype 1. ROC curves for significant fibrosis and severe fibrosis were determined to compare the Fibroscan and APRI score.

CONCLUSION: Fibroscan and APRI score, although not useful in early stages of cirrhosis, continue to appear to be clinically useful tools for detecting cirrhosis. FibroScan may be more useful for detecting advanced stages of fibrosis when compared with the APRI score using a percutaneous biopsy as the gold standard. Our hope is that this study may be a springboard for larger prospective, multi-centered studied performed with more diversity of subjects to add clarity to this important objective.

CI19

Haploidentical Allogeneic Transplantation Provides Comparable Outcomes to HLA-Matched or Mismatched Unrelated Donor Grafts in Hematological Malignancies

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INTRODUCTION: Haploidentical (HAPLO) and unrelated donors (URD) are established cell sources for patients (pts) who lack HLA-matched siblings. Limited data are available comparing transplant (TP) outcomes using cells from HAPLO vs URD donors. We performed a retrospective analysis of sequential pts (n=54) undergoing HAPLO transplants with post-transplant cyclophosphamide (Cy)

METHODS: A control group of HLA 7/8 or 8/8 matched URD recipients (n=59) matched by diagnosis, transplant date, and cell source (PBSC or marrow) was identified. Bone marrow staging and CD34+ cell chimerism were assessed at day +84. GvHD was staged per standard guidelines. Analysis of categorical variables was performed using the Fisher's exact test. Non-parametric analysis of median values was used for continuous variables. Survival was assessed using the log-rank test. Informed consent for analysis of transplant outcome data was obtained before transplantation for all patients and donors.

RESULTS: ANC and PLT recoveries were faster for URD PB compared to BM recipients. However, engraftment kinetics did not differ for HAPLO PB or BM recipients. HAPLO donor CD3 engraftment was robust, with 44 of 48 (92%) HAPLO compared to 37 of 52 (71%) URD recipients achieving >95% CD3+ chimerism at day +28 (p=0.01). Engraftment failure defined by failure to achieve ANC recovery and day +28 donor CD3 chimerism >5% was reported in 4 (7.4%) HAPLO and 2 (3%) URD recipients (p=0.42). The cumulative incidences of cGVHD in the HAPLO vs URD cohorts were comparable (39% vs 36%, p=0.84) and the incidence of moderate or severe cGVHD was 15% and 22%, respectively (p=0.34). At time of analysis, relapse occurred for 37% HAPLO pts (n=20) compared to 33% (n=20) in the URD group (p=0.84). 23 pts died (43%) in the HAPLO group: 12 from relapse, 5 from infection, 6 from other causes. In the URD group, 23 (39%) died: 13 from relapse, 3 from infection, 7 from other causes. The one-yr survival probabilities were 56% HAPLO

and 66% URD, with median OS probabilities 18 mo and 22 mo (p=0.85). OS was lower for recipients of 7/8 vs 8/8 matched URD grafts, but the difference was not significant (not shown).

CONCLUSION: These results show similar outcomes after HAPLO and URD transplant for engraftment, GvHD, relapse and OS. Almost all HAPLO pts achieved full donor CD3+ chimerism by day +28. In conclusion, HAPLO transplant with post transplant Cy is an option for pts lacking HLA matched siblings; prospective studies are needed to validate these findings.

CI20

Clinical Differences among Hispanics and Non-Hispanic Whites with Colorectal Cancer, a Single Institution's Experience over 20 years

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INTRODUCTION: Clinical Differences among Hispanics and non-Hispanic Whites with Colorectal Cancer, a Single Institution's Experience over 20 years.

METHODS: We reviewed the records of all patients (pts) diagnosed with CRC at our institution from 1993 to 2013. A total of 2146 pts were studied. Demographics, tumor characteristics, and survival were analyzed. Kaplan-Meier and Cox regression were used for survival and multivariate analysis.

RESULTS: There were 318 H and 1828 NHW. Median age at diagnosis was 63 years in H and 70 years in NHW. At diagnosis, 30% of H had stage IV disease compared with 18% of NHW ($p < 0.0001$). H were more likely to have left sided and poorly differentiated tumors compared to NHW (71% vs. 63%, $p < 0.008$; 24% vs 10%, $p < 0.0001$, respectively). H had a higher recurrence rate than NHW (13% vs 4%, $p < 0.0001$). There was a significant difference on median overall survival (all stages) between the two groups, being 76 mo for H (95% CI: 69-83) and 180 mo for NHW (95%CI: 112-251), $p < 0.0001$. Hispanic ethnicity (OR: 1.64, $p < 0.009$), histologic grade (OR: 1.21, $p < 0.003$) and negative margins after resection (OR: 0.41, $p < 0.0001$) were independent predictors of survival by multivariate analysis.

CONCLUSION: In our cohort, Hispanic pts were diagnosed with CRC at a younger age, were more likely to have left sided and poorly differentiated tumors, to present with advanced disease at diagnosis, and had shorter overall survival when compared to NHW. Further research should aim to elucidate the basis of these differences, as this could potentially impact screening and management in the Hispanic population.

CI21

Impact of Thyroid Hormones on Clinical Outcomes in Colorectal Cancer Patients

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INTRODUCTION: Thyroid hormones (THs) may play a role in diseases other than hyper- and hypothyroidism. Several lines of evidence have attributed tumor-promoting effects of TH and TH receptors. It has been suggested that increased circulating hormones contribute to the growth of different cancers, by promoting tumor angiogenesis. We plan to investigate the role of thyroid hormones in colorectal cancer (CRC) patients.

METHODS: We conducted a retrospective review of all patients diagnosed with CRC at the John Theurer Cancer Center in Hackensack, New Jersey from 2011 to 2013. Demographics, tumor characteristics, TSH/T4 levels, survival and recurrence were studied. Kaplan Meier method and Cox regression were used for survival and multivariate analysis.

RESULTS: 376 patients with diagnosis of CRC were selected. Median age at diagnosis was 65 years. We found an overall prevalence of 4.2% (16) of hypothyroidism and <1% of hyperthyroidism. Patients were staged as I (24%), II (22%), III (38%) or IV (16%) The median serum TSH was 3.3 (range: 0.01-66.5) and median total T4 was 6.6 (0.83-18). There was no substantial difference in median TSH and total T4 levels between lower and higher stages of disease. Patients with TSH levels lower than 3.3 were associated with a better histologic grade (OR: 0.78, $p<0.05$). Overall median survival was 25.7 months (95%CI: 23.3-28.0). TSH and T4 levels were not predictors of survival by univariate or multivariate analysis.

CONCLUSION: Our cohort had similar prevalence of hypothyroidism and hyperthyroidism when compared with the general population. While absolute thyroid hormone levels were similar throughout the CRC stages, an important relationship between histologic grade and TSH levels was observed, this could support the theory that higher TSH levels are associated with greater cell proliferation. Further research with a larger sample is required in order to evaluate whether thyroid hormones have a direct effect in the pathophysiology and natural history of CRC.

CI22

Amiodarone Protocol Reduces Atrial Fibrillation and Decreases Mortality in Cardiac Surgery Patients

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INTRODUCTION: Following cardiac surgery, the most common occurring arrhythmia is atrial fibrillation. Nationwide, the percentage of postoperative atrial fibrillation (POAF) can be as high as 50%. At our institution, beginning in January 2011, an amiodarone protocol was instituted for all patients undergoing coronary artery bypass grafting (CABG) surgery. This analysis will assess the efficacy of our amiodarone protocol to reduce post-operative atrial fibrillation in our cardiac surgery patient population.

METHODS: This is a retrospective cohort study of a prospectively maintained cardiac surgery database consisting of 1,439 patients from January 2009 until December 2012. After including only patients undergoing coronary artery bypass graft (CABG) surgery, and excluding those who had prior cardiac surgery and with pre-existing atrial fibrillation, a total of 727 patients were analyzed. The incidence of POAF and its' complications were then compared prior to (2009-10), and after (2011-12), the institution of the amiodarone protocol in 2011.

RESULTS: Prior to the establishment of the amiodarone protocol at our institution, the incidence of POAF was 19.73%. During the following 2 years after protocol establishment, the average incidence of POAF dropped to 10.73%. This was associated with a relative risk reduction of 0.455 (CI: 0.220-0.620). The final year of the study resulted in a POAF average decrease to 7.91%, the lowest value during this investigation.

CONCLUSION: The incidence of POAF can be reduced by a strict adherence to an amiodarone protocol. A multicenter trial should be conducted to establish its efficacy.

CI23

Brentuximab Vedotin Monotherapy in DLBCL Patients with Undetectable CD30: Preliminary Results from a Phase 2 Study

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INTRODUCTION: Patients with relapsed/refractory DLBCL have a poor outcome. For pts ineligible for transplant, no standard of care exists and median overall survival for pts not responding to 2nd-line therapy is only 4 months (Elstrom 2010). A phase 2, open-label study was initiated to assess antitumor activity of brentuximab vedotin (ADCETRISÂ®) in relapsed/refractory CD30+ NHL, including DLBCL. Significant antitumor activity was observed in DLBCL over a wide range of CD30 expression, including very low levels (<1-10%). 41% of DLBCL pts achieved an objective response (16% CR), regardless of CD30 expression (Bartlett, ASH 2013). The trial was amended to investigate the antitumor activity of brentuximab vedotin in ~50 DLBCL pts with undetectable CD30 expression using standard IHC.

METHODS: Eligible pts must have DLBCL with undetectable CD30 expression on tumor cells by visual assessment using routine IHC (anti-CD30 BerH2 antibody) per local lab. Pts must also have had 1-3 prior therapies and an ECOG performance status â‰¤2. Brentuximab vedotin 1.8 mg/kg is administered every 3 weeks until disease progression or unacceptable toxicity for pts who achieve stable disease or better. The primary endpoint is objective response rate per Revised Response Criteria for Malignant Lymphoma (Cheson 2007). Key secondary endpoints include safety and duration of response.

RESULTS: 27 DLBCL pts with undetectable CD30 expression per local lab have been enrolled and treated. All patients had elevated soluble CD30 at baseline with a median of 166 ng/mL and range of 55-1,696 ng/mL (normal, â‰¤29 ng/mL). Most pts had advanced stage disease at baseline (78%); median age was 65 years (range, 42-91); and 81% had an ECOG performance status of 1-2. The median number of prior therapies was 2, and 8 pts had 3 prior therapies. Six (22%) pts had received prior autologous SCT. Of 14 pts (52%) with refractory disease at study entry, 11 were also refractory to their frontline treatment. To date, pts have received a median of 2 cycles of brentuximab vedotin (range, 1-10), and 12 (44%) pts remain on treatment. 13 pts discontinued treatment due to PD, 1 withdrew consent, and 1 pt died due to an unrelated SAE of cardiac arrest. At the time of this analysis, 6 (27%) of 22 pts who have had restaging assessments achieved an objective response, including 1 CR and 5 PRs. The CR began at Cycle 6 and is ongoing after 9 weeks. It is too early to assess median response duration. For the 6 pts who achieved an objective response, undetectable CD30 was confirmed by central review.

CONCLUSION: In this interim analysis of DLBCL pts with undetectable CD30, objective responses have been observed in 6 of 22 pts (27%) who have undergone restaging assessments. Safety data are consistent with historic results and pts continue to enroll on study. Activity of brentuximab vedotin in pts with undetectable CD30 by IHC may be explained wholly

or in part by one of several factors, including tumor heterogeneity, levels of CD30 on tumor below the level of IHC sensitivity, uptake by cells in the tumor microenvironment that can release the cytotoxic payload, or deletion of repressive cells within the tumor microenvironment. Correlative work to better understand this activity is ongoing.

CI24

Gray Zone Lymphoma (GZL) with Features Intermediate Between Classical Hodgkin Lymphoma (cHL) and Diffuse Large B-Cell Lymphoma (DLBCL): Analysis of Tumor Immunophenotype (IP) and Critical Examination of Therapy with Associated Impact on Outcome

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INTRODUCTION: The WHO recognizes a category of B-cell lymphoma unclassifiable with features intermediate between DLBCL and cHL, also known as GZL. This is a challenging disease entity to treat due to disease heterogeneity and lack of pathologic or clinical prognostic indicators as well as absence of standard management guidelines for untreated or relapsed/refractory patients (pts).

METHODS: We performed a multicenter retrospective analysis of newly diagnosed GZL pts treated from 2001-2012 across 19 North American academic centers. Diagnosis was established by institutional expert pathology review. This work is an expansion and update of prior reported data (Evens AM et al, ASH 2013, #847) with 16 cases added to the original report. Additionally, new data were examined including histopathologic and IP analysis and detailed frontline and salvage therapy. Prognostic factors associated with survival on univariate and multivariate Cox regression analyses were examined.

RESULTS: Characteristics of 112 GZL pts included: median age 39 years (19-86); M:F 1.8:1; ECOG PS 0-1 87%; B symptoms 40%; anemia 59%; hypoalbuminemia 30%; bulky disease (â‰¥10cm) 24%; non-mediastinal presentation 57%; bone marrow pos 11%; Stage III/IV 52%; IPI 0-2 77%; and IPS 0-2 in 81%. The most prevalent tumor IPs were: 93% CD20+ (100/108), 91% CD30+ (98/108), 78% CD79+ (43/55), 97% Pax5+ (67/69), 97% Oct2+ (27/28), and 94% MUM1+ (32/32). CD15 (44%, 45/101) and CD45 (69%, 48/70) were variable. Only 13% and 24% of pts were CD10+ (4/30) and EBV+ (13/55), respectively. Notably, IP did not differ based on clinical presentation (ie, mediastinal vs non-mediastinal). The most common frontline treatments were R-CHOP n=52, ABVD +/- R n=34, and R-EPOCH n=11. 71% of CD20+ pts were treated with rituximab as part of frontline therapy. At 31-month median follow-up, 2-year PFS and OS for all pts were 40% and 88%, respectively. The only pathologic factor correlating with outcome was CD20 positivity (PFS: HR 0.34, 95% CI 0.16-0.73, P=0.006).

CONCLUSION: To the best of our knowledge, this represents the largest series of GZL reported to date. Presence of CD20 appeared to be an independent prognostic factor and treatment with a rituximab-based DLBCL-specific regimen for frontline therapy was associated with the most optimal PFS. In addition, pts who underwent SCT at relapse appeared to have superior OS, however caution should be given to this finding given likely selection bias. Continued examination of this unique lymphoma is warranted.

CI25

Patient Characteristics and Initial Treatment Patterns in the United States for the Most Common Subtypes of Peripheral T-Cell Lymphoma (PTCL)

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INTRODUCTION: Comprehensive Oncology Measures for Peripheral T-Cell Lymphoma Treatment (COMPLETE) is the largest registry of prospectively treated PTCL patients in the United States. Patients are enrolled at the initial diagnosis of PTCL and within 30 days of starting treatment. Data on demographics, clinical characteristics, diagnosis, therapy delivered as induction or salvage, and outcomes are collected.

METHODS: For this report, we examined baseline characteristics and induction treatment patterns for patients with the 3 most common subtypes of PTCL: PTCL not otherwise specified (NOS), anaplastic large cell lymphoma (ALCL) and angioimmunoblastic T-cell lymphoma (AITL). Only data from locked records are reported. Locked records are those that have been reviewed and digitally signed by the treating investigator.

RESULTS: Five hundred patients were enrolled from February 2010 until January 2014. As of July 2014, there were 257 locked baseline records and 188 locked treatment records for patients with a diagnosis of PTCL-NOS, ALCL or AITL. The mean age of these patients was 60 (range: 51-70). Most were male (66%) and white (78%). At study entry, 234 (91%) had an ECOG performance status of 0-1, 190 (74%) had Ann Arbor stage of III/IV, and 120 (47%) had one or more B symptoms. Half of the patients had extranodal disease. Mean international prognostic index (IPI) score was 2 (range 0-5). For staging, a PET/CT was the most com-

mon radiographic method used (58% of patients), and for pathologic diagnosis, on average, 10 phenotypic and ~1 genetic markers were assessed. For baseline characteristics reported here, patients treated at academic centers had more extranodal disease, a higher IPI score and tended to have more advanced disease compared to patients treated in the community. The primary intent of initial therapy was a cure for 89% of patients and 60% received an anthracycline or anthracycline plus etoposide-containing regimen. A minority of patients (21%) participated in a clinical trial for PTCL.

CONCLUSION: Early results from the first prospective US-based registry of newly diagnosed patients with PTCL-NOS, ALCL and AITL show that beyond CHOP-based therapy, there is little consensus on initial management of these patients. These data strongly support the need to develop evidence-based approaches for this rare and heterogeneous group of patients.

CI26

Relapses of Diffuse Large B Cell Lymphoma in Rituximab Era Are Limited to the First Two Years after Frontline Therapy

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INTRODUCTION: Rituximab has increased the CR rate, improved both PFS and OS and changed the pattern of relapse of DLBCL pts treated with R-CHOP (leading to a > 50% cure). In contrast to the pre rituximab era, the majority of failures occur early (80% of failures occur in the 1st 18 months). The observation made that few relapses (7-8%) occur after 24 months of pts enrolled in clinical trials needs validation in the community setting. We report here a large cohort of pts treated at our institution over a period of 7 years with rituximab-containing chemotherapy regimens.

METHODS: We performed a retrospective cohort analysis to describe the survival experiences of adult patients with de novo DLBCL treated at our institution between 2007 and 2013. Patients were identified using Hematopathology and John Theurer Cancer Center outcomes databases. Patients who didn't receive rituximab as part of their initial combination chemotherapy were excluded, as well as transformed DLBCL, primary CNS DLBCL, HIV-related DLBCL pts, those lacking follow up data.

RESULTS: A total of 245 patients with DLBCL treated at our institution were identified. Baseline characteristics were as follows: median age was 63(20-92), 53% males, 75% stage III-IV and 24% stage I-II; IPI score was high in 25% of pts, high-int in 22%, low-int in 45% and low in 7%. Most patients received R-CHOP (66%), while 34% were treated with dose intense regimens based on high risk features such as high IPI, Ki-67 over 80% (R-HyperCVAD, DA-R-EPOCH, R-Magrath), only two patients had frontline planned stem cell transplant. 91% of the patients achieved a CR, 7% were primary refractory (progressed during therapy), 2% PR/SD). With a median follow up time of 32.5 months, the median OS and PFS have not been reached (75% of patients are alive at 55.9 months). In contrast, the median OS of relapsed patients was only 14.4 months No gender-specific differences in survival were observed. No differences in PFS and OS were observed based on frontline chemotherapy regimen. Achieving CR significantly determines survival (p.<05, LR test). Relapses occurred within first 24 months in 54 out of total of 60 patients who relapsed after frontline therapy.

CONCLUSION: Our series confirm outside clinical trial setting that in contrast to the pre-rituximab era, late relapses are rarely observed in patients treated with rituximabâ€"containing induction therapy. The majority of relapses occur within the first two years of the initial therapy. Our findings validate the data from the Mayo clinic experience (Maurer et al, JCO 2014). This observation not only provides reassurance to patients but also support the current imaging guidelines with no longer a need for routine imaging surveillance for relapse in DLBCL beyond 2 years after frontline therapy.

CI27

The Association of Serum Albumin Concentration and Mortality Risk in Acute Respiratory Distress Syndrome (ARDS)

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INTRODUCTION: Acute Respiratory Distress Syndrome (ARDS) is a potentially fatal disease process. There is a need for markers that may help with earlier diagnosis and prediction of clinical outcomes. Low protein states cause disruption of oncotic pressure, which results in extravasation of fluid into the alveoli. The purpose of this study is to evaluate the association of hypoalbuminemia with in-hospital mortality risk in ARDS.

METHODS: We conducted a retrospective study within a cohort of patients admitted to the ICU, from 2006-2013, diagnosed with ARDS based on The Berlin Definition. 88 patients (42 females and 46 males) met the diagnostic criteria; 36 of whom presented with septic shock.

Serum albumin levels were collected and APACHE2 scores were calculated at the time of admission, and subsequently evaluated against in-hospital mortality. Lastly, we evaluated the impact of sepsis and septic shock on prognosis.

RESULTS: In comparing albumin's association with mortality, there was statistically significant findings (p=0.0017); median value of albumin 3.5 mg/dl in the group that survived versus 2.9 mg/dl in the group that did not survive. Comparing the impact of septic shock in the cohort that survived as well as those who did not survive, yielded non-significant results (p=0.1467 and p=0.4802 respectively). APACHE2 scores were also calculated for each patient at the time of admission. This was analyzed to see whether APACHE2 scores could hold predictive results on the mortality of this study group. Median value of the APACHE2 calculation of those who survived was 12.00 (CI 11.44-13.86), whereas those who did not survive had a median value of 18.00 (CI 17.13-20.87).

CONCLUSION: Our results indicate a statistically significant association between albumin level and prognosis in patients with ARDS. In addition, the significance of the association of APACHE2 score versus that of albumin levels was compared. APACHE2 scores did have a higher statistical significance than albumin levels on the day of admission, but both met criteria for significance (p< 0.05). As such, it would be easier to look at albumin values on the day of admission rather than calculating the APACHE2 score.

CI28

Cytogenetic and Molecular Responses in Patients with Chronic-Phase Chronic Myeloid Leukemia (CP-CML) in a Prospective Observational Study (SIMPLICITY)

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INTRODUCTION: Data on clinical response and predictors of response outside clinical trials are limited. Previous SIMPLICITY data include cytogenic response (CyR) and molecular response (MR) monitoring patterns in patients (pts) with CP-CML differing from NCCN/ELN guideline recommendations, as well as the clinical predictors of these patterns.

METHODS: SIMPLICITY (NCT01244750) is an ongoing observational study of CP-CML pts in routine clinical practice receiving first-line (1L) imatinib (IM), dasatinib (DAS) or nilotinib (NIL) in the US and Europe (Eu). Clinical response following start of 1L tyrosine kinase inhibitor (TKI) therapy was assessed by CyR (karyotype or FISH) and MR (PCR on the international scale). Descriptive statistics are presented and p values were calculated using a chi-square test. A proportional odds model was used to reveal factors associated with a better category of clinical response among those evaluated for "optimal", "warning" or "failure" response, as defined by ELN 2013 guidelines.

RESULTS: The proportion of pts achieving CCyR differed according to 1L TKI: of those tested by 6 mths, 50%, 58% and 65% of pts on 1L IM, DAS and NIL achieved CCyR; this proportion increased by 12 mths (IM: 63%, DAS: 79%, NIL: 81%). Mean (Â± SD) time from start of 1L TKI to best response was 3.5 (Â± 1.4) and 5.4 (Â± 2.8) mths for the 0â€"6 mths and 0â€"12 mths cohorts. In each timeframe, there was no meaningful difference in mean time to best response between TKI cohorts. By 6 & 12 mths from start of 1L TKI, 46% and 64% of pts were tested for MR; of these, 34% and 57% achieved major MR (MMR) and 12% and 27% achieved MR4.5 by 6 and 12 mths. By 6 mths, MMR was achieved by 28%, 31% and 46% for IM, DAS and NIL cohorts, and 6%, 14% and 18% achieved MR4.5. By 12 mths from start of 1L TKI, 51%, 59% and 65% of IM, DAS and NIL cohorts achieved MMR, and 20%, 33% and 30% achieved MR4.5. Mean (Â± SD) time from start of 1L TKI to best MR was 4.0 (Â± 1.3) & 7.3 (Â± 3.0) mths for the 0-6 mths a & 0-12 mth cohorts. In each timeframe, there was no meaningful difference in mean time to best response between TKI cohorts. The proportion of pts w/ "optimal", "warning" and "failure" responses varied over time & by 1L TKI.

CONCLUSION: In SIMPLICITY, the proportions of CCyR and MR increased over time. Compared with DAS- and NIL-treated pts, a lower proportion of IM-treated pts achieved CCyR and MR (MR4/5 and MMR), and a higher proportion experienced ELN 2013-defined "failure" by 12 mths. Factors associated with a better category of clinical response included female gender second-generation TKI as 1L therapy.

CI29

Mature Follow up from a Phase 2 Study of PI3K-Delta Inhibitor Idelalisib in Patients with Double (Rituximab and Alkylating agent)-Refractory Indolent B-Cell Non-Hodgkin Lymphoma (iNHL)

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INTRODUCTION: Rituximab-alkylator combinations are the standard therapies for patients (pts) with iNHL, however, refractory disease nearly uniformly develops. Once iNHL becomes "double-refractory" to both rituximab + alkylating agents, there are limited options to induce durable remissions. PI3K-delta

signaling is critical for activation, proliferation and survival of B cells, and is hyperactive in many B-cell malignancies. Idelalisib, a selective oral inhibitor of PI3KïÅ_, demonstrated considerable clinical activity in double-refractory iNHL (Gopal NEJM 2014). FDA granted accelerated approval for Idelalisib (ZydeligÂ®) in patients who have received at least two prior systemic therapies with relapsed FL or SLL.

METHODS: Eligible iNHL pts included those with measurable disease refractory to both rituximab and an alkylating agent. Refractory was defined as lack of response to, or progression of lymphoma within 6 months of completion of index therapy, confirmed by imaging. Idelalisib 150 mg PO BID was administered continuously until disease progression or intolerance. Responses were evaluated by an independent review committee, using standard criteria (Cheson, 2007, and Owen 2013). The new data cutoff date for this analysis was June 2014, 20 months after the last patient enrolled.

RESULTS: Enrolled pts (N=125) had a median age of 64 years and included follicular lymphoma (FL) n=72 (58%), small lymphocytic lymphoma (SLL) n=28 (22%), marginal zone lymphoma (MZL) n=15 (12%) and lymphoplasmacytic lymphoma (LPL)/ Waldenstrom's macroglobulinemia (WM) n=10 (8%). The median number of prior therapies was 4 [range 2-12], including bendamustine/rituximab (BR) (n=60) and rituximab, cyclophosphamide, doxorubicin, vincristine, prednisone (R-CHOP) (n=56) and autologous transplant (n=14). 81 pts (65%) had prior bendamustine, of which 61/81 (75%) were refractory. 112 pts (90%) were refractory to their last regimen, and 99 pts (79%) were refractory to â‰¥2 regimens. 38 pts (30%) had elevated LDH, and 33 pts (26%) had bulky disease >7 cm. The median time to progression from last prior therapy was 3.9 months. With median exposure of 11.1 months (range 0.7 to 35.4), overall response rate (ORR) is 56% (95% CI = 46.8-64.9) with 70 responders, comprising 12 CRs (9.6%), 58 PRs (46.4%). The median time to response was 1.9 months (time of first evaluation) and time to CR was 4.5 months. There were 43 pts with stable disease (SD) (34.4%). 90% of pts experienced some decrease in tumor burden.

CONCLUSION: The prolonged administration of idelalisib was well tolerated, had an acceptable safety profile, and was highly effective in inducing and maintaining remissions in double-refractory iNHL population with an ORR of 56%, PFS of 11 months, and DOR of 13.9 months. The response rate and long term duration of responses in the small number of subjects with LPL/WM is very promising, and will be evaluated in larger trials of this disease. The observed disease control compared to prior regimens suggests the potential for prolonged clinical benefit in this challenging patient population with unmet medical need"

CI30

Anti-CD19 CAR T Cells Administered after Low-Dose Chemotherapy Can Induce Remissions of Chemotherapy-Refractory Diffuse Large B-Cell Lymphoma

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INTRODUCTION: We have treated a total of 30 patients with autologous T cells genetically modified to express a chimeric antigen receptor (CAR) targeting the B-cell antigen CD19; 22 of 27 evaluable patients obtained either complete remissions (CR) or partial remissions (PR). Ten patients remain in ongoing CRs of 1 to 37 months duration. The CAR was encoded by a gammaretroviral vector and included the variable regions of an anti-CD19 antibody along with CD28 and CD3-zeta moieties. The first 21 patients treated on this protocol have been reported (Kochenderfer et al. Blood 2010, Blood 2012, and Journal of Clinical Oncology 2014).

METHODS: To enhance the activity of the transferred CAR T cells, T-cell infusions in the previously reported pts were preceded by a chemo regimen of high-dose cyclophosphamide (60-120 mg/kg) plus fludarabine. In an attempt to reduce the overall toxicity of our anti-CD19 CAR treatment protocol, we substantially reduced the doses of chemotherapy administered before CAR T-cell infusions. This abstract communicates results from 9 patients with B-cell lymphoma who received a single infusion of 1x106 anti-CD19-CAR-expressing T cells/kg bodyweight preceded by a low-dose chemotherapy regimen consisting of cyclophosphamide 300 mg/m2 and fludarabine 30 mg/m2 (Table). Each chemotherapy agent was administered daily for 3 days.

RESULTS: 8 of 9 treated patients had DLBCL that was chemo-refractory or that had relapsed less than 1 yr after ASCT. Despite the very poor prognoses of our patients, one patient with DLBCL obtained a CR and 4 DLBCL patients obtained PRs. In some patients, PRs included resolution of large lymphoma masses. Compared to our previous experience with anti-CD19 CAR T cells preceded by high-dose chemotherapy, toxicity was reduced when CAR T cells were infused after low-dose chemotherapy. None of the 9 patients treated with low-dose chemotherapy and CAR T cells required vasopressor drugs or mechanical ventilation, although some patients did have short-term neurological toxicity. Cytopenias were mild with a mean

of only 1.4 days of blood neutrophils<500/microliter. Blood anti-CD19 CAR T-cell levels were assessed in 6 patients with a quantitative PCR assay; we detected CAR+ cells in the blood of all 6 patients. The mean peak absolute number of blood CAR+ T cells was 73 cells/microliter. 6 months after infusion, persisting CAR+ T cells were detected in a lymphoma-involved lymph node by flow cytometry.

CONCLUSION: These results demonstrate that anti-CD19 CAR T cells administered after low-dose chemotherapy have significant activity against chemo-refractory DLBCL and could potentially become a standard treatment for aggressive lymphoma.

CI31

Preliminary Results of a Phase I Study of Nivolumab (BMS-936558) in Patients with Relapsed or Refractory Lymphoid Malignancies

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INTRODUCTION: Programmed cell death-1 (PD-1) is an immune checkpoint receptor that inhibits T cell activation upon interaction with its ligands PD-L1 or PD-L2. Increased PD-L1 expression has been reported in various lymphoid malignancies, and may allow these tumors to circumvent host anti-tumor immunity. Nivolumab, a fully human IgG4 monoclonal PD-1 receptor blocking antibody, potentiates T cell activity, and has clinical efficacy in various solid tumors. We hypothesized that nivolumab might also have clinically important anti-tumor activity in patients with lymphoid malignancies.

METHODS: This open-label study enrolled patients with relapsed or refractory lymphoid malignancies including B-cell non-Hodgkin lymphoma (B-NHL), T-cell NHL (T-NHL), multiple myeloma (MM), and classical Hodgkin lymphoma (cHL). Patients were treated using a dose escalation design (1 mg/kg and 3 mg/kg) of nivolumab administered every two weeks for up to two years. Responses were assessed using standard criteria. The primary endpoint was safety; key secondary endpoints included anti-tumor activity and expression of immunomodulatory proteins in tumor biopsies. The preliminary results for the cHL patients will be reported separately.

RESULTS: 29 pts with B-NHL; 27 patients with MM; and 1 with CML were enrolled. Pts were heavily pretreated having received ≥3 prior treatment regimens. Previous ASCT was reported for 56% of MM, 14% of B-NHL, and 9% of T-NHL patients. Prior brentuximab treatment was reported in 7% of B-NHL and 26% of T-NHL patients. When this pre-planned interim analysis was performed, 6 pts had been treated at the 1 mg/kg dose with 2 dose-limiting toxicities (DLTs) occurring in the same patient: grade 3 pneumonia and pneumonitis. At the 3mg/kg dose, 7 pts were treated with one patient experiencing two DLTs: grade 3 eosinophilia and diplopia. Additional pts were enrolled in the cohort expansion at 3 mg/kg. The overall response rate (ORR) and complete response (CR) rate in pts with B-NHL were 28% and 7%, respectively, including an ORR of 36% in patients with DLBCL, and 40% in patients with follicular lymphoma (FL). In patients with T-NHL, ORR was 17% (no CR), including an ORR of 40% in the 5 patients with peripheral T cell lymphoma. No objective responses were observed in MM. Analysis of PD-L1 expression and correlation to clinical outcome is being performed and will be presented.

CONCLUSION: Nivolumab administered at a dose of 3 mg/kg every two weeks was tolerable and the safety profile was similar to that of the agent in solid tumors. Objective responses were observed in DLBCL, FL, mycosis fungoides (MF), and peripheral T cell lymphoma (PTCL). Durable stable disease was observed in relapsed MM. The results of this phase 1 study have led to phase 2 studies in DLBCL and FL, which are ongoing.

CI32

Nivolumab in Patients with Relapsed or Refractory Hodgkin Lymphoma - Preliminary Safety, Efficacy and Biomarker Results of a Phase I Study

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INTRODUCTION: Recent studies suggest that Hodgkin Reed Sternberg cells have developed mechanisms that exploit the programmed cell death-1 (PD-1) pathway to evade immune detection. In cHL, chromosome 9p24.1 gain is a frequent structural alteration that increases the gene dosage of the PD-1 ligands, PD-L1 and PD-L2, and their induction via JAK/STAT signaling. Epstein-Barr Virus (EBV) infection also increases the expression of the PD-1 ligands in EBV-positive cHL. Ligand binding to PD-1 receptor-positive activated T cells induces "T cell exhaustion," a reversible inhibition of T cell activation and proliferation. We hypothesized that nivolumab may augment antitumor activity in patients with relapsed or refractory (R/R) cHL and evaluated the PD-1 blocking antibody.

METHODS: Patients with R/R cHL were included as an independent cohort in a dose escalation and cohort expansion phase I study of nivolumab in lymphoma and multiple myeloma (MM). Results for patients with

non-Hodgkin lymphoma and MM are reported separately. Patients with cHL received nivolumab 3 mg/kg every 2 weeks until confirmed tumor progression or excessive toxicity. Responses were evaluated using standard criteria. The primary endpoint was safety; key secondary endpoints included anti-tumor activity and expression of immunomodulatory proteins in tumor biopsies.

RESULTS: 23 patients were enrolled with R/R cHL. Drug-related adverse events (AEs) of any grade occurred in 78% of patients, the most common of which were rash (22%), decreased platelet count (17%), diarrhea, nausea, pruritus, fatigue, and pyrexia (each at 13%). Drug-related grade 3/4 AEs occurred in 22% of patients. 3 pts experienced 1 SAE each (gr 3 myelodysplastic syndrome [MDS], gr 3 pancreatitis, and gr 2 lymph node pain). The objective response rate (ORR) was 87% (20/23), with 4 patients (17%) achieving a CR and 16 (70%) obtaining a PR. The remaining 3 patients (13%) had SD. All 23 patients had a reduction in tumor burden. Among the 18 patients who had previously failed BV, the ORR was 89% (16/18), with 6% (1/18) achieving CR and 83% (15/18) PR. Progression-free survival (PFS) rate at 24 weeks was 86% (95% CI, 62-95%). The median overall survival (OS) has not been reached (range, 21+ to 75+ weeks). In all tumors, RS cells had copy gains of PD-L1 and PD-L2, as a result of either polysomy or amplification; these tumors also exhibited increased protein expression of PD-L1. RS cells were also largely positive for pSTAT3, indicative of active JAK/STAT signaling.

CONCLUSION: In patients with R/R cHL, nivolumab-mediated PD-1 blockade is safe and tolerable with a safety profile similar to that in solid tumors. The frequent and long-lasting responses in heavily pretreated, R/R patients, including those who have failed BV, highlight the importance of the PD-1 pathway in cHL, and the genetically defined sensitivity to PD-1 blockade in this disease. Based on these results, the FDA granted nivolumab breakthrough status in relapsed cHL and a large, multinational, phase II trial of this therapy is underway.

*CI33

Value of Neutrophil to Lymphocyte Ratio As a Predictor of Mortality in Patients Undergoing Aortic Valve Replacement

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INTRODUCTION: Neurtrophil to Lymphocyte Ratio (NLR) has been established as a measure of inflammation and as a prognosticating factor in various medical conditions including neoplastic, inflammatory and cardiovascular. The prognostic role of NLR in predicting mortality in patients with aortic stenosis undergoing aortic valve replacement (AVR) has not been studied. Our primary aim in this study is to explore the utility of NLR as a predictor of both, short and long-term mortality, in patients undergoing AVR surgery.

METHODS: Consecutive patients with aortic stenosis admitted for aortic valve replacement to our institution were evaluated for study inclusion. Of the 335 patients admitted from January 2007 to September 2011, 234 met study inclusion criteria. Patients were divided into two groups depending on their initial preoperative NLR level, NLR greater than or equal to 3, or NLR less than 3. Three-year vital status was accessed with electronic medical records and Social Security Death Index. Survival analysis, stratified by NLR, was used to evaluate the predictive value of preoperative NLR levels.

RESULTS: Patients with NLR greater than or equal to 3, when compared to those with NLR less than 3, had a significantly higher short-term (9.40% vs. 0, $p= 0.0006$), 6-month (19.54% vs. 0.95%, $p< 0.0001$), and 3-year mortality (27.35% vs 3.78%, $p< 0.0001$). After adjustment for baseline characteristics, co-morbidities, symptomatology, echocardiographic findings, and blood tests, NLR level remained a significant independent predictor of short-term, 6-month, and 3-year mortality. Hazard ratios increased by a factor of 1.22 (1.04-1.42, $p= 0.0129$), 1.31 (1.18-1.47, $p< 0.0001$), and 1.29 (1.17-1.43, $p <0.0001$), respectively.

CONCLUSION: NLR is an independent predictor of short-term and long-term mortality in patients with aortic stenosis undergoing AVR surgery, especially those with NLR greater than or equal to 3. We strongly suggest the use of NLR as a tool to risk stratify patients with aortic stenosis undergoing aortic valve replacement surgery.

CI34

Utility of a Propofol-Based Saline Mixture as a Contrast Agent In Routine Transesophageal Echocardiography

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INTRODUCTION: Contrast agents are generally used in routine transesophageal echocardiography (TEE) to improve detection of patent foramen ovale and atrial septal defects, and better measure pulmonary artery systolic pressure on spectral doppler. Agitated saline is commonly used given its convenience, and ease of performance. Air-blood-saline mixture has been stud-

ied as an alternative agent, and found to be superior. Propofol is widely used as an induction agent in anesthesia during routine TEE. Our primary aim in this study is to examine and analyze the use of an air-propofol-saline solution as a contrast agent in comparison to an air-blood-saline mixture and air-saline mixture, for right heart chamber contrast opacification.

METHODS: In this prospective study, consecutive patients scheduled for routine TEE to our center were evaluated for study inclusion. Of the 68 patients screened, 49 qualified for inclusion. Each patient received three agitated contrast agents in random order. The first contrast solution consisted of 9 mL normal saline and 1 mL air; the second consisted of 8 mL normal saline, 1 mL propofol, and 1 mL air; and the last consisted of 8 mL normal saline, 1 mL patient's blood, and 1 mL of free air. The recordings were reviewed by three independent cardiologists in a blinded fashion. Each reviewer used a point-scale system to grade the extent of opacification of the right heart chambers.

RESULTS: Agitated propofol-saline and blood-saline mixtures were found to be superior to agitated saline alone in obtaining images with greater echogenecity and full chamber opacification; however, no statistically significant difference was found between the agitated propofol-saline and blood-saline mixtures ($X2 = 5.53$, $p = 0.005$).

CONCLUSION: Agitated propofol-saline mixture produced superior chamber opacification when compared to agitated saline, and comparable to agitated blood-saline mixture. Propofol-saline mixture is easy to prepare and to administer in practical use, and avoids handling of patients' blood. We suggest the use of agitated propofol-saline as a contrast agent to increase the sensitivity of evaluating cardiac anatomy and intracardiac shunts.

CI35

Front-Line, Dose-Escalated Immunochemotherapy is Associated with a Significant PFS (but not OS) Advantage in 401 Patients (Pts) with Double-Hit Lymphomas (DHL): A Systematic Review and Meta-Analysis

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INTRODUCTION: "Double-hit lymphoma" (DHL), characterized by the presence of both c-Myc and BCL-2 rearrangements, is an aggressive B-cell non-Hodgkin's lymphoma (NHL) that is clearly associated with an inferior prognosis compared to standard risk DLBCL. DHL pts do poorly when treated with R-CHOP and typically cannot be salvaged once relapsed. We generated pooled, meta-analytic estimates of the effectiveness of dose-escalated approaches vs. standard dose immunochemotherapy in prolonging overall survival (OS) and progression-free survival (PFS) in newly diagnosed DHL pts.

METHODS: DHL was defined by the presence of c-Myc rearrangement (FISH) in combination with BCL2 rearrangement (FISH) in pts with DLBCL or transformed follicular lymphoma. Treatment regimens included dose intensive (DI; R-Hyper-CVAD, R-CODOX-M/IVAC), intermediate dose [Dose adjusted (DA)-R-EPOCH], or standard dose (R-CHOP). Data were collected from study authors or extracted from publications as the proportions of pts surviving at specific follow-up times or individual event times. Data were synthesized to estimate the hazard ratios of higher-dose treatments relative to R-CHOP using a Weibull proportional hazards model within a Bayesian meta-analysis framework.

RESULTS: After independent review by three investigators, 11 studies examining 401 pts were included in the analysis. Pts were treated with either R-CHOP (n=180), DA-R-EPOCH (n=91), or DI regimen (n=130) in the front-line setting. There were no significant differences in baseline characteristics of pts between included studies or across treatment regimens (median age at diagnosis 60 years, median Ki-67 88%, 53% IPI ≥3). The estimated median (and 95% credible intervals [CrIs; the Bayesian analog to confidence intervals]) OS and PFS for the entire cohort were 27.8 (15.1-48.5) and 20.5 (10.9-36.0) months. No significant differences in OS (n=374) were observed among any of the treatments (estimated med OS: R-CHOP, DA-R-EPOCH and DI were 24.2, 37.5, and 29.5 months, respectively. Estimated hazard ratios (HR) of OS were 0.77 (95% CrI: 0.50-1.11) for DA-R-EPOCH and 0.90 (95% CrI: 0.62-1.25) for DI relative to R-CHOP. The PFS (n=357) among pts receiving DA-R-EPOCH (HR 0.64, 95% CrI: 0.42-0.92) or DI (HR 0.75, 95% CrI: 0.51-1.05) was similar and DA-R-EPOCH demonstrated significant improvement over R-CHOP (estimated med PFS: R-CHOP, DA-R-EPOCH and DI of 13.9, 27.8, and 21.9, respectively.

CONCLUSION: We have demonstrated that dose-escalated chemotherapy was associated with a significant increase in PFS (particularly DA-R-EPOCH) which did not translate into an OS advantage. This suggests DHL is a disease of chemotherapy resistance. These results highlight (1) outcomes remain poor for DHL pts regardless of the intensity of R-chemotherapy induction (2) the need for routine screening for MYC and BCL2 by FISH in DLBCL pts with high-risk features and (3) the need for prospective induction and

consolidation strategies that incorporate our growing understanding of the biological basis of DHL such as combinations of novel targeted therapies and/or up-front consolidation with CAR-T-cells.

*CI36

Utility of Brain Natriuretic Peptide Assay in Patients Presenting with Syncope to the Emergency Department

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INTRODUCTION: Unfortunately, current admissions practices for syncope result in a marginal diagnostic and therapeutic benefit and consume health care resources. However to accomplish such a medical change in the care strategy, an essential step is to provide the E.D and urgent care physicians with well considered "risk stratification" guidelines. Moreover, the potential rule of biochemical markers in risk stratification has not been assessed. Brain natriuretic peptide (BNP) represents a promising and important independent biomarker that has been under investigated in the context of syncope.

METHODS: Between August 2010 and June 2011,we prospectively enrolled 115 patients presented to Emergency departments in two medical centers. All elements of the ROSE rule were collected prospectively. BNP levels were not made available to the treating clinician, so treatment decisions will not affected by them. Patients were admitted, referred for outpatient investigation or discharged according to current ED protocols. After the data collection, patients condition was followed whether in hospital or as out-patients to identify 30-day serious outcomes.

RESULTS: 115 syncope-patients were included in the study (51% females) ,mean age was 60 . 50 patients(43%) were considered high risk by ROSE rule compared to 59 patients (51%) identified as high risk by San Francisco rule . There is significant association between Rose rule's high risk patients and poor outcomes compared to Sanfrancisco rule which didn't show significant association (OR: 2.82; CI:1.29 to 6.18: P<0.01), (OR:1.24; CI:0.58 to 2.66: P<0.69), respectively .Also in the study we found that BNP can be as independent factor to predict high risk syncope patients with MI and arrhythmia (OR for MI: 14.8; CI: 1.57 to 139:p<0.011).

CONCLUSION: Of the ROSE criteria, only the BNP assay represents a major addition to the standard evaluation of syncope in the emergency department. This study showed that measuring BNP and adding ROSE rule to the standard evaluation would sufficiently change clinician decision making, and help prevent unnecessary admissions without increasing adverse outcomes.

CI37

Bariatric Orthopaedics: Total Hip Arthroplasty in the Super-Obese Patients (BMI >50 kg/m2), Minimum 5 year Outcomes

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INTRODUCTION: The purpose of this study was to assess the clinical and patient-reported outcomes of primary THA in super-obese patients (BMI ≥50kg/m2) compared to a matched cohort of patients who had a normal body mass index (BMI<25 kg/m2). A secondary objective was to assess patients' experiences in finding a treating surgeon.

METHODS: Forty-eight hips in forty-five patients who had a minimum BMI of 50kg/m2 who underwent a primary THA at one of the four high-volume institutions between 2001-2010 were reviewed. This included twenty-six women and eighteen men who had a mean age of 54 years (range, 36 to 71 years) and who were followed for a mean of six years (range, four to twelve years). These patients were compared to a non-obese matched cohort of 132 patients (1:3 ratio) who had undergone a THA during the same time period by the same surgeons. Outcomes evaluated included implant survivorship, complication rates, Harris hip scores, 36-item Short-Form (SF-36) questionnaires, University of California Los Angeles (UCLA) activity scores, as well as patients' experience in finding a treating surgeon.

RESULTS: The super-obese cohort had a 5.5 times significantly higher odds ratio of undergoing a revision compared to the matching group (89.6 vs. 97.5% overall implant survivorship) and significantly higher odds ratio of complications. They also had achieved a significantly lower mean Harris hip score (82 vs. 91 points), SF 36 physical (39 and 47 points) and mental (49 and 59 points), and activity scores (3.9 vs. 6.2 points) compared to the matching group. Also, super-obese were evaluated by a higher number of orthopaedic surgeons prior to undergoing THA compared to the matching group.

CONCLUSION: The clinical and patient-reported outcomes of primary total hip arthroplasty were lower in the super obese patients and these patients faced challenges in finding surgeons who would perform their procedure. The authors believe that super-obese patients may benefit from counseling with their treating surgeon to set realistic expectations regarding the outcomes of their procedure.

*CI38

The Incident Trends, Epidemiology, Mortality, and Economic Evaluation of Vertebral Osteomyelitis in the United States: A Nationwide Inpatient Database Study of 283,022 Cases from 1998 to 2010

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INTRODUCTION: Vertebral osteomyelitis (VO) represents 3 to 5% of all cases of osteomyelitis. There is a paucity of reports on the demographics, patient characteristics, and mortality of vertebral osteomyelitis (VO) in the USA. However, with increasing use of illicit drugs, the incidence of this condition may be increasing and evaluating potential contributing factor to mortality may be a topic of clinical importance. The purpose of this work was an attempt to assess the incidence & epidemiology of VO in the USA over a 13 year period.

METHODS: The Nationwide Inpatient Sample (NIS) database was carefully evaluated to identify all patients who were admitted for a diagnosis of vertebral osteomyelitis in the United States from 1998 to 2010 using related ICD-9 codes (730.28, 730.08, 730.2, 730.00, 722.90, 722.91, 722.92, 722.93). National trends in incidence, patient demographics, mortality during the hospital stay, length-of-stay (LOS), and total admission costs were further evaluated. The United States Census data was used to assess the annual US population. The impacts of various contributing factors to these outcomes were further evaluated using adjusted multivariable linear and logistic regression analyses.

RESULTS: The study population consisted of 283,022 admissions for vertebral osteomyelitis, however, the incidence of this condition increased from approximately 15,400 cases (6.5 per 100,000 US population) in 1998 to 27,710 (9 per 100,000 US population) in 2010. Our model estimated the incidence of this disease to reach 32,500 in 2015 (RÂ_ =0.91). Overall, 55% of patients were younger than 60 years of age, 54% were male, 28% were non-white, and 43% had Medicare insurance. The overall mortality during the hospital stay had reduced from 2.1% in 1998 to 1.4% in 2010. Mortality rate was significantly higher with older age ($p<0.01$), male gender ($p=0.02$), higher Deyo comorbidity score ($p<0.01$), and urban teaching hospitals ($p<0.01$), however, race had not affected the mortality. In various adjusted multivariable regression models, comorbidity-specific mortality risk was increased with previous myocardial infarct ($p=0.03$), congestive heart failure ($p<0.01$), peripheral vascular disease ($p=0.03$), cerebrovascular disease ($p<0.01$). The overall mean LOS had significantly increased from approximately 9.5 to 11 days during the study period ($p<0.01$).

CONCLUSION: The incidence of vertebral osteomyelitis has been increasing in the United States, and various factors were identified to affect the inpatient mortality rate, length-of-stay, and admission costs. Patients may benefit from counseling with their orthopaedic surgeons to set realistic expectations. The findings of this study can be used for all future related comparative studies.

CI39

Demographic, Clinical and Treatment Characteristics of the CARRA Registry Systemic JIA Cohort

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INTRODUCTION: The treatment of systemic Juvenile Idiopathic Arthritis (sJIA) has changed dramatically in the last 10 years. The Childhood Arthritis and Rheumatology Research Alliance (CARRA) Registry is a rich resource of information about pediatric rheumatic diseases. We aimed to: (1) describe the characteristics of the CARRA Registry sJIA cohort; (2) identify medication usage trends; and (3) identify subgroups at increased risk for poor outcomes.

METHODS: 54 US and Canadian sites enrolled 528 sJIA pts from 2010-2013. Pts were enrolled as a cross-sectional convenience sample. Only pts with complete datasets were included. We tested for subgroup differences among binary and continuous variables across groups using a chi-square test or ANOVA.

RESULTS: 435 pts were included (median age 11yrs). Disease activity was low: 14.9% had rash, 6.7% fever, median joint count 0, and median physician global assessment 1. Significant changes in medication usage occurred: DMARD and TNF inhibitor use decreased while IL-6 inhibitor (IL-6i) use increased. There were significant differences among racial groups with African Americans (AA) having higher mean CHAQ scores, worse quality of life scores and poorer ACR functional class (p 0.0004). Current/prior biologic use increased with longer disease duration. Pts diagnosed at a younger age (< 2 yrs) had more frequent biologic use and lower overall well being scores. Joint damage on imaging was increased with younger age at diagnosis (p 0.0003).

CONCLUSION: This study describes characteristics and medication use of the largest sJIA cohort reported to date. Significant changes occurred in medication usage, but corticosteroids are still frequently used. AA children have more severe disease, as do children diagnosed at a younger age. A significant propor-

tion have persistent arthritis despite new treatments. We need to identify predictors of persistent arthritis in order to improve treatment and outcomes in this subgroup.

CI40

Neurovascular Reconstruction of Ruptured and Non-Ruptured Intracranial Blood Blister Aneurysms With the Pipeline Flow Diverter

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INTRODUCTION: Intracranial "blood blister" aneurysms are notoriously challenging neurosurgical lesions associated with a high morbidity and mortality with conventional treatment. This subtype of intracranial aneurysm is exquisitely fragile, thin-walled and arises from a friable and circumferentially diseased parent artery. Conventional treatments including microsurgical clipping and endovascular coiling are often associated with intraoperative rupture of the aneurysm or avulsion of the parent artery, with correspondingly high complication rates of major stroke and significant intraoperative bleeding. The Pipeline Embolization Device, a "flow diverting" stent with a 30%-35% metal wall density, alters the hemodynamic flow of aneurysms, leading to gradual intra-aneurysmal thrombosis and ultimately reconstruction of the parent artery. We describe its use in the treatment of both ruptured and nonruptured blister aneurysms of the intracranial circulation.

METHODS: All consecutive patients who underwent endovascular treatment of blood blister aneurysms with the Pipeline flow diverter over a 2 year period were included in the study. Patients with prior subarachnoid hemorrhage were pre-treated with intravenous antiplatelet therapy (Integrilin infusion) prior to Pipeline deployment. Patients with non-ruptured aneurysms were pre-treated with dual antiplatelet therapy (Aspirin and Plavix) for 7 days prior to the procedure. All patients were maintained on antiplatelet therapy for a minimum of 12 months. The Pipeline device was deployed using a transfemoral artery approach with a tri-axial catheter system under biplane digital fluoroscopic guidance in all cases. Follow up angiography was obtained at 3 months in all patients, at 6 months and 12 months in 4 patients. The patients' clinical characteristics, intraoperative and postoperative course were tabulated from the medical record.

RESULTS: A total of 5 consecutive patients with 8 intracranial blood blister aneurysms (2 ruptured aneurysms, 6 nonruptured aneurysms) who were treated with the Pipeline embolization device were included in the study. Seven aneurysms were located in the supraclinoid internal carotid artery, 1 aneurysm was located in the middle cerebral artery. A single Pipeline device was deployed in 3 patients, 3 Pipelines were deployed in 2 patients. Supplementary microcoil embolization was not performed. The mean follow-up period was 10.2 months (range 3-12 months). There were no intraoperative aneurysm ruptures or perioperative strokes. No patient suffered recurrent or de novo subarachnoid hemorrhage indicative of aneurysm rupture during the follow up period. Complete aneurysm regression and parent artery reconstruction was noted on angiography at 6 months (2 patients) and 12 months (2 patients). One patient demonstrated persistent aneurysm filling at 3 months (latest available follow-up). There were no instances of in-stent thrombosis or stenosis. No patient developed new neurological deficits during the perioperative or follow up period. Glasgow outcome scales were 5 (functionally independent) in 4 patients and 4 (moderate disability) in one patient.

CONCLUSION: Intracranial blood blister aneurysms are notoriously challenging neurosurgical lesions that can safely and effectively be treated with endovascular flow diverting stents which alter the hemodynamic inflow and outflow of the aneurysm. Aneurysm thrombosis, involution and parent artery reconstruction can take up to 12 months to occur. Despite this delay in achieving angiographically complete aneurysm occlusion, recurrent or de-novo subarachnoid hemorrhage did not occur in this cohort. Compared with traditional treatment modalities, perioperative complications including life-threatening intracranial hemorrhage and major stroke may be significantly lower with the use of the Pipeline flow diverter as compared to open microsurgical aneurysm clipping or endovascular aneurysm embolization.

CI41

Indatuximab Ravtansine (BT062) in Combination with Lenalidomide and Low-Dose Dexamethasone in Patients with Relapsed and/or Refractory Multiple Myeloma: Clinical Activity in Patients Already Exposed to Lenalidomide and Bortezomib

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INTRODUCTION: To determine the dose-limiting toxicities (DLTs), the maximum tolerated dose (MTD), the recommended phase II dose (RPTD), pharmacokinetics (PK), and anti-MM activity of increasing doses of BT062 (days 1, 8, and 15, every 4 weeks) used in combination with Len (25 mg, daily on days 1-21) and low

dose Dex (40 mg on days 1, 8, 15, and 22) in patients with relapsed and/or refractory MM.

METHODS: This is a prospective, open label, multicenter Phase I/IIa study. The Phase I part includes dose escalation, and the Phase IIa the expansion of the RPTD cohort. Patients aged â‰¥18 years with relapsed and/or refractory MM who have failed at least one prior therapy were eligible to participate. Prior treatment with Len and/or Dex was allowed. Patients with clinical response (or no evidence of progressive disease) and without unacceptable toxicities were eligible for additional treatment cycles. Patients were enrolled in cohorts of at least 3 at each dose level; DLT in the first cycle triggered cohort expansion. Toxicities were assessed by CTCAE v4 and clinical response was assessed according to International Myeloma Working Group criteria.

RESULTS: The maximum administered dose (MAD) was 120 mg/mÂ. Two of six patients treated at this dose had a DLT: mucosal inflammation (CTC grade 3) and anemia (CTC grade 3). The MTD was defined as 100 mg/mÂ_ and selected as RPTD. Additional patients are being treated at this RPTD to further evaluate safety and efficacy. Enrollment into the study is ongoing. As of July 2014, a total of 45 patients had received BT062 at dose levels of 80 mg/mÂ_ (N=3), 100 mg/mÂ_ (N=36) or 120 mg/mÂ_ (N=6). Fifteen patients discontinued study treatment: 5 for disease progression, 7 for adverse events, 1 died (not treatment related) and 2 for withdrawal of consent. The other 30 patients remain on treatment.

CONCLUSION: Preliminary data from this ongoing study indicate that BT062 is well tolerated in combination with Len/Dex at dose levels that induce responses in patients with relapsed and/or refractory multiple myeloma, including patients with prior exposure to both Len and bortezomib and patients refractory to prior treatment with Len. Updated results on safety and efficacy will be presented.

*CI42

Comparison of Thyroid Stimulating Hormone Level and PR Interval in Hypothyroid Patients Being Treated with Levothyroxine

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INTRODUCTION: Thyroid disease is quite common, and since thyroid hormone has both inotropic and chronotropic effects on the heart, variations in thyroid hormone among the general public has demonstrated EKG changes. Hypothyroidism has been shown to be associated with AV blocks, QTc interval prolongation, and heart rate variability as well. The goal of this study is to observe PR interval changes on EKG and investigate their correlation with TSH in hypothyroid patients being treated with levothyroxine.

METHODS: This is a retrospective study looked at 504 admissions of hypothyroid patients who had an EKG and a TSH within three months of each other. Exclusion criteria were patients with atrial fibrillation, atrial flutter, and patients not on levothyroxine, which left the study with 455 admissions. Each admission was stratified based on TSH with low TSH (<0.4) had 85 admissions, normal TSH (0.5-5.0) had 269 admissions, and high TSH (>5.0) had 101 admissions. The mean PR intervals were 152.2,163.0, and 158.8 for the low TSH, normal TSH, and high TSH groups, respectively.

RESULTS: Our data demonstrated that the low TSH group compared to normal TSH group had a lower mean of PR intervals (P value <0.05); however this analysis is not practical, as risks of over treating hypothyroid patients in order to treat or prevent 1st degree AV block would likely outweigh the benefits, while comparing the low TSH group with the high TSH group and normal TSH group compared to high TSH group did not show statistical significance (P value >0.05). This potentially shows that as long as a patient is getting thyroid hormone replacement in these subgroups, they will not have a higher chance of increasing PR intervals and subsequent blocks regardless of their TSH level.

CONCLUSION: In conclusion, as long as patients with normal or high TSH level are getting thyroid hormone replacement, they will not have a higher chance of increasing PR intervals and subsequent atrioventricular blocks, giving that benefits of over treating hypothyroid patients in order to treat or prevent first degree AV block would likely outweigh the risks of developing thyrotoxicosis.

CI43

Preliminary Results from the Childhood Arthritis and Rheumatology Research Alliance Systemic JIA Consensus Treatment Plans Pilot Study

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INTRODUCTION: Treatment options for systemic JIA (sJIA) have recently expanded to include IL1 and IL6 inhibitors in addition to traditional treatments such as glucocorticoids (GC) and methotrexate (MTX). The Childhood Arthritis and Rheumatology Research Alliance (CARRA) developed standardized consensus treatment plans (CTPs) for new onset sJIA to study

comparative effectiveness of these treatments using an observational registry. A pilot study was conducted to assess the feasibility of using the CTPs for this purpose.

METHODS: New onset sJIA pts in the CARRA Registry are treated according to the CTP selected by the treating physician (GC alone; MTX + GC; IL1 inhibitor (IL1i) + GC; IL6 inhibitor (IL6i) + GC). Data is collected at standard intervals for 9 mos from baseline. Physicians could deviate from the chosen CTP for inadequate response. If GC is started, the CTPs suggest an aggressive taper (<50% of the starting dose by 3 mos). Biospecimens are being collected for future use.

RESULTS: 13 CARRA study sites enrolled at least 1 pt (total 30, range 1-6 pts/site). The GC-only CTP was used in only 2 pts (7%) and a biologic was used as initial therapy in 22 (73%). The chosen CTP varied by site, especially with regard to use of biologics vs non-biologics. Most common reasons cited for choosing non-biologic CTPs were: usual treatment at site (63%), perceived safer treatment (63%), and pt preference (38%); most common reasons for choosing biologic CTPs: will likely work best (77%), better tolerated (59%), and perceived safer (45%). As of 6/2014, 13 pts (43%) had changed or deviated from the starting CTP. 67% of patients did not consent for specimen collection.

CONCLUSION: The CARRA sJIA CTP pilot study successfully reached its target enrollment. Despite the absence of randomization, CTP choice is reasonably balanced aside from the GC CTP and appears to be based on physician/center preference. Most providers found the CTPs acceptable to use, and enrollment of additional patients at more CARRA sites to study comparative effectiveness of the CTPs appears feasible. Exploring barriers and improving processes for biospecimen collection consent may increase participation in future studies.

CI44

A Pilot Study to Evaluate the Feasibility of Conducting Juvenile Localized Scleroderma Comparative Effectiveness Treatment Studies

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INTRODUCTION: Juvenile localized scleroderma (jLS) often causes severe morbidity in the developing child, including growth defects and disfigurement. Optimal therapy is not known. The LS Children's Arthritis and Rheumatology Research Alliance (CARRA) subgroup has developed standardized treatment regimens based upon best available evidence and consensus methodology, and clinical tools to use in comparative effectiveness treatment studies. We are currently conducting a pilot study to evaluate the performance characteristics of developed tool and feasibility of conducting jLS comparative effectiveness treatment studies.

METHODS: Fifteen physicians from 10 CARRA centers have been conducting a prospective observational cohort study of jLS subjects initiating systemic immunosuppressive treatment. Inclusion criteria include diagnosis of jLS by pediatric rheumatologist or dermatologist, and presence of active disease according to delineated activity criteria generated by the group. Exclusion criteria include treatment with methotrexate (MTX) within prior 3 months or corticosteroids (CS) within prior 2 weeks. Subjects were treated with one of three MTX-based regimens (MTX alone, MTX with intravenous CS (IV CS), or MTX with oral CS), determined by treating physician, and evaluated at 6 visits over 1 year. At the start of the study, a workshop meeting was held to standardize evaluation.

RESULTS: The target enrollment (50 subjects) was reached. All sites enrolled subjects, with enrollment taking approximately 23 months to complete following study initiation at the first site. Subjects were enrolled at all sites, with about 60% of screened subjects were enrolled. Subjects were enrolled in all 3 regimens, with half enrolled in the MTX + IV CS regimen. Sites showed distinct preferences in their choice of regimens; only one site used all three regimens, half the sites used only one regimen. Between 28-38% of subjects deviated from their initial regimen, with inadequate response the most common reason. Over 80% of subjects agreed to participate in the optional sample collection and banking sub study.

CONCLUSION: This is the first study to explore the feasibility of conducting comparative effectiveness treatment studies in jLS. We achieved our target enrollment of 50 subjects, with subjects enrolled in all 3 standardized treatment regimens. Biological samples have been collected from the majority of subjects, which will enable future translational studies. This study will enable us to evaluate and refine clinical tools needed for treatment studies based upon study data, and identify issues related to conducting jLS treatment studies. Further analyses of these data once completed will also include clinical effectiveness and tolerability of the 3 different treatment regimens in LS subjects.

CI45

Rituximab (RTX) for the Treatment of Steroid Dependent Nephrotic Syndrome (SDNS).

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INTRODUCTION: Although most children with idiopathic NS are steroid responsive, the steroid dependent subset is at higher risk for complications of NS and toxicities of medication. Many of these patients receive antiproliferative and calcineurin inhibitor immunosuppressive agents in addition to alternate day steroids chronically. T and B lymphocyte products have been hypothesized to be the causitive agents of NS. RTX, a monoclonal anti-CD20 (pan B cell) antibody, has been previously identified"

METHODS: In remission, 3 patients (mean age of 8 years) with SDNS who had been maintained on mycophenalate mofeteil (MMF), tacrolimus (Tac) and alternate day prednisone for at least 2 years received a single dose of RTX, 375 mg/m2 BSA. After RTX infusion the MMF and Tac were abruptly discontinued and the steroid was tapered off over 1 month. Lymphocyte subset determination was performed at between 2 and 4 weeks.

RESULTS: Adverse reactions seen during RTX infusion included: fever, vomiting, and cough. All patients achieved absolute CD19 counts of < 20/Î_L. At last follow-up, one patient has required a second infusion to remain in remission.

CONCLUSION: After receiving a single infusion of RTX, some patients with previously multidrug requiring SDNS can remain in remission (at least in the short term). Longer follow-up with larger numbers of patients will be required to fully assess the efficacy of this new treatment.

CI46

Prograf For The Treatment Of Nephrotic Focal Segmental Glomerulosclerosis (FSFS) In Children: A Six Year Experience

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INTRODUCTION: FSGS is the most frequent biopsy finding in children with steroid resistant nephrosis. The majority of these pts eventually have progressive chronic renal failure. FSGS is the most common acquired cause of ESRD in children (NAPRTCS, 1997). The goal of this study was to establish the efficacy and safety of Prograf in inducing long term remission of the nephrosis and stabilization of renal function.

METHODS: Fifteen pts (age: 2 - 19 yrs) with steroid resistant nephrosis and FSGS received Prograf montherapy (no steroids, ACEIs, ARBs, or NSAIDs). The majority of the children were black or Hispanic. The starting dose was 0.15 mg/kg/d and the dose was escalated weekly until clinical response or limiting toxicity. There were attempts to wean the pts off Prograf, but the drug was restarted if the pt relapsed.

RESULTS: The mean Prograf response dose was 0.2Â±0.1 mg/kg/d. The mean response time was 3.9Â±2.7 wks. The mean response trough Prograf level was 11.7Â±4.2 ng/ml. The mean followup was 2.8Â±1.8 yrs. Serum albumins increased from a mean of 2.1Â±0.4 to 3.7Â±0.6 gm/dl ($p<0.05$). Serum creatinines did not change, mean of 0.7Â±0.4 to 0.8Â±0.2 mg/dl (p NS). Spot urine protein to creatinine ratios decreased from a mean of 11.1Â±5.0 to 1.8Â±2.2 ($p<0.05$). A complete remission was experienced by 10/15 pts; 5/10 had a partial response. Only one child was able to sustain these benefits after discontinuing the drug. During the followup period 13/15 pts had stable, normal serum creatinines; 1/15 developed CRI; 1/15 developed ESRD. Actuarial renal survival was 90% at 5 years, as compared to 10% based on historical controls.

CONCLUSION: Prograf was highly effective as monotherapy in safely inducing prolonged remissions of the nephrotic syndrome in steroid resistant children with FSGS. The majority of the children experienced long term normal, stable renal function.

CI47

An Emergency Medicine, Education-Based Patient Satisfaction Survey Created through Delphi Method Analysis

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INTRODUCTION: Feedback on patient satisfaction (PS) as a means to monitor and improve performance in patient communication is lacking in resident training; once in practice, promotion, compensation and job satisfaction may be impacted by PS scores. Many communication and satisfaction surveys exist but none focus solely on emergency medicine (EM) settings for educational purposes.

METHODS: The goal of this project was to create an EM based educational PS survey with strong evidence for content validity. Methods: The Delphi Method (DM) created by the RAND Corporation was used to obtain expert opinion via an iterative process of several rounds of surveys, each one followed by feedback, until a pre-specified level of consensus was achieved. Experts were sought from PS education leadership (via the Council of Residency Directors of EM PS Taskforce), emergency physician PS researchers and

residents with career interest in PS. Questions were mined from four popular PS surveys as well as organically from group suggestion. The DM analysis determined the ultimate structure, content and appropriate use of the tool.

RESULTS: Twelve experts from around the country were recruited. The group used four point Likert-type scales and Lynn's criteria for content validity to determine relevant questions from the stated goals. These were then honed to the preferred number of survey items. A total of seven surveys were required to achieve consensus. 100% response rates for all surveys were maintained. A ten question, single page survey was selected. An additional page with qualitative questions and demographics was also agreed upon. Thirty one items were judged to be relevant from an original sixty seven question list. Of these, the top ten were chosen.

CONCLUSION: The DM produced a consensus survey with content validity evidence. Further work will be needed to obtain evidence for response process, face and construct validity.

CI48

Obesity Paradox In Long Term Survival After Trans-catheter Aortic Valve Replacement In Patients With Severe Aortic Stenosis

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INTRODUCTION: This study sought to examine effect of body mass index (BMI) on 1 year outcomes after trans-catheter aortic valve replacement (TAVR) in symptomatic patients with severe aortic stenosis (AS). An obesity paradox has previously been reported in a range of cardiovascular and non-cardiovascular conditions, with improved clinical outcomes in obese when compared to normal weight patients. However, prevalence of this paradox in patients undergoing TAVR is not well defined.

METHODS: We retrospectively evaluated 100 consecutive patients undergoing TAVR at our institution between 2012 and 2013. We categorized the patients into 4 categories based on their BMI: normal weight (18.5-25 kg/m2, n=35), overweight (25-30 kg/m2, n=40), obese (30-40 kg/m2, n=18), and morbidly obese (40 kg/m2, n=7). Baseline characteristics, 30 day major adverse cardiovascular events (MACE), defined as composite of stroke, myocardial infarction, cardiovascular death or re-hospitalization, and 1 year mortality were compared across the groups.

RESULTS: Obese patients were younger, had higher prevalence of diabetes, a lower Society of Thoracic Surgeons (STS) score, shorter length of stay in intensive care unit (ICU) and shorter length of stay in hospital than normal weight patients. Despite higher mean (Â±SD) baseline serum creatinine (mg/dl) levels (1.6 Â± 1.7 vs. 1.3 Â± 1.0), the incidence of postoperative renal failure (> 0.3 mg/dl increase from baseline) was similar between obese and non-obese patients (21% vs 20%, p = 1.0). At 30 days, there was a trend towards higher MACE rate in normal weight patients (47%) when compared to overweight (35%), obese (22%) and morbidly obese (0%) patients (p = 0.06). At 1 year, a similar difference was seen in all-cause mortality rates (22% vs. 12.5%, 11.1% and 0% respectively, p = 0.05).

CONCLUSION: In this retrospective analysis, obese patients undergoing TAVR had lower MACE rate at 30 days and lower mortality rate at 1 year when compared to normal weight individuals. This "obesity paradox" has been seen with a number of medical diagnoses, critically ill patients, and is now evident in patients undergoing TAVR. More large scale studies are needed to further evaluate this paradox.

CI49

Prognostic Impact of Improvement in Intra-Operative Pulmonary Artery Systolic Pressure and Left Ventricular Ejection Fraction in Patients Undergoing Trans-Catheter Aortic Valve Replacement

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INTRODUCTION: Previous studies have demonstrated reduced survival in high risk patients with symptomatic AS undergoing TAVR who had elevated pulmonary artery systolic pressure (PASP) at baseline. However, effects of elevated intra-operative PASP on long term outcomes in these patients are not clearly defined.

METHODS: We retrospectively evaluated 100 consecutive patients undergoing TAVR at our institution between 2012 and 2013. Baseline characteristics, 30 day major adverse cardiovascular events (MACE), defined as composite end point of stroke, myocardial infarction, cardiovascular death or re-hospitalization, and 1 year all-cause mortality stratified by intra-operative PASP were analyzed.

RESULTS: On Cox regression survival analysis in patients undergoing TAVR, being in the highest tertile of intra-operative PASP was an independent predictor of a higher 30 day MACE event rate (HR: 4.1, 95% CI: 1.8 to 9.2, p = 0.001) and long term mortality at 12 month (hazard ratio (HR): 6.6, 95% confidence interval (CI): 3.8 to 11.4, p < 0.001). Following TAVR, patients

with greater than 10mmHg reduction in their intra-operative PASP, had improved long term survival at 12 months (HR: 0.14, 95% CI: 0.04 to 0.46, p = 0.001). In addition, an increase of greater than 5% in left ventricular (LV) ejection fraction (EF) after TAVR was also associated with improved long-term survival at 12 months (HR: 0.23, 95% CI: 0.07 to 0.78, p = 0.02).

CONCLUSION: In high risk patients with severe aortic stenosis, elevated pulmonary artery systolic pressures during trans-catheter aortic valve replacement was associated with reduced survival at 1 year. Reduction in PASP after TAVR was one of the strongest predictor of survival in our patient population. More large scale randomized studies are needed to further evaluate these results.

CI50

Women Demonstrate Long Term Improvement after Trans-Catheter Aortic Valve Replacement in Severe Aortic Stenosis

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INTRODUCTION: Previous studies have demonstrated improved short term survival in high risk patients with symptomatic aortic stenosis (AS) undergoing trans-catheter aortic valve replacement (TAVR) when compared to surgical aortic valve replacement (SAVR). However, gender specific outcomes in these patients are not clearly defined. This study sought to examine these outcomes after SAVR or TAVR.

METHODS: We retrospectively evaluated 200 consecutive patients undergoing aortic valve replacement at our institution between 2002 and 2012. In all, 100 patients undergoing TAVR were matched on their propensity scores with 100 patients undergoing SAVR. Baseline characteristics, 30 day major adverse cardiovascular events (MACE), defined as composite end point of stroke, myocardial infarction, cardiovascular death or re-hospitalization, and 1 year all-cause mortality were compared among males and females.

RESULTS: All patients undergoing TAVR had significantly lower mortality rate at 12 month when compared to those undergoing SAVR (15% vs. 29%, HR 0.47, 95% confidence interval (CI): 0.26 to 0.84, p = 0.01). When compared to male patients, the female patients were predominantly older (82Â±6 vs 79Â±8 years), had lower prevalence of prior coronary artery bypass surgery (11% vs. 42%), peripheral artery disease (19% vs. 31%) and lower pre-operative creatinine levels (1.2 vs. 1.5 mg/dl). STS score was similar between both genders (10.7 and 10.8). Among women, the 30-day MACE events and 1 year all-cause mortality was significantly lower in the TAVR group (30% vs 67%, p < 0.001 and 12% vs. 31%, p = 0.002, respectively). Among men, although the 30 day MACE event was significantly lower in TAVR group (12% vs. 31%, p = 0.01), there was no significant survival benefit at 1 year (18% vs. 26%, p = 0.19).

CONCLUSION: Although the female patients who underwent transcatheter aortic valve replacement had a higher risk profile compared to those treated surgically, they had significantly improved short and long term outcomes. Our data suggest that in high risk female patients, TAVR may therefore be a better alternative than surgery. Large scale randomized control trials are needed to further evaluate this gender effect on long term outcomes in high risk patients with severe aortic stenosis undergoing valve replacement.

CI51

A Phase II Study of the Combination of FCR-Lite and Lenalidomide Followed By Lenalidomide Maintenance in Front-Line CLL: The FCR2 Regimen

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INTRODUCTION: (FCR) remains the standard of care for the treatment of newly diagnosed, fit CLL pts requiring therapy. Strategies aimed at minimizing toxicity without compromising efficacy have been reported including modifications of the optimal dosing and duration of FCR using a dose-reduced approach (Foon et al, "FCR lite") or reduction in number of FCR cycles based on MRD status (Strati et al). In the era of biological agents, both preclinical and clinical data have shown the efficacy of lenalidomide (Len) in CLL. n CLL, Len presents a clinical opportunity both in combination with chemotherapy and as maintenance strategy. This was the rationale for our trial using Len in combination with FCR and as maintenance to improve outcomes and shorten therapy.

METHODS: Eligible pts were treated with 4-6 cycles of FCR2 (D1-3 fludarabine 20 mg/m2, D1-3 cyclophosphamide 150 mg/m2, D1&15 rituximab 500 mg/m2 every 28 days). Len was administered on D 8-28 of each cycle (starting dose of 5 mg increasing to 10 mg and 15 mg in cycle ≥2 based on toxicity algorithm). Pts who were MRD (-) in PB and BM (multicolor flow cytometry) initiated Len maintenance after cycle 4 FCR2 (otherwise proceeded to 6 cycles). Daily Len maintenance started two months after FCR2 completion in responding pts for a total of 12 months (5-15 mg based on toxicity algorithm). The primary study endpoint was the proportion of CR pts after cycle 4 of FCR2

with ≥8/19 (≥40%) CR+CRi considered a positive result and worthy of further study (Î± 0.05, Î_ 90%).

RESULTS: 25 pts met inclusion criteria for enrollment of which 22 pts enrolled and 19 were evaluable. 30% pts had Rai stage III-IV, 53% unmutated-CLL, 5% del17p and 30% del11q. After 4 cycles of FCR2 (n=19) response rates were as follows CR 47%, CRi 5%, PR 42%, SD 5% (pts were MRD neg in 29% BM and 56% PB samples, 3 pts (16%) were MRD neg in both PB and BM). After 6 cycles of FCR2 (n=16), response rates improved and were as follows: 63% CR, 13% CRi, 19% PR, 5% PD (pts were MRD neg in 50% BM and 72% PB samples). During induction, 12 pts required a treatment interruption or dose reduction of Len per protocol (median dose of len was 10 mg). The most common grade 3-4 toxicities were as follows (% events): neutropenia (51%), leukopenia (20%), hyperglycemia (5%), NTP fever (5%). Grade 3-4 TLS and tumor flare were not noted. The med follow up for the entire cohort is 13.1 months (7.3-22.5 months). One progression has occurred in a pt who withdrew from study after 2 cycle of FCR2. One death has occurred in a pt with del17p who died on D+255 following allogeneic SCT in CR from the complications of cGVHD. 10 pts have gone on to initiate Len maintenance.

CONCLUSION: CR-lite in combination with Len is feasible and demonstrates encouraging clinical activity in a high-risk, CLL pt population with an acceptable toxicity profile. A significant proportion of pts are MRD neg in PB and/or BM following FCR2. Addition of Len to FCR may minimize chemotherapy exposure without compromising outcome.

CI52

MM-008: A Phase 1 Trial Evaluating Pharmacokinetics and Tolerability of Pomalidomide + Low-Dose Dexamethasone in Patients with Relapsed or Refractory and Refractory Multiple Myeloma and Renal Impairment

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INTRODUCTION: POM in combination with low-dose dexamethasone (LoDEX) has shown efficacy in pts with RRMM and moderate RI (creatinine clearance [CrCl] < 30-44 mL/min), but pts with severe RI (CrCl < 30 mL/min; serum creatinine> 3 mg/dL) were excluded from most trials (Siegel, et al., Blood. 2012; Weisel, et al., J Clin Oncol, 2013). MM-008 is a multicenter, open-label, phase 1 study assessing the pharmacokinetics (PK) and safety of POM + LoDEX in pts with RRMM and normal or severely impaired renal function.

METHODS: Pts with RRMM (≥1 prior Tx) and normal kidney function or mild RI (creatinine clearance [CrCl] ≥60 mL/min; Cohort Aâ€"control arm), severe RI (CrCl < 30 mL/min) not requiring dialysis (Cohort B), and severe RI requiring dialysis (Cohort C) were eligible. Cohort A received POM 4 mg, and Cohort B received POM 2 or 4 mg on days 1-21 of a 28-day cycle, following a 3 + 3 dose-escalation design. Cohort B results informed the 4 mg dosing of Cohort C.

RESULTS: As of July 17, 2014, updated data for 16 treated pts were available (8 in Cohort A; 3 in Cohort B at 2 mg; 4 in Cohort B at 4 mg; and 1 in Cohort C). Median age was 67 yrs (range, 46-76 yrs), 56% were male, all had Eastern Cooperative Oncology Group performance status 0 or 1, and a median time from diagnosis of 3.8 yrs (range, 0.6-12.5). No DLTs in cycle 1 were reported for any cohort. The most common Gr ≥3 adverse events (AEs) were neutropenia, anemia, infection, and fatigue (Table). Median relative dose intensity was consistent across cohorts: 90% (Cohort A), 90% (Cohort B; 2 mg), 100% (Cohort B; 4 mg) and 100% (Cohort C).

CONCLUSION: MM-008 is an ongoing trial prospectively evaluating the PK and safety of POM + LoDEX in pts with RRMM and severe RI. Preliminary PK data support mean dose-normalized exposure in pts with RRMM being similar between those with severe RI and those with no or mild RI at the clinical dose of 4 mg; early tolerability data (after one cycle) are encouraging.

CI53

Deep Molecular Response in Patients with Newly Diagnosed Chronic Myeloid Leukemia in Chronic Phase (CML-CP) Treated with Nilotinib: ENESTNext Update

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INTRODUCTION: The BCR-ABL tyrosine kinase inhibitor nilotinib elicits faster and deeper molecular responses (MRs) vs imatinib in patients with CML-CP. Achievement of sustained deep MR is associated with improved long-term outcomes and is a key criterion for entry into treatment-free remission (TFR) studies. Given the importance of accurately measuring deep MR in patients with CML, increasingly sensitive techniques are needed for monitoring minimal residual disease.

METHODS: In this single-arm, open-label, multicenter study (NCT01227577), adults with CML-CP diagnosed within 6 months of enrollment were treated with nilotinib 300 mg twice daily (BID) for up to 2 years. Dose escalation to nilotinib 400 mg BID for patients with

suboptimal response or treatment failure (per modified European LeukemiaNet 2009 recommendations) was permitted per physician discretion.

RESULTS: A total of 128 patients were enrolled (median age, 56.5 years [range, 21.0-89.0 years]); 64 patients (50.0%) were male and 103 (80.5%) were Caucasian. As of the data cutoff, 45 patients (35.2%) had completed the study, 49 (38.3%) remained on treatment, and 34 (26.6%) had discontinued early. With a median treatment duration of 12.7 months, 88 (68.8%), 94 (73.4%), and 32 (25.0%) patients achieved CCyR, MMR, and MR4.5, respectively, at any time (Table). Of 32 patients who achieved MR4.5, 14 achieved MR4.5 by 6 months. A total of 169 samples from 32 patients with confirmed MR4.5 by conventional RQ-PCR were analyzed by digital PCR.

CONCLUSION: Frontline treatment with nilotinib 300 mg BID in patients with newly diagnosed CML-CP led to rapid achievement of MR4.5 as assessed with conventional RQ-PCR. As > 40% of samples with at least MR4.5according to standard RQ-PCR were positive using the digital PCR assay, this tool may have potential in evaluating MR to determine eligibility for TFR studies.

CI54

All Anxiety Is Not The Same: The Relationship Between Autonomic Function and Anxiety in Parkinson's vs Other Patients

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INTRODUCTION: Anxiety is common in the general population and has been shown to be even more common in Parkinson's disease (PD). Although this increase may be secondary to situational difficulties related to their PD, we hypothesized that anxiety in PD may have a different pathophysiologic mechanism than anxiety not associated with PD. Specifically we suspected that this might be related to the autonomic dysfunction that is inherent to the disease itself. This study was done to test the above hypothesis.

METHODS: We reviewed the records of 59 subjects diagnosed with PD, and 588 subjects with other or unknown diagnoses (non-PD) who had completed autonomic testing and a questionnaire asking them to judge their anxiety on a scale of 0-4. Testing was done at baseline, during deep breathing, Valsalva and stand with repeat baseline after each stimulus. We used this data to look for correlations between anxiety and autonomic measurements to see if they differed between the two groups.

RESULTS: 40/59 (67.79%) PD subjects and 446/588 (75. 8%) non-PD subjects reported anxiety. Both groups had a number of individual variables that were statistically correlated with anxiety. In patients without PD, there were a number of variables with statistically significant correlations between ANS stimulation and anxiety but none of the variables gave a statistically significant predictive value. In contrast, for PD patients using a regression analysis, the change after deep breathing in sdNN (a measure of heart rate variability) and HFnu (a measure of parasympathetic tone showed a highly significant relationship to anxiety ($R2 = 19.4$, $p = 0. 04$).

CONCLUSION: Although not conclusive because of the relatively low number of patients with more marked anxiety, this study strongly suggests an underlying ANS abnormality in patients with PD. The fact that these variables were not significant in the non-PD patients suggests that this is not an epiphenomena from the anxiety itself but rather a direct effect of the ANS changes in PD. We hope that further study will confirm these findings.

CI55

Cognitive Recovery and Neuropsychological Evaluation: A Prospective Study in ED Patients After Mild Traumatic Brain Injury

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INTRODUCTION: Mild traumatic brain injury (mTBI) is the most prevalent acquired brain injury, yet the neuropsychological mechanisms underlying cognitive recovery from mTBI remain poorly understood. During the acute and post acute period in mTBI multiple cognitive processes are negatively affected. Studies have demonstrated cognitive recovery, with subjective and objective assessments, that within days to weeks these cognitive abilities are recovered. We compared 12 adults presenting to the emergency department (ED) that met the criteria for mTBI to a healthy control group of 13 adults.

METHODS: The neuropsychological and neurocognitive evaluation for the mTBI group as well as the healthy controls was performed within 10 days of the injury and 4 months following the injury. Tests done include: Neurobehavioral Symptom Inventory, Symbol Digit Coding, Shifting Attention, Continuous Performance, Verbal Memory, Visual Memory, PTSD Checklist-Civilian, The Stroop, The Non-Verbal Reasoning, Test of Memory Malingering, Impact of Events Scale-Revised, Memory of event questionnaire, Wechsler Test of Adult Reading, Drug Abuse Screening Test, Beck Depression Inventory, and Beck Anxiety Inventory, among other tests.

RESULTS: The results demonstrate the mTBI group has significant deficits in processing speed, attention and concentration, as well as verbal and visual memory compared to the control group at baseline. The mTBI group showed cognitive recovery in most cognitive areas at the four month follow- up. Processing speed and visual memory were still significantly below the performance of the control group at the 4-month post-assessment.

CONCLUSION: The results support prior studies that processing speed and memory may be the most sensitive cognitive domains affected by a mTBI. Furthermore, this study reveals individuals that experience a mTBI may still experience impairment in these cognitive domains 4-months post injury.

CI56

BMI and Abdominal Ultrasound Image Quality: A Pilot Survey of Ultrasound Trained Technologists.

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INTRODUCTION: Ultrasound (US) is increasingly being used as a non-invasive, inexpensive imaging modality. Point-of-care US is being used by non-radiologists of various specialties. However, the body habitus of patients and the limitations of abdominal US imaging has not been well defined. Other imaging modalities have been extensively researched in this regard. There is a dearth of research in US image quality and patient body habitus. We aim to determine opinions of US trained technologists on the relationship of body habitus and abdominal US image quality.

METHODS: Study design was cross sectional, via paper survey, fielded across participants at a 775-bed community teaching hospital, in Northern New Jersey. Fourteen US technologists completed a 12-item questionnaire to evaluate their experience with abdominal US imaging considering the patient's image quality in correlation to body adipose tissue. Survey sheet were fielded by 2 medical students who covered participants in all work shifts, and on all days of the week. Written consent was obtained, and participant data sheets were identity-coded.

RESULTS: 85.7% of responders agreed that there is an association between the amount of adipose tissue on a patient's abdomen and the quality of US images obtained. 85.7% agreed that a normal BMI of 18.5-24.9 provides the best US image quality. However, only 28.6% agreed that normal amounts of adipose tissue produce poor image quality. This was surprising as intuitively it may be thought that absence of adipose tissue would provide the highest quality image. The descriptions of moderate amounts of adipose tissue and "a little more than minimal body fat" (BMI 25.0-29.9) may not have been considered equal in the opinions of the surveyed. The lack of agreement between questions proves the participants understood the questions that were proposed in the survey.

CONCLUSION: Results indicated consensus on amount of adipose tissue and quality of image. There appears to be agreement that BMI is a factor in obtaining good quality abdominal US images. General consensus was, normal BMI was best while BMI 30.0-34.9 and to a lesser extent BMI 25.0-29.9 were detrimental in obtaining good quality abdominal US images.

CI57

Relationship between Rate of Intubation and CPAP Use in the Prehospital Setting.

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INTRODUCTION: Continuous Positive Airway Pressure (CPAP) therapy for sleep apnea was initiated in the 1980s. CPAP has been used in acute respiratory disorders in the ED. However, there has been less focus on the expansion of CPAP into the prehospital setting. Early application of CPAP may be important in patients with acute respiratory disorders. Here we determine if pre-hospital use of CPAP treatment is associated with endotracheal intubation, among patients brought to the Emergency Department (ED) with acute respiratory distress.

METHODS: Study design was a retrospective cohort. We compared the rate of intubation in patients with acute respiratory distress, in the years (2004) preceding the availability of CPAP with the years after initiation of CPAP use (2010-2011). Categorical variables were compared between groups using Fisher's exact test or Chi-square test. Continuous variables were summarized as median (intequartile range) and comparison between groups was performed using Wilcoxon rank sum test. Association between the use CPAP and rate of endotracheal intubation was examined using multivariable logistic regression analysis. The adequacy of the model was calibrated using Hosmer and Lemeshow's goodness-of-fit test. $P<0.05$ was considered statistically significant. Data analysis was conducted using SAS version 9.2.

RESULTS: Records of 775 patients (median age 78 years, 59% women) were reviewed. Of the 215 patients treated with CPAP in the MICU, 13% were intubated after admission. In contrast, of the 570 patients who did not receive CPAP, 28% were intubated after admission to the ED. Unadjusted logistic regression showed that patients who received CPAP were less likely to

be intubated compared to patients without CPAP use [OR=0.37, 95% CI, 0.24 to 0.57, p<0.0001]. Adjusted (for age, sex and diagnosis) multivariate logistic regression showed that CPAP treatment was associated with a 66% reduced need for intubation [OR=0.34, 95% CI, 0.19 to 0.59, p=0.0001].

CONCLUSION: Among patients with acute respiratory distress, use of CPAP in pre-hospital setting was associated with less need for intubation upon Emergency Department (ED) admission. Findings from this study support the rejection of limiting the use of CPAP only as a chronic therapy device, and reinforce the potential of its use as an acute therapeutic device, in the prehospital setting.

CI58

The Prevalence of Alcohol Use and Abuse among Geriatric Trauma Patients Presenting to the Emergency Department

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INTRODUCTION: The significant drinking pattern among older adults is an invisible public health epidemic often overlooked within hospital Emergency Departments (EDs). Alcohol continues to be the most commonly abused substance, in this population. As a result, the consequence of alcohol abuse among older adults is an emerging problem. The objective of this research study is to evaluate alcohol use and abuse in the geriatric trauma population as well as raising awareness of this overlooked public health issue.

METHODS: A relevant, review of the literature was conducted, accessing the PubMed and Science Direct databases. Fifty-five articles reviewed, and thirty articles, from the last five years, were selected. A retrospective chart review looked at medical records from April 2009 through April 2014 of trauma patients, 65 years and older. Rate of alcohol (EtOH) screening in the ED among the geriatric trauma patients was determined and the breakdown of that screening data was characterized.

RESULTS: A median of 406 elderly patients was admitted for trauma related causes, of which a median of 66 had alcohol levels drawn. Also at least 10 patients per year had an alcohol level above the legal limit. Furthermore, an average of 18 (0.26%) patients out of an average of 67 screened for EtOH had levels above the legal limit of 80 dL. Review of the current literature showed evidence that alcohol misuse or abuse arises from reasons ranging from declining health to loss of loved ones. Other findings were that the effects of EtOH on elderly adults can be detrimental and even lead to increased risk to both their health and psyche due to slowed metabolism, comorbid conditions, as well as use of prescribed medication.

CONCLUSION: These findings suggest the need for possible revision of the EtOH screening criteria currently in place for this population, implementing appropriate interventions based on a new screening tool, and promoting educational awareness among healthcare providers.

CI59

Making Rapid Triage Decisions in National Mass Casualty Disasters

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INTRODUCTION: Through the use of the novel Telesonography system, cellular and satellite transmission of medical ultrasound examinations can potentially enhance patient throughput in disaster situations.

METHODS: Six pre-determined e-FAST (Extended Focused Assessment with Sonography in Trauma) ultrasound images of different regions of the body (left and right chest, hepatorenal, splenorenal, suprapubic, cardiac parasternal long axis or subxiphoid) were obtained, and transmitted real time via the TS to the hospital (in New Jersey) for live view by doctors in the trauma room.

RESULTS: We report descriptive statistics as means with standard deviations for items and QUIS scale scores. In addition, we used paired samples t-tests to test if the ratings differed between the baseline and transmitted conditions. Finally we computed difference scores measuring signal degradation which occurs in the transmission of ultrasound images. These difference scores were then compared between transmission methods using a paired samples t-test. Paired sample tests were used because the same raters were used in all conditions, making the ratings dependent.

CONCLUSION: The Telesonography System successfully transmitted real-time, secure ultrasound images across multiple cellular and satellite networks from an austere environment. The successful integration of the BGAN satellites provided image transmission and voice communication in a simulated national disaster model.

CI60

A Novel Portable Telesonography System for Prehospital Trauma Care from an Austere, International Location

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INTRODUCTION: The goal of this study was to describe the performance characteristics of the TS system in transmitting real time medical ultrasound images images via cellular network compared to satellite network transmission from an international location (Medical Clinic Dominican Republic) to our medical institution in the US (New Jersey).

METHODS: A Sonosite M- Turbo portable ultrasound system by (Sonosite Inc.) was equipped with a C 15/4-2 m Hz transducer for extended Focused Assessment with Sonography in Trauma (e-FAST) abdominal exams and interfaced with a portable transmission device, LU-60 (LiveU). These technologies formed the Telesonography System (TS) which is capable of transmitting real-time, audio and video simultaneously over multiple cellular networks. The system was enhanced with the addition of two broad ground area network (BGAN) satellite terminals (Hughes 9201) to allow for transmission of data in areas where other networks are unavailable.

RESULTS: The data shows the evaluator rating of base images for subjects were similar for both the cellular and satellite transmission. The base location images were generally rated slightly better in quality, resolution, and detail by evaluators. In addition, the images transmitted by satellite were rated better when compared to those by cellular network transmission. Internal consistencies of our QUIS questionnaire subscales by the evaluators were high and therefore reliable.

CONCLUSION: Abdominal trauma ultrasound images obtained via the TS system from an international location, were rated to be high quality and also rated to be good enough to make a diagnosis by "expert" at the second location, such as the hospital in New jersey, for interpretation. In addition to e-FAST images, the TS system has the capability of sending other real-time, quality ultrasound images such as cardiac, OB, renal, gallbladder, etc from austere locations to an "expert" at a base location for interpretation. Performing ultrasounds in a pre hospital setting may make a significant difference in patient care by potentially reducing the door to scalpel time.

CI61

Prospective Analysis of Laparoscopic Cholecystectomies Based on Post-Graduate Resident Level

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INTRODUCTION: Complications in laparoscopic cholecystectomies have been thoroughly studied. Many of these studies have attempted to ascertain the safety and efficacy of surgical resident participation in laparoscopic surgical cases; however, few have looked at these endpoints based on specific resident post-graduate year, and their experience. We hypothesize that there is no difference in complications based on resident year in laparoscopic cholecystectomies.

METHODS: 200 laparoscopic cholecystectomies were prospectively reviewed over one year. Patient demographics, operative time, ambulatory status, intraoperative complications, and the residents involved in the case were recorded. Residents were classified as surgeon chief, surgeon junior, or teaching assistant. Post-operatively patients received telephone calls, clinic visits, or emergency department visits. Variables analyzed included operative resident post-graduate year, operative time, elective vs. emergent status of each operation, and intraoperative as well as postoperative complications. Primary outcomes analyzed: Surgical complications based on resident level. Secondary outcomes: Operative time based on resident level, operative time based on ambulatory status.

RESULTS: 167 patients had data completed for the study. 33 patients were excluded due primarily to a lack of follow up. 73 patients were operated on by a surgeon chief (46% elective), 62 operated on by a surgeon junior (39% elective), and 32 operated by a teaching assistant and surgeon junior (55% elective). The average operating time was 65.17 minutes 95% CI [59.51,70.84] for surgeon chief, 69.38 minutes 95%CI [63.93,74.83] for surgeon junior, and 63.91 minutes 95%CI [57.98,69.84] for teaching assistant/surgeon junior. Average operative time in the elective group was 62min vs. the emergent group, 70.67min, was statistically significant ($p=0.037$). There were a total of 13 (7.8%) major surgical complications across all 3 resident level groups. 5 major complications occurred in the SJ group, 2 major complications occurred in the SJ/TA group, and 6 major complications occurred in the SC group. These were not significant in comparison ($p=0.937$). Major complications occurred in 9/97 emergent cases had, and 4/70 elective cases. Pearson Chi-Squared test of major surgical complications in emergent and elective cases showed no correlation between both factors ($p=0.396$).

CONCLUSION: Operative time was longest in the resident level of least experience; however, operative time, and complication rate was not statistically significant across any resident level. We did find operative time to be significantly longer with regards to ambulatory status.

CI62

Does Low Risk Chest Pain, Utilizing the HEART Score for Early Discharge in the ED, Have a Decreased 30 Day Readmission Rate?

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INTRODUCTION: To identify the low risk chest pain population who may benefit from an early ED discharge, without having to undergo long observation period and thus reducing costs and hospital length of stay by using the HEART Score, for the risk stratification and consists of five elements: History, Electrocardiogram (ECG), Age, Risk factors, and Troponin.The primary end point of this study is a composite of Acute Myocardial infarction, percutaneous coronary intervention, coronary artery bypass graft surgery and death, together called the Major Adverse Cardiac Event (MACE) and the secondary end point being 30-day readmission rate.

METHODS: This is a retrospective, case-control study, taking place in a tertiary care community teaching hospital, enrolling patients who came in between 01/01/2013 to 12/31/2013 to the adult Emergency Department There is no treatment plan in this study as it is a retrospective case control study, which involves looking at patient History, ECG, Age, Risk factors and Troponin. There is no use of placebo/randomization/drugs/hospitalization. The patient chart is reviewed for 30 day- readmission once the patient was discharged from the ED.

RESULTS: During the study period, a total of 160 patients with chest pain were admitted to the ED. The main reason for admission was chest pain which included cardiac as well as non-cardiac cause. Amongst the excluded cases were twenty four (15%) cases who were admitted for non-cardiac reasons, twenty four (15%) cases had STEMI, known CAD, CHF, previous MI/stent placement and six (3.8%) were patients who were pregnant, deceased, transferred to other hospital, left AMA and had missing ECG/Troponin on their chart. Low risk group had sixty three patients, out of which, two (3.2%) had non-cardiac related readmission and one (1.6%) had a cardiac related readmission.

CONCLUSION: The HEART Score may help us making accurate decisions in the ED without the use of radiation or invasive procedures. Low HEART Scores go with low likelihood of an ACS and decreased 30 day readmission where as high HEART Score predict high numbers of MACE. It can be used as a quick, easy and useful tool as a reliable predictor of outcome in chest pain patients and therefore may be used in the ED.

CI63

Arthroscopic Surgery of the Ankle: Analysis and Follow-up Study of 108 Patients

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INTRODUCTION: In the past three decades, ankle arthroscopy has gained increasing popularity due to advances in surgical technique and endoscopic instrumentation. In this paper, we report our experience with operative ankle arthroscopy. The basic ankle arthroscopy setup and operative technique is described. The indications for surgery, follow-up results, and complications of arthroscopic surgery are reported.

METHODS: One hundred and eight patients (112 ankles) underwent operative ankle arthroscopies. Indications for surgery included pain, recurrent swelling, mechanical catching, locking, and instability that failed to respond to a prolonged course of non-operative management. Preoperative diagnoses were synovitis (42 ankles), osteochondral defects of the talar dome (54 ankles), anterior tibiotalar impingement (6 ankles), degenerative joint disease with osteophytes and/or loose bodies (8 ankles), and septic arthritis (2 ankles).

RESULTS: The mean age of the patients at the time of surgery was 29 years (range, 17 to 64 years). The average postoperative follow up was 6.8 years (range, 1.5 to 10.3 years). The mean preoperative American Orthopaedic Foot & Ankle Society (AOFAS) ankle-hindfoot score was 44 points (range, 18 to 58 points). The mean postoperative AOFAS ankle-hindfoot score was 81 points (range, 26 to 100 points). Overall, 90 patients (83%) were improved, 16 (15%) remained unchanged, and 2 (2%) became worse after undergoing ankle arthroscopic surgery. The best clinical results were seen in patients who had ankle synovitis and in those who had small or medium-sized, stable osteochondral lesions of the talus. The outcome was better in patients who had anterolateral talar dome lesions as compared to those with posteromedial lesions. Patients with degenerative joint disease had an unsatisfactory outcome. Overall, 12 of the 108 patients (11%) had complications.

CONCLUSION: Operative ankle arthroscopy is a safe, effective and useful procedure. Careful patient selection is critical. There is a steep learning curve. A thorough knowledge of foot and ankle surgical anatomy is essential to avoid complications. At times, the surgical

technique is demanding and challenging, even in the hands of experienced surgeons. Predictable and satisfactory clinical results are obtained in most patients with synovitis or osteochondral lesions of the talar dome. The results are less predictable and unsatisfactory in patients who have mild-to-moderate degenerative joint disease.

CI64

Revision Anterior Cruciate Ligament Reconstruction Using the Autogenous Bone-Patellar Tendon-Bone Graft: A Five- to Seven-Year Follow-up Study

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INTRODUCTION: Revision anterior cruciate ligament (ACL) reconstructions are challenging and technically demanding surgical procedures. Less favorable results have been reported after revision ACL reconstruction as compared to those following primary ACL reconstruction. The purpose of our study was to report the clinical, functional, and radiographic results of revision ACL reconstructions using autogenous bone-patellar tendon-bone graft.

METHODS: Thirty-eight revision ACL reconstructions were performed. Previously unharvested, ipsilateral, autogenous bone-patellar tendon-bone graft was used for all cases. Concurrent operative procedures were performed in 22 of the 38 knees (58%). These procedures included repair of a meniscal tear in 13 knees (34%), and reconstruction of deficient posterolateral or medial ligamentous structures in 9 knees (24%). Seven of the 38 knees (18%) had a high tibial osteotomy to correct varus malalignment before undertaking revision ACL reconstruction.

RESULTS: The average age of the patient at the time of revision ACL surgery was 29.3 years (range, 21 to 44 years). The mean postoperative follow-up was 78 months (range, 60 to 87 months). At latest follow up, 24 knees (63%) had negative Lachman tests, 11 knees (29%) had positive Lachman tests with a hard end-point, and 3 knees (8%) had positive tests with a soft or no end-point. The pivot shift test was grade 0 (absent subluxation) in 23 knees (61%); grade I (slight subluxation) in 8 knees (21%); grade II (definite subluxation) in 5 knees (13%); and grade III (subluxation and momentary locking) in 2 knees (5%). At latest follow up, the mean Lysholm knee score was 83.7, the average Tegner activity level was 5.8, and the mean subjective IKDC score was 84.1. Based on the objective IKDC scores, 18 patients (47%) had a Grade A (normal) result; 14 patients (37%) had a grade B (nearly normal) result; and 6 patients (16%) had a grade C (abnormal) result. None of the patients had a grade D (severely abnormal) result.

CONCLUSION: Meticulous preoperative planning is vital before undertaking revision ACL reconstruction. The causes of primary ACL reconstruction failure should be carefully analyzed before undertaking revision ACL reconstruction. In general, the results of revision ACL reconstructions are less satisfactory as compared with those of primary ACL reconstructions. The outcome of revision ACL surgery may be affected by factors such as previous meniscectomy, articular cartilage damage, concomitant ligamentous injury with loss of secondary restraints, or varus malalignment. We conclude that revision ACL reconstruction provides reasonable pain relief, restores knee stability, improves knee function, and provides good clinical and functional outcome in most cases.

CI65

The Predictive Role of Thrombocytosis in Identifying Lung Carcinoma patients in an Urban Medical Center

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INTRODUCTION: According to recent World Health Organization reports, lung cancer is the most common type of malignancy and the leading cause of death from cancer; approximately 19.4% of cancer deaths per annum. Therefore, factors such as prognosis and mortality play a crucial role with lung cancer diagnosis. Over the past century, many studies have implicated the significance of thrombocytosis in various types of malignancy, with a reported incidence of 10% to 57%. Currently, the most important prognostic factor for both SCLC and NSCLC is tumor stage, with advanced stage disease being associated with worse outcomes. In our study, we will evaluate the implication of thrombocytosis as a poor prognostic indicator for lung cancer.

METHODS: This is a retrospective cohort study of an electronic medical records review of 180 patients diagnosed with lung cancer at Saint Michael's Medical Center between 2009 and 2013. As per pathology reports and TMN staging, the histology subtype and staging of lung cancer was recorded as well as platelet count at the time of diagnosis. Excluded from the study were patients with known disorders that may cause abnormal platelet counts or prior carcinomas. Total exclusions were 74 cases. The patients who met inclusion criteria were categorized into 2 subgroups: small cell lung cancer and non-small cell lung cancer. The stages of the lung cancer and the platelet level was

compared using T test. Subgroup analysis was conducted using ANOVA test, all using SPSS software.

RESULTS: There were 106 cases with pathology reports indicating type and stage of lung cancer. Of the total, there were 94 (84.9%) cases of non small cell lung cancer and 12 (11.3%) cases of small cell lung cancer. Further categorization revealed 39 (36.8%) cases of limited stage (including NSLC Stage I, Stage II, Stage IIIa) and 67(63.2%) cases of advanced stage (including NSLC Stage IIIb and Stage IV). The mean platelet count was 286.29, with the minimum count of 47 and maximum count of 837. The mean platelet count for the group with limited staging lung cancer was 259.64 (SD 107.697); whereas the mean platelet count for the group with advanced staging of lung cancer was 301.81(SD 122.81). Comparing advanced and limited staging, there was a statistical difference achieved with p value of 0.078 and 95% CI of 4.774 to 89.103. On a subgroup analysis including only the NSCLC the mean platelet count in limited stage and advanced stage were 255.32 and 307.75 respectively; with no statistically significant p value of 0.018 and CI of 9.104 to 95.756.

CONCLUSION: Given the importance of platelets, thrombocytosis serves as a pathological clue to diagnosis. Our study examined the correlation between neoplasm and reactive thrombocytosis. Upon case review, thrombocytosis is prevalent in a wide range of malignancies. Our final review of 106 lung cancer patients included a statistical significance of thrombocytosis in NSCLC and advanced staging. The average platelet count at the time of diagnosis was higher in advanced staging than in limited staging. Therefore the presence of thrombocytosis at the time of diagnosis may assist in determining prognosis of lung cancer.

CI66

Can a Simple Test Like Serum Albumin Predict a Complicated Condition Like Cardiorenal Syndrome Type-1?

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INTRODUCTION: Cardiorenal syndrome type1 (CRS1) is characterized by the development of acute kidney injury (AKI) in a patient with Acute Decompensated Heart Failure (ADHF). CRS1 occurs in approximately 25-40%of patients admitted with ADHF and presents a myriad of challenges in diagnosis and management. Hypoalbuminemia is detected in up to 28% of ADHF patients and is a proven independent mortality predictor in patients with ADHF. Hypoalbuminemia is a significant independent predictor for AKI and increased mortality following AKI in patients of surgery, intensive care unit and other hospital settings. Although hypoalbuminemia is independently associated with ADHF and AKI, its role in predicting CRS1 has not been published.

METHODS: With IRB approval we performed a single center retrospective cohort study from records of adult patients (n=201) discharged with diagnosis of ADHF in 2011. Patients were excluded if they had creatinine (Cr) >2.5mg/dl or end stage renal disease, active malignancy or no record of serum albumin (S.Alb) levels. CRS1 was defined as an increase in serum Cr of â‰¥0.3mg/dl from the baseline serum Cr on admission.

RESULTS: From our sample of 201 patients (mean age_68.1, SD_15.8), 48% were male and majority were African American. The mean S.Alb level on admission was 3.4g/dl with SD_0.4 and the mean admission Cr clearance (MDRD) was 57.3ml/min with SD_31.5. Despite the standard dose of furosemide about 45% patients developed CRS-1. S.Alb cut-off level of 3.4g/dl was determined from ROC curve; patients with S.Alb <3.4g/dl (group1, n=90) were compared with patients with higher S.Alb (group2, n=111). Group 1 had more elder patients and worse renal function on admission (P=0.02 and P=0.012 respectively). Group 1 was found to be at a higher risk of developing CRS1 during hospitalization (OR=4.48; 95% CI 2.46 to 8.14; P=<0.0001; adjusted OR for age=2.7; 95% CI 1.2 to 6.9; P=0.03; adjusted OR for <30ml/min creatinine clearance on admission=1.7; 95% CI 1.1 to 4.0; P=0.04) and also had significantly longer hospital stay (13.3Â±17.5 versus 7.2Â±5.3; P=0.003). Patients with CSR1 had worse clinical outcomes with higher in hospital mortality (10%, n=7 versus 2%, n=2; P=0.04) and a trend towards higher 6-months mortality (n=13 versus n=8; P=0.09).

CONCLUSION: Hypoalbuminemia (S.Alb <3.4g/dl) predicts CRS1 in patients admitted with ADHF and can aid in their early risk stratification. It also portends a complicated hospital course in patients with ADHF and can have an important impact on aggressive management and better resource utilization (like ultra filtration) in care of these patients.

*CI67

Laboratory and Clinical Features of EIA Toxin-Positive and EIA Toxin-Negative Community-Acquired *Clostridium Difficile* Infection

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INTRODUCTION: Studies have described the clinical course of patients with *Clostridium difficile* infection

(CDI) with positive enzyme immunoassay (EIA) for toxins A and B. Limited information is available for the patients with negative EIA but positive for the toxin B gene (TcdB) by the PCR. The aim of our study is to determine if there are any differences that exist among the clinical and laboratory parameters in the patients tested to be positive by EIA for toxin and those who were negative.

METHODS: This is a retrospective cohort study conducted in a 700-bed teaching hospital. We reviewed charts of the patients with presumptive CDI between January 2006 and July 2013. We divided these patients into two groups, EIA-positive and EIA-negative based on result of EIA for toxins A and B and the requirement for a positive PCR analysis of the TcdB gene.

RESULTS: The EIA-positive group had significantly higher white blood cell counts ($p < 0.001$), with a significantly greater percentage of bands ($p < 0.0001$). Albumin and total protein both exhibit significantly ($p < 0.0001$, both comparisons) lower values in the EIA-positive group. Among clinical findings, the EIA-positive group had significantly longer length of hospital stay ($p = 0.010$).

CONCLUSION: These data suggest that an infection with an EIA-negative strain of C. difficile presents laboratory markers closer to those of healthy subjects and clinical features suggesting considerably less severe than infection with EIA-positive C. difficile.

*CI68

Poor Left Atrial Function is associated with Reduced Left Ventricular Ejection Fraction in Hospitalized Patients

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INTRODUCTION: The left atrial (LA) has been recognized as a morphophysiologic barometer of left ventricular (LV) diastolic dysfunction. Because in the myocardial ischemia cascade where LV diastolic dysfunction often precedes LV systolic dysfunction, the LA which fashions as an early marker of diastolic anomaly, could equally reflect a declining LV function and/or be a good predictor of potential sequelae. We assessed this association of LA function with reduced LV systolic function among hospitalized patients.

METHODS: LA volumes were echocardiographically determined using the biplane area-length method in the apical 4-chamber view. LA function was calculated: 1) LA passive emptying fraction (LAPEF) = (VOLmax - VOLac) x 100% / VOLmax; 2) LA active emptying fraction = (VOLac - VOLmin) x 100% / VOLac, and Left Atrial kinetic energy (LAKE) = LA kinetic energy (LAKE) = Â= x 1.06 x (density of blood in g/cm-cubed) x LA stroke volume x A-wave velocity-squared.

RESULTS: Our sample comprised of 294 patients (18-95 years of age; mean +/- SD 62 +/- 17.4; 58.8% female) who met criteria. LV ejection fraction (LVEF), be it on 2D Echo or M-mode, was strongly associated with LA Passive emptying fraction (LAPEF) ($p <0.0001$). Among patients with reduced LVEF, measurements with 2D Echo showed that LAPEF was lower (0.149 +/-0.10 vs. 0.197 +/-0.13, $p = 0.023$ in PLAX view and 0.172 +/-0.12 vs. 0.232 +/-0.14, $p = 0.013$ in A4C view), whereas LAKE was higher (4.69 +/-4.2 vs. 4.17 +/-3.2, $p = 0.362$ in PLAX view and 6.48 +/-6.3 vs. 4.57 +/-3.5, $p = 0.005$ in A4C view). This was similarly reflected with M-Mode measurement among those with reduced LVEF, where LAPEF was lower (0.142 +/-0.09 vs. 0.197 +/-0.13, $p = 0.010$ in PLAX view and 0.159 +/-0.11 vs. 0.233 +/-0.14, $p = 0.002$ in A4C view), whereas LAKE was higher (4.59 +/-4.3 vs. 4.19 +/-3.2, $p = 0.504$ in PLAX view and 6.81 +/-6.4 vs. 4.54 +/-3.5, $p = 0.001$ in A4C view).

CONCLUSION: Echocardiographic assessment of LA function appears correlated with LVEF and could be important when risk stratifying hospitalized patients. Further studies are needed to look into the clinical implications of our study findings. Also, LA remodeling is more severe in patients with reduced LVEF as compared to preserved LVEF. This may be of significant clinical relevance regarding the morbidity and mortality of these two conditions.

CI69

Does Antibiotic-Loaded Bone Graft Used in Scoliosis Surgery Lead to Superbugs?

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INTRODUCTION: Antibiotic-loaded bone graft has decreased surgical site infections (SSIs) in pediatric scoliosis surgery; however, are decreased infection rates obtained at the expense of creating antibiotic resistance in the community? We reviewed cultured pathogens from SSI cases with and without antibiotic-loaded allograft and determined if there were antibiotic resistant pathogens seen in the antibiotic-loaded group.

METHODS: 851 consecutive pediatric scoliosis surgeries from 2006-2010 with antibiotics in bone graft (ABX) were compared to 620 cases from 1998-2004 without antibiotics in bone graft (Non-ABX). In 2006, we initiated a protocol of placing antibiotics in bone graft. All patients received intra-operative IV antibiotics. Control cohorts included non-infected cases in the antibiotic-loaded group (Control-ABX) and non-infected

cases without antibiotics in bone graft group (Control-Non-ABX). Analysis completed using chi-squared statistic, Fisher's exact, and single sample t-tests.

RESULTS: 24 ABX cases were compared to 30 Non-ABX cases. The infection rate was significantly less in the ABX cohort (2.8% vs. 4.8%). Patient demographics were similar in AIS (57% in Control-ABX vs. 54% in Control-Non-ABX) and cerebral palsy (25% in Control-ABX vs. 27% in Control-Non-ABX). The proportion of gram positive and negative infections was similar between the infected groups [gram positive: 58% (ABX) vs. 54% (Non-ABX); gram negative: 42% (ABX) vs. 46% (Non-ABX)]. MRSA infections were greater in the ABX group. 38% of the S. aureus infections in the ABX cohort were MRSA; however, none of S. aureus infections in Non-ABX were MRSA.

CONCLUSION: Antibiotic-loaded bone graft was effective prophylaxis for infection in scoliosis surgery. However, increased occurrence of MRSA was seen with antibiotic-loaded bone graft. The rise of MRSA infections could be attributable to the antibiotics used; or, it could be a result of the rise of MRSA in the community, since the earlier cases predate our protocol for placing antibiotics in the bone graft.

CI70

Safety Results from the United States Cohort of the Ibrutinib Early Access Treatment Protocol (EAP: MCL4001) in Patients with Relapsed or Refractory Mantle Cell Lymphoma

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INTRODUCTION: Ibrutinib is a first-in-class, once daily, oral covalent inhibitor of BTK approved in the US (November 2013) based on an international multicenter Phase 2 study in patients with relapsed or refractory MCL, with an ORR of 68% (CR 21% and PR 47%) and median progression free survival of 13.9 months (Wang et al. NEJM 2013). EAP conducted in a similar patient population to provide access to ibrutinib prior to market authorization and to collect additional safety data.

METHODS: Open-label EAP in patients with relapsed or refractory MCL who resided in areas where ibrutinib unavailable and were ineligible for ongoing ibrutinib trials. Key entry criteria: age ≥18 years, relapsed or refractory MCL, and no prior ibrutinib therapy. Patients received ibrutinib 560mg orally once daily in 28 day cycles until progressive disease, unacceptable toxicity, no further benefit or end of study (US approval). AE (Grade ≥ 3), SAE, and adverse events of interest (major hemorrhage, intracranial hemorrhage) were collected.

RESULTS: 149 patients participated in the EAP. Median age 68 years (range: 39-90 years) and 89% were white. Median treatment exposure 3.65 months (range: 0.0-7.7 months) with approximately 26% of patients receiving treatment for more than 6 months. Of 149 patients, 58.5% had refractory disease and 66.7% had received â‰¥3 prior lines of therapy. AE grade â‰¥3 reported in 59 patients (39.6%) with most common neutropenia (6.7%), dyspnea (4%), anemia (3.4%) and thrombocytopenia (3.4%). SAE reported in 46 patients (30.9%). AE of interest reported in two patients (1.3%): 1 major hemorrhage (0.7%) and 1 intracranial hemorrhage (0.7%). 10 patients (6.7%) discontinued treatment due to AE with primary reason of progressive disease in 20 patients (13.4%) and death in 12 patients (8.1%).

CONCLUSION: The safety profile observed in this US cohort of the EAP was consistent with that observed during the registration trial for MCL. No new safety signals were observed in this predominantly refractory population of patients. Moreover, this EAP provided an important mechanism for patients to receive ibrutinib prior to US approval.

CI71

Revisiting Abdominal Aortic Aneurysms (AAA): Factors that Correlate with the Risks and Formation as well as Novel Treatment Techniques

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INTRODUCTION: Annually, Abdominal Aortic Aneurysms (AAA) account for about 9000 deaths in the U.S. Unfortunately, this is due largely in part to the fact that early detection of an enlarged aorta is not common and therefore, a significant number of the cases generally seen in emergency departments (EDs) are fatal. The objective of this research study includes thoroughly reviewing the literature regarding what is already known about AAA: from its development to its risks.

METHODS: The researchers intend to systematically review between 50 and 100 peer-reviewed journal articles from the PubMed, Medline and EbscoHost Databases, highlighting treatment techniques and risk factors proven to assist in the treatment of AAA as well as present any novel techniques found to be efficient with the last 3-5 years.

RESULTS: The literature suggests that those patients diagnosed with atherosclerosis, those having murmurs in the femoral artery as well as those with a history of smoking and high cholesterol, experienced enlargement or rupture of the aorta. Also, having a first degree, or immediate, family member diagnosed with AAA also contributes as a risk. Genetic risk fac-

tors include inherited connective tissue conditions. Fatalities and aortic ruptures were significantly less likely to be seen in diabetic patients. Past preventative methods included a diet rich in fruits and vitamin D. Advances in endovascular techniques enable most patients with abdominal aortic aneurysms to be treated with minimally invasive stent grafts. Novel treatment methods include the use of doxycycline, which causes the inhibition of proteins that contribute to collagen and elastin degradation within the aortic wall. Studies found that there is therapeutic potential in the use of prolyl hydroxylase domain (PHD) inhibitors to prevent the development of AAA. Maintaining low levels of superoxidative stress can be effective as the enzyme superoxidase dismutase plays a significant role in the pathogenesis of AAA.

CONCLUSION: Our data suggests that those diagnosed with atherosclerosis, high cholesterol, femoral murmurs, and inherited conditions such as being closely related to someone diagnosed with AAA or being diagnosed with certain genetic syndromes are at greater risk for aortic enlargement and rupture. The untimely death of patients and diagnosis of AAA can be prevented with a diet rich in fruits and vitamin D, as well as maintaining low levels of superoxidase stress.

CI72

Does Bilevel Positive Airway Pressure Ventilation In Acute Asthma Exacerbation Prevent Mechanical Ventilation?

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INTRODUCTION: Non-invasive positive pressure ventilation (i.e. bilevel) has been used to treat respiratory conditions in patients presenting to the emergency department. Studies have demonstrated the use of bilevel pressure ventilation in treating obstructive respiratory diseases, in particular asthma. Bilevel has been shown to reduce the work of breathing and potentially prevent the need for invasive ventilation.

As such, we reviewed the incidence of patients admitted with acute asthma exacerbation who were placed on bilevel, but subsequently required invasive mechanical ventilation.

METHODS: A retrospective study was conducted on patients admitted from 2008-2013 to St. Joseph's Health Care System in New Jersey, with a diagnosis of asthma exacerbation. Charts of eligible patients were identified through billing codes, and further subdivided based on mechanical ventilation. All patients, irrespective of outcome, were at least given standard therapy of inhaled bronchodilators and systemic steroids. Patients' initial vital signs upon presentation to the emergency department were noted, as well as initial arterial blood gas measurement.

RESULTS: In our study, 53 patients were identified as having asthma exacerbations and being placed on NIPPV (i.e. BPAP). Of these patients, 6 (11.3%) patients subsequently required invasive mechanical ventilation. In comparing the data, patients requiring subsequent intubation had a lower average pH (7.31 vs 7.36, p=0.063, CI -0.01243 to 0.1039) and a higher average pCO2 (55 vs 44, p=0.0714, CI -17.933 to 2.663).

CONCLUSION: The results of our study evidence the potential utility of NIPPV, specifically bilevel, in asthma exacerbation. From our experience, initiation of pharmacotherapy is paramount in treating these patients. If therapy is not initiated in a timely fashion, NIPPV may provide a false sense of clinical improvement. Specifically, by decreasing the work of breathing, but not immediately addressing the underlying pathology, there is an increased chance of treatment failure and complications. As such, placing patients on NIPPV requires close monitoring.

*CI73

ST-Segment Elevation Myocardial Infarction in Octogenarians: 30-day Mortality and Peri-Procedural Complications Compared to Younger Adults

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INTRODUCTION: Few studies have compared outcomes of ST-segment elevation myocardial infarction (STEMI) in octogenarians versus younger adults undergoing primary percutaneous coronary intervention(PCI). The primary aim of our study was to determine differences in 30-day mortality and door toballoon (D2B) times in these two groups in a tertiary care setting. Secondary aim was todetermine differences in length of stay (LOS) and peri-procedural complications among the two groups.

METHODS: We studied a total of 658 STEMI patients who underwent PCI at our hospital between 2007-2013. Fifty-three patients were > or = 80 years old (group 1) and 605 were <80 years old (group2). Data were evaluated for fit-to-normality. As all continuous data were not normally distributed, we used nonparametric methods throughout. Data were expressed as medians and interquartile ranges (IQR).

RESULTS: Thirty day mortality was significantly higher in group 1 as compared to group 2 (24.4% vs. 8.8%, p <0.01). D2B times < 90 minutes were achieved in both groups, however median D2B was slightly higher in group 1, 67 minutes (IQR of 46-98 minutes) vs. 57 min-

utes (IQR of 41-72 minutes) in group 2, p=0.01. The total complication rate was higher in group 1, 26.4% vs. 6.8% in group 2 (p<0.0001), majority of them due to higher arrhythmias (5.6% in group 1 vs. 0.6% in group 2, p<0.01) and peri-procedural bleeding (5.6% in group 1 vs. 1.3% in group 2, p=0.049). We did not find a significant difference in the LOS between the two groups.

CONCLUSION: Thirty-day mortality was higher in octogenarians. Although D2B times < 90 minutes was achieved in octogenarians, it was slightly higher than younger adults. The peri-procedural complications, mainly arrhythmias and bleeding were significantly higher in octogenarians.

CI74

Mature Results of a Phase 1-2 Open-Label, Dose-Escalation Study of Intravenous SNS01-T in Patients (pts) with Relapsed or Refractory B-Cell Malignancies

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INTRODUCTION: Eukaryotic translation initiation factor 5A (eIF5A) has been implicated in regulation of cell proliferation, apoptosis, and inflammation. SNS01-T is a novel therapeutic with a dual mechanism of eIF5A modulation: inducing cell death via siRNA-mediated inhibition of hypusinated eIF5A while simultaneously causing over-expression of pro-apoptotic eIF5AK50R via a DNA plasmid with a B-cell promoter to induce tumor cell death, using a PEI vector. SNS01-T significantly inhibits tumor growth and increases survival in mouse models of myeloma (MM), mantle cell and DLBCL.

METHODS: This is an open label, phase 1-2 dose escalation study in pts with refractory B-cell cancers, comprising 4 SNS01-T dose cohorts: 0.0125, 0.05, 0.2 and 0.375 mg/kg twice weekly IV for 6 weeks. Key inclusion criteria are: MM per IMWG criteria or lymphomas or plasma cell leukemia with histologic confirmation; measurable disease, relapsed or refractory after â‰¥2 prior regimens; not eligible for standard therapy known to extend life expectancy. Primary endpoints are safety and tolerability of SNS01-T.

RESULTS: All cohorts will have completed enrollment in August 2014 and dosing in cohort 4 will be complete by September. A total of 21 pts have been treated, of whom 18 currently have data available. Demographics are provided in Table 1.

CONCLUSION: SNS01-T administration was feasible in all 4 dose cohorts with prophylaxis for infusion reactions. Early signs of potential efficacy are encouraging. Expansion of efficacy testing to more patients and combination studies are planned.

CI75

Updated Results from a Phase 2 Extension Study of Patients with Multiple Myeloma or Solid Tumors Previously Enrolled in Carfilzomib Company-Sponsored Phase 1 and 2 Clinical Trials (PX-171-010)

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INTRODUCTION: PX-171-010 (010; NCT00884312) is an extension study of patients who completed a phase 1 or 2 carfilzomib study that aims to provide insights into the long-term tolerability, safety, and clinical benefit of carfilzomib.

METHODS: Patients who completed a carfilzomib study were eligible to enroll and continue receiving carfilzomib at the same dosing level, with dose adjustments permitted per protocol. Addition of other approved anticancer agents at the time of progression was allowed. The primary end point was safety; efficacy was also evaluated.

RESULTS: Between 2009 and 2012, patients with multiple myeloma (MM; n=91) or solid tumors (ST; n=9) were enrolled in this extension study. Patients were enrolled from the PX-171-002, PX-171-003-A0, PX-171-003-A1, PX-171-004, PX-171-005, PX-171-006, PX-171-007, and PX-171-008 studies (Table 1). Among patients with MM, 57.1% had prior bortezomib exposure and 95.6% had prior immunomodulatory agent (IMiD) exposure; 37.4% were refractory to bortezomib, 61.5% were refractory to an IMiD, and 31.9% were refractory to both bortezomib and an IMiD. In the initial studies, patients received 15-70 mg/m2 carfilzomib. In 010, patients received a median dose of 27 mg/m2 carfilzomib (range, 13-52 mg/m2). Median duration of carfilzomib treatment (initial study+010) was 88.9 weeks (range, 4.4-273.4 weeks).

CONCLUSION: The types and rates of AEs in 010 were similar to those previously reported with single-agent carfilzomib. Patients were able to receive carfilzomib for an average of 89 weeks (up to 273 weeks; median of 22.5 treatment cycles) and continued receiving clinical benefit, with no new significant safety signals noted from additional cumulative exposure.

CI76

Updated Results from a Multicenter, Open-Label, Dose-Escalation Phase 1b/2 Study of Single-Agent Oprozomib in Patients with Waldenstrom's Macroglobulinemia (WM)

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INTRODUCTION: Oprozomib (OPZ) is an oral epoxyketone proteasome inhibitor that has shown promising antitumor activity in patients (pts) with hematologic malignancies (HM), including WM (Kaufman, EHA 2013, P223; Ghobrial, ASH 2013, 3184). Updated safety and efficacy results from the subset of pts with WM enrolled in this ongoing phase 1b/2 study in pts with HM are presented.

METHODS: This open-label, multicenter, phase 1b/2 study (NCT01416428) is enrolling adult pts with HM who have relapsed after receiving â‰¥1 line of therapy. The primary objectives of the phase 1b portion of the study are to determine the maximum tolerated dose (MTD) and the safety and tolerability profile of OPZ. The primary objective of the phase 2 portion of the study is to determine the best overall response rate (ORR; â‰¥minimal response [MR]).

RESULTS: As of July 21, 2014, 106 pts with HM (including 36 pts with WM) were enrolled and treated with the OPZ tablet. Enrollment and baseline demographic information for pts with WM are presented in Table 1. For WM patients in the phase 1b portion, median treatment duration was 17.1 weeks (range, 3.1-51.4; 2/7 schedule) and 51.7 weeks (range, 3.9-74.9; 5/14 schedule); preliminary median treatment duration in the ongoing phase 2 portion was 8.1 weeks (range, 0.7-22.0). In all pts with HM, the MTD for the 2/7 schedule was 300 mg/d and 240 mg/d for the 5/14 schedule. None of 3 dose-limiting toxicities (DLTs) on the 2/7 schedule occurred in patients with WM.

CONCLUSION: The MTD of OPZ was 300 mg/d in the 2/7 schedule and 240 mg/d in the 5/14 schedule; these MTDs were determined from all pts with HM. In pts with WM who received single-agent OPZ, the most common grade 3 AEs were neutropenia and diarrhea; grade 4 AEs were infrequent. Additional measures will be taken to improve gastrointestinal tolerability. Single-agent OPZ continues to have promising antitumor activity in pts with WM.

CI77

Subcutaneous (SQ) Bortezomib (BTZ) in Patients (Pts) with Relapsed Mantle Cell Lymphoma (MCL): Retrospective, Observational Study of Treatment Patterns and Outcomes in US Community Oncology Practices

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INTRODUCTION: The outcome of MCL has improved thanks to the use of dose-intensive strategies Â± ASCT and novel therapies in the relapsed/refractory setting. IV BTZ was the first agent approved by the FDA in relapsed/refractory MCL, in 2006, based on the phase 2 PINNACLE study (Fisher et al, J Clin Oncol 2006); overall response rate (ORR) was 32%, PFS was 6.5 mos, and OS was 23.5 mos. SQ BTZ was FDA approved in January 2012 based on the phase 3 MMY-3021 trial, which showed non-inferior efficacy (ORR after 4 cycles) & an improved systemic safety profile with SQ vs IV BTZ in relapsed multiple myeloma (Moreau et al, Lancet Oncol 2011). In this retrospective, observational study we evaluated treatment patterns & outcomes with SQ BTZ in relapsed MCL pts in US community oncology practices.

METHODS: Data on pts diagnosed with MCL aged â‰¥18 yrs who had received at least 1 prior line of therapy and who subsequently received 1 SQ BTZ dose between April 2006 and April 2014, either as a single agent or in combination, were extracted from the Altos Onco EMR oncology-specific electronic medical records database and medical charts. Treatment patterns, including treatment regimens and exposure, and outcomes, including ORR, TTP, PFS, TTNT, OS, and AEs, were descriptively analyzed.

RESULTS: 53 relapsed MCL pts with 1 SQ BTZ dose. Among these 53 pts, median treatment duration was 2.4 mos (median 4 21-day-equivalent cycles); 28 received SQ BTZ as a single agent, and 25 received it in combination. Median time from MCL diagnosis was 2.1 yrs; pts had received a median of 2 lines of prior therapy (1 for pts receiving single-agent BTZ, 2 for those receiving SQ BTZ in combination), including 9% with prior transplant and 17% with prior IV BTZ treatment as induction; 40% of pts were refractory to their last prior therapy. ORR (CR+PR) was 22%, including 17% CR (1 CR in 7 evaluable pts with prior IV BTZ). Median observation period was 5.3 mos; at data cut-off, 45% of pts had progressed, 38% had started a new line of therapy, and 42% had died. Median PFS was 4.7 mos (IQR: 1.9-11.3); median OS was 11.3 mos (IQR: 5.1-not reached [NR]). The most common AEs included 42% fatigue, 36% anemia, 25% nausea,

25% neutropenia, 21% thrombocytopenia, and 21% neuropathy; 9%/8%/4% reported local redness/rash/tenderness. Grade 3 AEs included 1 pt (2%) each with CHF (pt with baseline arrhythmia), diarrhea, fatigue, neuropathy, rash, and vomiting.

CONCLUSION: These findings indicate that SQ BTZ, alone or in combination, was active and generally well tolerated in relapsed MCL. In the context of findings from PINNACLE, these data appear consistent with the non-inferior efficacy and improved safety profile of SQ BTZ in MM, notably the low rate of neuropathy (21%; 2% grade â‰¥3). As data mature, additional analyses will further evaluate treatment outcomes.

CI78

Carfilzomib, Lenalidomide, and Dexamethasone vs Lenalidomide and Dexamethasone in Patients (Pts) with Relapsed Multiple Myeloma: Interim Results from ASPIRE, a Randomized, Open-Label, Multicenter Phase 3 Study

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INTRODUCTION: Lenalidomide with dexamethasone (Rd) is a standard of care used for pts with relapsed multiple myeloma (RMM). The randomized, open-label, multicenter, phase 3 study ASPIRE (NCT01080391) is comparing carfilzomib, lenalidomide, and dexamethasone (KRd) to Rd in pts with RMM. The primary end point is progression-free survival (PFS; assessed by an independent review committee). Secondary end points include overall survival (OS), overall response rate (ORR), duration of response (DOR), health-related quality of life (EORTC QLQ-C30 Global Health Status/QoL), and safety.

METHODS: Adults with RMM who received 1-3 prior regimens were eligible. Pts were randomized (1:1) to receive KRd or Rd and were stratified by Î_2-microglobulin levels (<2.5 vs â‰¥2.5 mg/L), prior bortezomib (no vs yes), and prior R (no vs yes). All pts received lenalidomide (25 mg) on days 1-21 and dexamethasone (40 mg) on days 1, 8, 15, and 22 of a 28-day cycle.

RESULTS: Data are presented for KRd followed by Rd throughout the abstract. Between July 2010 and March 2012, 792 pts from 20 countries were randomized. Baseline characteristics were balanced between the 2 groups. Median age was 64.0 years (range: 31.0â€'91.0). Pts received a median of 2 prior regimens in each group. In both the KRd and Rd groups, 66% of pts received prior bortezomib; 20% of pts in each arm received prior R. Median treatment exposure was 22 cycles (KRd) and 14 cycles (Rd).

CONCLUSION: The addition of carfilzomib to lenalidomide and dexamethasone in pts with RMM resulted in a statistically significant and clinically meaningful improvement in PFS. KRd had an acceptable safety and tolerability profile and represents a potential new standard of care.

CI79

Smartphones and Sleep-Time Related Information and Communication Technology (STRICT): Impact on Sleep Patterns, Insomnia and Daytime Functioning in American Adolescents

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INTRODUCTION: Unrestricted usage of information and communication technology (ICT) and smartphone usage around bedtime has proven effect on sleep patterns and daytime functioning and overall well-being. Several large European and Asian studies have confirmed the adverse impact of unrestricted Sleep-Time Related ICT (STRICT) use on sleep quality and quantity, daytime sleepiness, insomnia and chronotype. However, to our knowledge, there have been no studies concentrating on STRICT conducted on a similar scale in the United States. We therefore performed this cross-sectional study in Edison Public School to evaluate the impact of smartphone-based STRICT use on sleep-related parameters and academic performance among the general population of students in a New Jersey.

METHODS: Data was collected via a confidential online survey. We analyzed 3139 completed questionnaires (2123 middle school and 1016 high school students, mean age 13.3 years, 49.3% female). Insomnia was evaluated by the Minimal Insomnia Severity Scale (MISS), daytime sleepiness by the Pediatric Daytime Sleepiness Scale (PDSS) and chronotype by the Children's Morningness-Eveningness Preferences Scale (CMEPS). Information about sleep habits, academic performance, and amount of STRICT use were obtained. For statistical analysis of correlations, we used the Pearson product moment correlation (r) method when data were continuous and Spearman's rank-correlation method when either variable was ordinal.

RESULTS: STRICT use was highly prevalent, with 55.3% of respondents spending more than an hour on STRICT each night just before bedtime and 32.1% indulging in STRICT use after bedtime. Texts, tweets and instant messages were sent and received nightly in bed by 56.7% of adolescents, causing awakenings from sleep in 20.8%. Mean scores for MISS, PDSS and

CEMP were 4.4 (SD 2.4), 16.0 (SD 6.1) and 24.8 (SD 5.5) respectively. STRICT use (both before and after bedtime) correlated positively with age (r=0.277, p<0.0001), MISS score (r=0.252, p<0.0001) and PDSS score (r=0.34, p<0.0001), and negatively with CMEPS score (signifying eveningness, r=-0.372, p<0.0001), self-reported academic grades (rs =-0.297, p<0.0001) and hours of sleep on school nights (rs=-0.322, p p<0.0001).

CONCLUSION: STRICT use increases with age, and is significantly associated with insomnia, daytime sleepiness, eveningness, decreased hours of sleep and poor academic performance in American adolescents. It is important for parents, educators, clinicians and students to be aware of the adverse effects of unregulated STRICT use and to monitor its usage.

CI80

Management of Safety Following Lenalidomide in Patients With Relapsed/Refractory Mantle Cell Lymphoma

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INTRODUCTION: Experience with the phase II MCL-001 study of 134 patients with relapsed/refractory MCL who received lenalidomide following multiple prior treatments including bortezomib.

METHODS: Mantle cell lymphoma (MCL) accounts for <10% of all non-Hodgkin lymphomas, with an aggressive disease course consisting of multiple relapses after initial therapy. In the relapsed/refractory setting, patients often encounter progressively shorter durations of response and become chemoresistant. Lenalidomide is an oral immunomodulatory agent showing durable activity and a consistent safety profile in multiple phase II studies in relapsed/refractory MCL. A majority of adverse events (AEs) experienced with lenalidomide are related to myelosuppression, therefore it is important to clearly understand how best to monitor and manage expected myelosuppression, as well as less frequent, lower-grade AEs.

RESULTS: Patients receiving lenalidomide showed an overall response rate of 28% and median duration of response of 16.6 months. Most grade 3/4 toxicity consisted of myelosuppression, whereas it was essential to also manage lower-grade AEs such as fatigue, diarrhea, nausea, cough, pyrexia, and rash. An integral part of nursing is developing an open relationship with patients so they feel comfortable sharing symptoms. To establish this relationship it is important to clearly explain possible side effects while giving examples of how manageable most side effects are with early discovery, and assuring patients they may continue therapy even if AEs occur. While MCL-001 provided experience with single-agent lenalidomide, combination therapies are also being employed in relapsed/refractory MCL, which require additional clinic visits to allow the team to assess toxicities, drug compliance and symptom management.

CONCLUSION: It is essential to establish open lines of communication and educate patients so that symptoms may be effectively managed while minimizing under-reporting of potentially dangerous side effects. Through our safety and risk management strategies, we have found that we are able to effectively treat patients while simultaneously building trusting relationships and ensuring comprehensive care. We educate patients that it is better to over-report symptoms than under-report in order to intervene early if possible - this leads to effective symptom management, better treatment outcomes, and improved quality of life.

CI81

Clinical Profile of Single-Agent Oprozomib in Patients (Pts) with Multiple Myeloma (MM): Updated Results from a Multicenter, Open-Label, Dose Escalation Phase 1b/2 Study

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INTRODUCTION: Oprozomib (OPZ) is an oral epoxyketone proteasome inhibitor that selectively and irreversibly binds to its target. Preliminary findings of OPZ in pts with hematologic malignancies (HM) have been reported previously (Savona, ASH 2012, 203; Kaufman, EHA 2013, P223; Ghobrial, ASH 2013, 3184). Updated safety and efficacy results from the subset of pts with MM enrolled in this ongoing phase 1b/2 study in pts with HM are presented.

METHODS: Open-label, phase 1b/2 study (NCT01416428) enrolling adult patients with HM who have relapsed after receiving â‰¥1 line of therapy. Phase 1b: OPZ administered once daily on days 1, 2, 8, and 9 of 14-day cycle (2/7 schedule) or on days 1-5 of 14-day cycle (5/14 schedule). Starting dose was 150 mg/day (mg/d); doses escalated in 30-mg increments up to 330 mg/d. Phase 2 patients receive OPZ (240 mg/d) on 5/14 schedule (initial phase 2 schedule opened to enrollment). For this report, all enrolled patients with HM are included in description of MTD while only the subset of patients with WM is included in safety and efficacy results.

RESULTS: As of July 21, 2014, 106 pts with HM (including 68 pts with MM) were enrolled and treated with the OPZ tablet. Enrollment and baseline demographic

information for pts with MM are presented in Table 1. Median treatment duration (phase 1b) was 21.3 weeks (range, 0.3-62.1; 2/7 schedule) and 10.1 weeks (range, 0.3-81.1; 5/14 schedule); preliminary median treatment duration in the ongoing phase 2 portion was 5.4 weeks (range, 0.7-26.7). In all pts with HM, the MTD for the 2/7 schedule was 300 mg/d and 240 mg/d for the 5/14 schedule.

CONCLUSION: MTD of OPZ was 300 mg/d in the 2/7 schedule and 240 mg/d in the 5/14 schedule; these MTDs were determined from all patients with HM. Most common grade 3 AEs were diarrhea, nausea, and vomiting; grade 4 AEs were infrequent. Single-agent OPZ continues to have promising antitumor activity. Enrollment of pts with MM is continuing in phase 2 in both treatment schedules. Extended-release OPZ tablets will be introduced and assessed for safety, activity, and pharmacokinetics.

CI82

Ibrutinib, Single Agent or in Combination with Dexamethasone, in Patients with Relapsed or Relapsed/Refractory Multiple Myeloma (MM): Preliminary Phase 2 Results

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INTRODUCTION: Ibrutinib is a first-in-class, once-daily, oral, covalent inhibitor of BTK, an essential enzyme in the B-cell receptor signaling pathway. Expression of BTK in malignant plasma cells is increased 4-fold and comparable to BTK expression levels in CLL and MCL. Pre-clinical models show that BTK inhibition with ibrutinib led to direct inhibition of both osteoclast bone resorption and the release of osteoclast-derived tumor growth factors (Tai et al, Blood 2012).

METHODS: Open label phase 2 dose escalation study designed for patients in 4 cohorts to evaluate efficacy (â‰¥MR) and secondary endpoints of safety, PK, ORR and DOR. Patients must have documented non-responsive/progressive disease at time of study entry following at least 2 prior lines of therapy including at least one immunomodulatory agent. Efficacy and safety assessed at 4 weeks intervals using IMWG response criteria for efficacy assessments (Rajkumar et al, Blood 2011) while safety was assessed according to CTCAE v4.0 criteria.

RESULTS: Anti-tumor activity noted across all cohorts. Highest activity with CBR of 25% including 1 PR, 4 MR and 5 sustained (>4 cycles) SD observed in Cohort 4. Cohorts 1 and 3: 14 patients had dex added following PD, resulting in 1 PR and 9 SD. 57% experienced Grade 3 or higher AE. Non-hematologic toxicities: diarrhea (51%), fatigue (41%), nausea (35%), dizziness (25%), muscle spasms (23%). Majority Grade 1 and 2. Myelosuppression reported overall incidence of any grade anemia (29%), thrombocytopenia (23%), and neutropenia (7%) with 16%, 9% and 4% being Grade 3, respectively. No clinically meaningful differences among dose levels. 23 patients experienced a SAE for a total of 47 reported events with 16 assessed as possibly/definitely related to ibrutinib.

CONCLUSION: In this heavily pre-treated patient population ibrutinib, as a single agent and in combination with dex, demonstrated evidence of anti-tumor activity. Trend toward improved efficacy (â‰¥MR) in Cohort 4. Treatment was well tolerated with manageable toxicities. Correlative studies are ongoing to determine changes in cytokines, chemokines and indices of bone metabolism and the effect of dex, a known CYP3A4/5 inducer, on pharmacokinetic profile of ibrutinib. Ibrutinib is currently being evaluated in combination with carfilzomib in an ongoing Phase1/2b study. (NCT01962792)"

CI83

Efficacy and Safety of Single-Agent Ibrutinib in Patients with Mantle Cell Lymphoma Who Progressed after Bortezomib Therapy

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INTRODUCTION: Ibrutinib, a first-in-class, once-daily, oral covalent inhibitor of BTK, demonstrated durable single-agent efficacy in previous phase 2 study of patients with MCL who received 1 to 5 prior therapies (Wang M, et al. N Engl J Med. 2013;369:507-516). In that study, investigator-assessed overall response rate was 68% (complete response rate, 21%). This study reports on efficacy and safety of single-agent ibrutinib in patients with MCL who received a rituximab-containing regimen and progressed after at least 2 cycles of bortezomib therapy.

METHODS: In this phase 2, multicenter, single-arm study, patients received 560 mg/day oral ibrutinib continuously until progressive disease or unacceptable toxicity. The primary end point was the overall response rate (ORR) in response evaluable patients, as assessed by an Independent Review Committee (IRC). Secondary end points, also assessed by IRC, included duration of response (DoR), progression-free survival (PFS), overall survival (OS), and safety.

RESULTS: At the time of clinical cut-off for the primary analysis (29 April, 2014), median follow-up was 14.9 months with median treatment duration of 8 months (range: 0.5-20.9 months). Main reasons for treatment

discontinuation: disease progression in 53 patients (44.2%) and an AE in 8 patients (6.7%). The ORR for response evaluable patients was 62.7% (95% confidence interval [CI]: 53.7%-71.8%) with a complete response rate of 20.9%. Subgroup analysis suggested that the ORR was independent of age, gender, geographic region, number of prior lines of therapies, baseline extranodal disease, simplified MIPI score, bulky disease, and stage of MCL.

CONCLUSION: Single agent ibrutinib is highly efficacious and well tolerated, with an acceptable toxicity profile in patients with MCL who progressed after rituximab-containing chemotherapy and bortezomib therapy. These results are consistent with previous ibrutinib studies, with no new safety signals.

CI84

Single-Agent Ibrutinib Demonstrates Safety and Durability of Response at 2 Years Follow-up in Patients with Relapsed or Refractory Mantle Cell Lymphoma: Updated Results of an International, Multicenter, Open-Label Phase 2 Study

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INTRODUCTION: Bruton's tyrosine kinase (BTK) is a critical signaling molecule in the B-cell receptor signaling pathway essential for B-cell development, survival, and function. Ibrutinib is a first-in-class, once-daily, oral covalent inhibitor of BTK approved for the treatment of patients with MCL who have received at least 1 prior therapy. Previous results of the international, multicenter, open-label phase 2 trial demonstrated the durability of responses and favorable safety profile of daily oral ibrutinib in relapsed or refractory MCL (Wang et al, NEJM 2013). Here, we present the updated safety and efficacy results of this phase 2 trial with a median follow-up of approximately 27 months.

METHODS: 115 relapsed or refractory MCL patients were enrolled, and 111 patients were treated. All patients provided informed consent. Patients received oral ibrutinib 560 mg once daily until disease progression or unacceptable toxicity. Patients were eligible to continue therapy into a long-term extension study if they had stable disease or better. Tumor response was assessed by investigators using the 2007 revised IWG criteria. Adverse events (AEs) were characterized by preferred terms using MedDRA version 16.1 and were evaluated over 6-month time intervals (1-6, 7-12, 13-18, 19-24, >24 months). Prevalence was based on the number of patients with an AE occurring during a given interval (either a new episode or an ongoing episode from the prior 6-month period continuing into the current interval).

RESULTS: Most common treatment-emergent AEs (reported in >30% patients) included infection (78% all grade, 28% grade â‰¥3), diarrhea (54% all grade, 5% grade â‰¥3), bleeding (50.5% all grade, 6% grade â‰¥3), fatigue (49.5% all grade, 4.5% grade â‰¥3), nausea (33% all grade, 1% grade â‰¥3), and dyspnea (32% all grade, 4.5% grade â‰¥3). In total, grade â‰¥3 AEs occurred in 81% of patients and serious AEs (SAEs) of any grade in 63%. Treatment discontinuation due to AEs was reported in 11% of patients. prevalence rates for infection, diarrhea, and bleeding events were highest for the first 6 months and gradually declined thereafter.

CONCLUSION: Results with a median 27-month follow-up demonstrate the durability of responses and sustained single-agent activity of continuous ibrutinib in relapsed or refractory MCL. Approximately one-third of patients remain progression free at 24 months. Ibrutinib continues to show a favorable risk-benefit profile over time, with a safety profile consistent with that reported previously; these data with additional follow-up time did not reveal an increase in unforeseen AEs.

CI85

Symptom and Treatment Characteristics of Juvenile Primary Fibromyalgia Syndrome: Are Males and Females Created Equal?

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INTRODUCTION: Children and adolescents with persistent widespread musculoskeletal pain frequently present to pediatric rheumatologists for evaluation. Limited data are available on the characteristics and treatments used for these patients, particularly for males. Using the Childhood Arthritis and Rheumatology Research Alliance (CARRA) registry, we sought to evaluate the overall demographic, symptom, and treatment characteristics of patients diagnosed with juvenile primary fibromyalgia syndrome (JPFS) and to compare these characteristics as a function of gender.

METHODS: Deidentified data on demographics, symptoms, functional measures and treatment characteristics were extracted from the baseline visits of JPFS patients in the CARRA registry between May 2010 and May 2014.

RESULTS: There were 172 patients (27 males), ages 8-21 years (M = 15.4 +/- 2.3) included. Patients reported experiencing symptoms for a mean of 1.7 +/- 2.2 years prior to their first visit to a pediatric rheumatologist, with no significant difference between males and females (M = 2.2 versus 1.6 respectively, t(169)=1.18,

p=.24). The most commonly reported symptoms included widespread pain (89%), fatigue (83%), disordered sleep (77%), headaches (61%), and extremity numbness/tingling (32%). Females were more likely to report numbness and tingling (35% versus 13% respectively, Ï‡2 = 4.41, p = 0.04). Table 1 lists treatments used and recommended as a function of gender. Males were significantly more likely to have used gabapentin (26% versus 8%, Ï‡2 = 7.58, p <0.01). Of the 63 patients reporting non-pharmacologic treatment for chronic pain, the most commonly used treatment was physical therapy (60%), with females significantly more likely to have used massage and yoga (Table 1). Less then 10% of patients tried opioids, serotonin norepinephrine reuptake inhibitors, craniosacral therapy, hypnosis, and biofeedback.

CONCLUSION: Based on data from the largest known cohort of JPFS patients, there appear to be few significant gender differences in disease characteristics and treatment. However, higher levels of disability are reported by male patients despite no comparable differences observed on physician severity measures, suggesting the need to consider gender on evaluation and treatment of JPFS.

CI86

Incidence Of Early Left Ventricular Thrombus Formation After ST-Segment Elevation Myocardial Infarction In Primary Percutaneous Coronary Intervention Era: A Single-Center Experience

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INTRODUCTION: Although the incidence of LVT has decreased in patients undergoing primary PCI when compared to thrombolytic era, its incidence still remains 2.5 - 15% of STEMI and 23.5% in AWMI. Hence we aim to primarily estimate the incidence of LVT in STEMI patients undergoing primary PCI in a tertiary care setting and secondarily to detect differences in left ventricular ejection fraction (LVEF) and symptom onset to balloon times in patients who had LVT versus those who did not.

METHODS: We studied 543 STEMI patients undergoing primary PCI from 2007-2013 at a tertiary care hospital. Presence of LVT was determined by transthoracic echocardiogram (TTE), which was done prior to discharge in all the patients. LVEF was also estimated by TTE. Since the data were not normally distributed, we used non parametric methods for analyses.

RESULTS: Out of 543 patients, 391 (72.01%) were males and 152 (27.99%) females. The mean age was 60.1 years. 211 out of 543 (38.8%) had AWMI. 6 patients (all with AWMI) out of total (1.1%) had LVT on TTE. Incidence of LVT in AWMI was 2.84%. Median LVEF was significantly lower in patients with LVT [37.5% (interquartile range (IQR), 22.5-46.25%] vs those without LVT [50% (IQR, 40-57.5%)], p =0.034. The median symptom onset to balloon time was not significantly different in patients with LVT [347 minutes, IQR (102.5-15180 minutes)] vs those without LVT [155 minutes, IQR (106-8705 minutes)], p =0.245. LVT developed within 24 hours in 5 patients (83.3%). 1 of 6 LVT patients (16.7%) had embolic stroke and died.

CONCLUSION: The incidence of LVT has significantly decreased in STEMI patients undergoing primary PCI. Our study showed lower incidence of LVT compared to other studies in PCI era. In our study, all the LVT patients had AWMI. Median LVEF was significantly lower in patients with LVT vs those without it. Although higher in patients with LVT, median symptom onset to balloon time was not significantly different in patients with or without LVT. Mortality from embolic complications is high in LVT patients.

Clinical Vignettes

CV01

Subcutaneous Emphysema and Hypercarbia Following Laparascopic Hysterectomy

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INTRODUCTION: Laparoscopic surgery is being performed increasingly to treat intraperitoneal abnormalities. To perform laparoscopic intra-abdominal procedures, gas must be insufflated under pressure into the peritoneal cavity to establish a pneumoperitoneum to allow for visualization of intra-abdominal contents. Carbon dioxide (CO2) is the most widely used gas for insufflation.

CASE REPORT: 48 year old Hispanic female with medical history significant for large subserosal fibroid, and anemia and past surgical history of laparoscopic cholecystectomy. She was evaluated as outpatient for chronic pelvic pain and dysfunctional uterine bleeding then electively admitted for total laparoscopic hysterectomy. After induction for general anesthesia a 5 mm incision was made. A blunt-tipped trocar was inserted into the peritoneal cavity under direct visualization and without difficulty. The abdomen was insufflated with CO2 to a maximum pressure of 10mm Hg. Then the end-tidal CO2 (ETCO2) acutely increased from 39mm Hg to a peak of 90mm Hg over 20 min. The total hysterectomy and bilateral salpingectomy were performed by exploratory laparotomy after deflation. At the end of the procedure the ETCO2 returned to normal with Arterial blood gas analyses demonstrated the following: pH, 7.39; Pao2, 178mm Hg; Paco2, 44 mm Hg; HCO3, 26 mEq/L; and oxygen saturation, 99%. Postoperatively marked subcutaneous emphysema was apparent on examination and chest radiograph. The patient was in hemodynamically stable condition but was kept on mechanical ventilation support in the surgical intensive care unit. There was no pneumothorax present, and peak airway pressure remained low. Over the next 8 hours, the subcutaneous emphysema disappeared and the patient was weaned off the ventilator appropriately.

DISCUSSION: Laparoscopic techniques are not free of complications. Hypercarbia has been observed during laparoscopy with CO2 insufflation. The systemic absorption of CO2 from the peritoneal cavity can cause hemodynamic decompensation and cardiovascular compromise from hypercarbia and resulting acidosis. Continuous ETCO2 monitoring can help prevent subcutaneous emphysema and hypercapnia during laparoscopic procedures.

CV02

Hydroxychloroquine Induced Torsades Precipitates a Unique Combination of Myocardial Infarction and Takotsubo

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INTRODUCTION: Hydoxychloroquine is a known antimalarial agent that is used in treatment of rheumatologic diseases. It has a long half-life of about one month to a month and half. For Rheumatic diseases it May require 4-6 weeks to respond. It is Rapidly and completely absorbed from the gut, Binds to protein 55%. About 30% metabolized by the liver and about half of the dose is excreted unchanged in the urine. It is a medication that is well known of causing cardiac toxicity from QT prolongation to cardiomyopathy, torsade arrhythmia and cardiac arrest.

CASE REPORT: We are reporting a case of 60 year-old woman with end stage renal disease on hemodialysis, who was on chronic treatment with hydroxychloroquine for about 2 years for SLE. The patient was pulseless at the nursing home for about 5 minutes of CPR. Then she came back with full consciousness. Was brought to the ER and found to have a QT interval of 650ms but without any ischemic changes or positive cardiac biomarkers. She had an old EKG that was done 2 years before and showed normal QT at that time. The patient was admitted to the CCU and after 6 hours she developed Torsades and arrested she was coded for about 5 minutes again and shocked once. She was intubated at that time. Her blood work showed hypermagnesemia, and normal K and Na. The patient was taken to the Catheterization lab this time to rule out ischemic causes of the ventricular arrhythmia. In the Cardiac Cath Report a There was a thrombus in the mid RCA causing 99% stenosis thrombectomy was done with successful stent with DES and 0% residual stenosis in the RCA. The LAD had mild disease of about 60%. The LV systolic EF was 30% and the blood pressure was around 90mmhg systolic so balloon pump was placed. The patient Blood pressure dropped at night and started on vasopressors, she was also on Lidocaine drip and she did not go again into torsade but she continued to have the QT prolongation and developed second-degree heart block. The echocardiography showed that there was ballooning of the LV consistent with Takotsubo and an LV ejection fraction of 30%. The patient stayed in the CCU the balloon pump was removed on day

7, and the patient did well of vasopressors and underwent several weaning attempts. Meanwhile we repeated the echocardiography one week after the first one and it showed that the LV ventricular ballooning disappeared and the left ventricular ejection fraction is back to normal of 60-65% consistent with the Takotsubo reversibility. She continued to fail the weaning attempts, and continued to have the prolonged QT, which dropped to 500ms. On day fifteen of admission the patient coded again with PEA for half an hour and unfortunately passed away.

DISCUSSION: In this we presented a case of refractory torsades secondary to severely prolonged QT resulting from chronic accumulation of HCQ in a patient with normal base line QT who has been on HCQ for 2 years. She has ESRD with resulted in impaired excretion of the HCQ and increased toxicity. she developed cardiac arrest resulting in a clot in the RCA. she also had a takotusbo that completely revesed on one week follow up.

CV03

Duodenal Perforation and Biliary Peritonitis Secondary To Biliary Stent Migration

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INTRODUCTION: Biliary stents can be placed to establish patency of an obstructed bile or pancreatic duct, treat biliary/pancreatic leaks. Alimentary track perforation is a serious but infrequent complication of biliary stent migration with no reported incidence rate in the literature.

CASE REPORT: A 73 year old asymptomatic female underwent routine labs with evidence of elevated liver function tests. She underwent Magnetic resonance imaging MRI of the abdomen that showed common bile duct CBD dilation to 19 mm, a rounded filling defect in the distal CBD measuring 12 mm, representing a stone versus a mass. An endoscopic ultrasound EUS followed by ERCP were performed. The endoscopic studies revealed a fungating mass at the ampulla suspicious for an adenoma or adenocarcinoma of the ampulla of vater. Cholangiogram did not demonstrate intraductal filling defects. Bile flow was not present in the duodenal lumen. As histology would be necessary to determine the course of treatment, a biopsy was obtained, two plastic stents were then placed in the CBD, a 10fr X 7cm plastic stent followed by a 7fr X 9cm plastic stent. The patient was discharged post procedure without pain or abdominal tenderness on post-procedure physical examination. After 4 days the patient came back to the emergency department with diffuse abdominal pain, and the abdomen was found to be rigid with diffuse tenderness. Rebound tenderness and guarding were present. A CT scan revealed that the inferior margin of one of the stents appeared to be extra luminal suggesting perforation of the second or third portion of the duodenum. A laparotomy was performed and showed an anterior perforation of the third part of the duodenum caused by the 7fr stent that was draining bile into the peritoneal cavity, the stents were removed. Closure of the perforation was performed. Histology results from the endoscopy four days prior were now available. The ampullary lesion was a tubulovillous adenoma TVA without dysplasia. The lesion was found to involve the distal CBD and Pancreatic duct PD. Therefore a deeper resection was performed necessitating reconstruction of the CBD and PD with primary anastomosis over a newly placed CBD and PD stents to prevent strictures. Following this surgery, the patient recovered well and was discharged home after 6 days. Surgical pathology revealed a tubullovillous adenoma without dysplasia, after 4 weeks an ERCP was performed and the stents were removed the CBD and the PD were non-dilated nor were strictures present.

DISCUSSION: This case illustrates that the smaller diameter 7fr stent migrated distally from the CBD into the duodenal lumen. The larger diameter stent 10fr remained in the bile duct, suggesting that the smaller diameter stents may be more prone for migration. In theory smaller diameter stents will apply pressure on a smaller surface area of the intestinal wall, facilitating erosion and perforation. Therefore this case advocates for placement of larger diameter stents to prevent migration and perforation.

CV04

A Case of Painless Leg with Moving Toes Syndrome

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INTRODUCTION: Painless legs and moving toes syndrome is a variant of painful legs and moving toes. It is extremely rare and its pathophysiology is yet to be identified. Studies have hypothesized that both peripheral and central nervous system are involved in development of this syndrome. A review of 76 cases of painful leg and moving toes syndrome has discussed that pain and movement of this disorder are not necessarily correlated and that high prevalence of autoimmune disorder among patients with this syndrome could indicate possible autoimmune processes in this disorder. Given the low incidence of this condition, more information is needed to increase our understanding of this disease. We report a case of painless legs and moving toes syndrome.

CASE REPORT: A 61 year-old woman with a past medical history of hypothyroidism, hyperlipidemia, history of aneurysm at left posterior inferior cerebellar artery (PICA) status post clipping, and left femur fracture presented to clinic with complaints of involuntary toe movements. About 4 years ago, she noticed vertigo and was diagnosed with an 11.7 mm aneurysm at the origin of PICA. She underwent surgical clipping which was complicated with an intraoperative rupture of the aneurysm and ischemic stroke. Later she had intermittent jerky movements to her left leg during rest and sitting that spontaneously subsided. Three years after stoke, she fell and broke her left femur. After 4 months of the fracture, she developed involuntary, wiggling toe movements on her left foot. The movement consisted of ankle inversion and eversion, and internal and external rotation of the left leg. The wiggling movement of toes gradually spread to her right toes. She was seen at sleep medicine clinic for evaluation of her movement disorder. She was alert and oriented x3, appropriate thought content, follows simple and complex commands, appropriate mood. Cranial nerve (CN) exam showed right CN VI palsy, decreased sensation to pin-prick on the left face, decreased corneal reflex on the left, absent gag reflex, left palatal weakness and tongue deviation to the left. There was a mild left eye ptosis. Mild dysarthria but able to repeat complicated phrases, but is dysarthric when attempting to repeat tongue-twisters and isolated sounds of speech. Motor exam revealed decreased motor strength on right upper and lower extremities. Tone was increased in left leg and arm. Pin-prick and temperature sensations were decreased on left face and right side of her body. Decreased proprioception and vibe sense in both toes, worse on the left. She had bilateral ataxia, dysmetria on left arm, and intermittent truncal ataxia. Proprioception and vibratory sensation was decreased in both toes, worse on the left. She was unable to stand without assistance. Polysomnography with multiple muscle montage recorded continuous choreoathetoid toe movements in bilateral feet only when awake. Electromyogram channels revealed activities of bilateral feet with independent cycles of 2.5 cycles/second and 1.5 cycles/second in the right and left foot, respectively. She was diagnosed with painless legs and moving toes syndrome.

DISCUSSION: We report a case of painless leg and moving toes syndrome that developed after left femur fracture. The patient developed abnormal toe movements after 4 months of fracture suggesting that abnormal reconstruction of the peripheral nervous system could explain etiology of this disorder. It is also possible that autoimmune process could be involved in development of this condition given her history of dystonia and hypothyroidisism.

CV05

Clinical and Epidemiologic Significance of Gender Difference in AIDS-Associated Kaposi Sarcoma

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INTRODUCTION: Kaposi Sarcoma (KS) is a low grade angioproliferative cancer of endothelial origin associated with human herpes virus 8 (HHV-8). KS can affect any organ with mucocutaneous involvement being the most common. Pulmonary involvement occurs in approximately 30% of KS patients, more commonly in homosexual males, and very rarely in women. KS behaves more aggressively in HIV infected women than men. The diagnosis of pulmonary KS can be challenging because of the nonspecific features and wide differential diagnosis.

CASE REPORT: A 43-year-old African American female smoker, with HIV (viral load 216,606 copies, and CD4 count of 5) and Hepatitis C virus co-infection, notoriously non-compliant to highly active antiretroviral therapy (HAART), presented with shortness of breath and nonproductive cough of two weeks duration, associated with weight loss, but no fever, chills, or night sweats. On examination, she manifested with tachypnea, purplish lesions on the hard palate, along with a diffuse darkly pigmented macular skin rash, hypoxia, and diffuse bronchial breathing with rhonchi. Tuberculin skin test was negative, with indeterminate Quantiferon TB Gold assay. Initial diagnostic work up showed relative leukopenia, elevated lactate dehydrogenase, right middle lobe consolidation, bilateral patchy nodular opacities, with focal thickening of the proximal left main stem bronchus. Fiberoptic bronchoscopy disclosed masses involving the trachea, and left main stem bronchus. Cultures as well as special stains for bacteria, AFB, fungi, and Pneumocystis were non-diagnostic. A spindle cell neoplasm was noted with vascular differentiation, interstitial hemorrhage, fibrosis and atypical mitoses on histopathology, with positive immunohistochemical staining for HHV-8, consistent with pulmonary KS. Tenofovir/emtricitabine with ritonavir-boosted atazanavir was re-initiated. A CT of the abdomen and pelvis did not show any metastatic spread. After oncologic evaluation, systemic chemotherapy using liposomal doxorubicin was administered, with some clinical and radiographic improvement.

DISCUSSION: KS incidence in the United States has varied over time. Racial, genetic, and hormonal factors all have been reported to influence the development of KS. The observations that human chorionic gonadotropin inhibited KS growth in vitro suggested a possible biologic basis for the lower KS incidence among women.

CV06

Mycoplasma Pneumonia Triggering Thyrotoxicosis Which Exposes Non-Compaction Cardiomyopathy

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INTRODUCTION: Mycoplasma pneumonia is an "atypical" bacterium, a common cause of community-acquired pneumonia . However, It also causes various extra-pulmonary manifestations (cardiac, thyroid, hemolytic anemia, etc.). We present a case of Mycoplasma pneumonia infection which triggers thyrotoxicosis in a young female that exposes a severe underlying cardiac disease.

CASE REPORT: Case: 26 year old African American female with no significant past medical history, presented to the ER with dyspnea, palpitations, and fever. One week prior to presentation, patient was having a sore throat, ear aches, fever, and productive cough. Patient treated herself with over the counter remedies and improves. But 3 days prior to presentation, patient started to have dyspnea and severe palpitations which prompted the patient to come to the ER. Patient was found to have a temp of 101, BP 111/55, HR 139, RR 24, POX 100 on 2L. On physical exam, patient had JVD, B/L diffuse rales, S3 gallop, and 3+ pitting edema. CXR showed B/L pulmonary edema and sinus tachycardia on ECG. On labs, patient had a BNP 1255, TSH <0.01, elevated T3/T4. Diagnosis of thyrotoxicosis was made and patient was started on propranolol, diuretics, propylthiouracil. A 2D echo cardiogram was done which showed an EF of 25-30% and non-compaction of the left ventricle. Patient was found to have Mycoplasma pneumonia IgM >2000 and Doxycycline was started (due to prolong QT). After a week of medical therapy, patient clinically improved but due to heavy burden of PVCs and low EF, patient was at high risk of sudden death. Patient was sent home on a life vest. A few months later, the patient's EF did not improve with maximal medical therapy and subsequently had an AICD placement.

DISCUSSION: Our patient had Mycoplasma infection which produced auto-antibodies that triggered thyrotoxicosis (family hx of Graves disease) that put the patient in a high output cardiac failure thus exposing the patients underlying heart disease which was severe enough that she needed an AICD to prevent sudden cardiac death. Thus, what seemed liked a simple upper respiratory infection from a common organism, transpired events that showed us the true capability of seemingly benign organism.

CV07

A Case of Atypical Hemolytic Uremic Syndrome with Massive Proteinuria

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INTRODUCTION: Atypical Hemolytic Uremic syndrome is most commonly due to dysregulation of the alternative complement pathway. It is characterized by the classic triad of hemolytic anemia, thrombocytopenia, and acute kidney injury. Treatment includes supportive care including hemodialysis along with steroids, plasmapheresis, and eculizumab. We report a case of a 22 year old female diagnosed with atypical HUS who was also noted to have massive proteinuria. Proteinuria is observed in cases of atypical HUS because of the glomerular leakage of protein due to severe endothelial and epithelial injury. There is little data addressing the degree of proteinuria in these patients. This leads us to ask whether the degree of proteinuria has any prognostic significance on disease progression and recovery.

CASE REPORT: A 22 year old female with a history of dysmenorrhea presented to her PMD's office with epigastric abdominal pain for two days. The patient also reported dark urine and upper respiratory tract symptoms. At her PMD's office she was noted to have scleral icterus so was instructed to come to our emergency department for further evaluation. Initial laboratory tests revealed hemoglobin of 10.9 g/dL; severe thrombocytopenia with platelets of 16,000/mm3; BUN, 61 mg/dL; Creatinine, 2.58 mg/dL; bicarb, 21 mEq/L; total bilirubin, 3.0 mg/dL; LDH, 1935 U/L. C3 and C4 levels were within normal limits. Direct Coomb's test was negative. Peripheral smear revealed schistocytes and very few platelets. On urinalysis, she had moderate bilirubin, specific gravity >1.030, large blood, > 300 mg/dl of protein, positive nitrite, small leukocyte esterase, 0-4 RBC's, 5-9 WBC's, moderate bacteria. Her antinuclear antibody and HIV antibody were both negative. Our patient was admitted to the medical ICU with a suspected diagnosis of TTP/HUS. Nephrology and Hematology consultations were obtained. She was initially started on steroids, plasmapharesis as well as hemodialysis. After failing to respond to plasmapharesis and with normal ADAMTS13 levels, she was started on eculizumab therapy. She had an initial 24-hour urine

collection which showed nearly 24 grams of protein. She underwent a kidney biopsy which showed diffuse, thrombotic microangiopathy involving all glomeruli, arterioles, and focal small arteries of a severe nature; global collapsing glomerulopathy; and diffuse acute tubular injury. She also developed hypertension during her hospital stay and was started on multiple antihypertensive medications. She eventually improved and was discharged with plans to continue on hemodialysis and eculizumab infusions as an outpatient. Upon discharge, her hemoglobin was 9.1 g/dL, platelets of 50,000/mm3, Creatinine of 4.47 mg/dL, LDH of 629, and on urinalysis she still had > 300 mg/dL proteinuria. Over the next several months, her renal function improved and was eventually able to be taken off dialysis. During the most recent follow-up visit, her creatinine was 1.15 mg/dL and more remarkably a protein:creatinine ratio of 385 mg. She is still following with Hematology for continued biweekly infusions of eculizumab and Nephrology for monitoring of renal function.

DISCUSSION: Proteinuria is observed in cases of atypical HUS because of the glomerular leakage of protein due to severe endothelial and epithelial injury. However, there is little data directly addressing the degree of proteinuria observed in these patients. This leads us to ask whether the degree of proteinuria has any prognostic significance or impact on disease progression and recovery.

CV08

Severe Hypertriglyceridemia Presenting As Acute Pancreatitis in an Undiagnosed Patient with Type 2 Diabetes Mellitus

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INTRODUCTION: Hypertriglyceridemia (HTG) is the third most common cause of acute pancreatitis (AP) after alcohol and gallstones comprising 1 to 4 % of all cases. HTG may be as prevalent as 50% in type 2 diabetes. Pancreatitis secondary to uncontrolled diabetes usually presents in a patient with an underlying genetic abnormality of lipoprotein metabolism. The risk of acute pancreatitis in patients with serum triglycerides >1000 and >2000 mg/dL is 5% and 10% to 20%, respectively.

CASE REPORT: We are presenting a 29 year old Hispanic male with past medical history significant only for asthma, who presented with complaints of epigastric and left upper quadrant abdominal pain for one day. Pain was described as sharp in nature, radiating to the back, 10/10, aggravated by deep breathing, alleviated by fetal position. It was associated with nausea and vomiting. He denied change in bowel habits, malena, hematochezia, hematemesis, cough, chest pain, fever or chills and recent travel. He denied alcohol abuse or any history of gallstones or pancreatitis in the past. The initial laboratory work up showed leukocytosis with lipase of 185 in a very lipemic serum with metabolic acidosis without ketonemia. The initial impression was acute pancreatitis secondary to hypertriglyceridemia with metabolic acidosis secondary to accumulation of fatty acids. Triglycerides (Tg's) were elevated at 6266 mg/dL. Insulin drip was initiated along with gemfibrozil, omega- 3 fatty acids and aggressive intravenous fluid hydration. His hemoglobin A1C was 13.5%. His Tg's came down to 550 mg/dL. Insulin drip was switched to long acting insulin. Symptomatic management was done for pancreatitis and Tg's came down to 131 mg/dL during the hospitalization. He was later discharged home on gemfibrozil, omega-3 fatty acids, metformin and metoprolol.

DISCUSSION: Our case is interesting in the context that uncontrolled and undiagnosed diabetes lead to secondary hypertriglyceridemia which lead to acute pancreatitis. It responded very well to insulin therapy.It is the breakdown of Tg's into toxic free fatty acids by pancreatic lipases that causes lipotoxicity during AP. The course of acute hypertriglyceridemic pancreatitis seems to be worse and more recurrent than other causes of acute pancreatitis. Insulin infusions in diabetic patients with HTG can rapidly lower Tg levels.

CV09

Unusual Presentation of Bladder Cancer with Cardiac Metastasis

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INTRODUCTION: Metastasis from bladder cancer usually follows a predictable pattern, with involvement of the pelvic lymph nodes, liver, lung, bone and adrenal glands. Cardiac metastasis was reported in the literature as a feature of end stage disease, up until now there are few cases of bladder cancer with cardiac metastasis. If present, cardiac metastasis is almost always a grave sign indicating near death. Keywords: Bladder cancer, heart, cardiac metastasis"

CASE REPORT: We present an 83 year old female, with past medical history of hypertension, dyslipidemia, and bladder cancer diagnosed 1 month prior to this presentation, for which she underwent cystoscopy that showed invasive multifocal tumor, pathology demonstrated nonspecific findings of atypical spindle cells and squamous epithelium with atypia and extensive necrosis. She presented with shortness of breath

on exertion, fatigue and gross painless hematuria. Physical examination was notable for hypotension and a firm large suprapubic mass with bloody urine in foley's catheter. An ECG showed sinus rhythm with premature atrial complexes. 2D echocardiogram showed moderate pericardial effusion without physiologic findings of pericardial tamponade, along with a 1 mm pericardial thick material suggestive of metastasis, and a cystic structure near apex of RV on pericardial space. Chest/abdomen/pelvic CT scan showed 11 cm heterogeneous mass with air and calcification in bladder, an ill-defined 1.5 cm right hepatic lesion, in addition to a single lung mass 2.9 cm possibly representing synchronous primary lung neoplasm with a pathologic paratracheal lymph node and bilateral large pleural effusions that were transudate with negative cytology. At this point, oncology team discussed with patient palliative chemotherapy and supportive care. Patient decided to withhold further therapy. She died 1 week later

DISCUSSION: Pericardial metastasis is not uncommon, as what was shown on several studies of postmortem analysis. Although lung, breast, and hematologic malignancies represent the most common source, mesothelioma and melanoma have the highest proclivity for cardiac metastasis. While bladder cancer has been reported to metastasize to heart especially with high disease burden, it is still rather rare.

CV10

When Sgarbossa Criteria Do Not Predict MI:Dynamic and Concordant ST Elevation and LBBB as Presentation of Myocarditis

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INTRODUCTION: The presence of Concordant ST elevation in the set up of LBBB changes in EKG in a patient with chest pain is considered very specific of acute myordial infarction. We report this finding in acute myocarditis confirmed by MRI.

CASE REPORT: 52 year old male presented with retrosternal chest pain and positive troponin (troponin 19) to the ER. EKG during admission showed evolution of ST elevation in the lateral leads followed by overlapping new onset LBBB. Cardiac catheterization showed 60% lesion in the LCX which deemed not culprit for patient presentation as LBBB suggest proximal LAD lesion. MRI was done and revealed patchy subepicardial infiltrates in the septal and lateral wall. The subendocardial region was intact which ruled out ischemia as a cause for the inflitrates. Eventually the diagnosis of myocarditis was reached and the patient was discharged home in 2 days.

DISCUSSION: Concordant ST elevation and new onset LBBB is very suggestive but not diagnostic of acute MI.Myocarditis is another differential diagnosis, especially if the patient is hemodynamically stable.

CV11

Myocardial Bridging Detected by iFR and IVUS as a Cause of Chest Pain

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INTRODUCTION: Myocardial bridging is a known but infrequent cause of recurrent chest pain. In this entity, intramyocradial part of the coronary artery undergoes constriction during systole which leads to decrease in blood flow. This entity has characteristic angiographic appearance. In this case, abnormal iFR despite subtle coronary disease lead to iVUS imaging which revealed the presence of bridging

CASE REPORT: 69 year old male presented with recurrent chest pain after recent myocardial infarction. Repeated coronary angiography revealed 50% LAD lesion. The interventionalist elected to do iFR which showed signficant lesion; IVUS revealed myocardial bridging, and the lesion was stented.

DISCUSSION: iFR assesses the coronary flow in diastole which may be compromised in severe myocardial bridging. IVUS may delineate the lesion and stening is a valid treatment modality.

CV12

Medical versus Early Surgical Intervention: A Case of Toxic Megacolon in IBD

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INTRODUCTION: Toxic megacolon(TM) is a rare and serious complication of ulcerative colitis. TM affects male and female patients of all ages. It can also occur in severe infectious, ischemic and metabolic diseases of colon. TM is characterized by total or segmental non-obstructive colonic distension of at least 6 cm, with systemic toxicity. We present a case of a young male diagnosed with toxic megacolon secondary to ulcerative colitis. The patient was managed medically but later underwent colonic resection.

CASE REPORT: A 29 year-old caucasian male with past medical history of asthma was transferred from prison for a two-month history of bloody diarrhea, crampy, diffuse abdominal pain, nausea, non-bloody vomiting, and a 13-pound weight loss. The patient had a history of tobacco abuse, but quit one year prior, and reported no recent fever or night sweats. Alcohol and illicit drug use history was also negative. On examination heart

rate was 107, blood pressure 127/76 mm Hg, temperature 37.1 C, respiratory rate 16, and oxygen saturation 100% on room air. The remainder of examination was significant for hypoactive bowel sounds and mild tenderness in right lower quadrant of abdomen. Skin exam showed a few apthous ulcers but no rash or lymphadenopathy. There were no masses or tenderness on rectal exam. Initial workup showed WBC of 16000, platelet count of 617000, positive hemeoccult stool test, and an erythrocyte sedimentation rate of 68. CAT scan of the abdomen revealed diffuse colitis and a dilated cecum measuring approximately 9 cm, consistent with toxic megacolon. Colonoscopy and biopsy confirmed diagnosis of ulcerative colitis. The patient was started on mesalamine and intravenous methylprednisone along with metronidazole. After seven days of treatment abdominal pain resolved, leukocytosis improved and the patient started tolerating an oral diet. The patient was discharged on day eleven. Two weeks after discharge the patient returned with worsening abdominal pain. Imaging showed perforation of the descending colon. A total colectomy and ileostomy were successfully performed.

DISCUSSION: Due to high morbidity and mortality, early recognition and management of TM is of paramount importance. The initial treatment of TM should be medical, including intravenous corticosteroids and broad-spectrum antibiotics. Subtotal colectomy is recommended when distension persists or if improvement is not observed on maximal medical therapy after 24-72 hours.

CV13

Cerebral Malaria Caused By Non-Falciparum Malaria

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INTRODUCTION: Malaria causes more than one million deaths worldwide each year, and over 90% of them occur in Africa. Cerebral malaria is one of the most severe neurological complication.The World Health Organization defines it as a clinical syndrome characterized by coma at least 1 hour after termination of a seizure or correction of hypoglycemia, asexual forms of *Plasmodium falciparum* parasites on peripheral blood smears and no other cause to explain the coma. Usually, it is caused by *P. falciparum*. We present a case of cerebral malaria caused by non falciparum malaria.

CASE REPORT: A 23 year old Nigerian male with no significant past medical history, presented to our ER with fever, chills, and confusion. The patient had recently travelled to USA from Nigeria (where he stayed for three weeks). While on the flight, the patient experienced subjective fever and chills which persisted for 5 days. Patient was brought to the hospital by his family the next day, as he became progressively lethargic and confused. Patient's vitals on admission were temperature 102.5, blood pressure 119/70, heart rate 119, respiratory rate 20 and saturating 98% on room air. On physical examination patient was lethargic, minimally verbal, confused, oriented only to person and had scleral icterus. Rest of the physical examination was unremarkable. Pertinent laboratory studies showed total bilirubin 5.5, direct bilirubin 3.6, AST 59, ALT 33, Alkaline Phophatase 106, LDH 633, Haptoglobin<8, Hb 15.8, platelet 19,000. Thick and thin blood smears showed Non-Falciparum Plasmodium parasitemia. The diagnosis of Cerebral Malaria was made. Quinidine and Doxycycline were initiated, but due to QTC prolongation on serial ECGs, Quinidine was discontinued and Malarone(Atovaquone/proguanil) was initiated. The patient developed hemolytic anemia with lowest hemoglobin being 6.9, for which he subsequently received blood transfusions. Patient also developed acute renal failure during the hospital course requiring hemodialysis, which prompted stopping the Malarone. The CDC was contacted for parenteral Artesunate. The patient clinically improved with artesunate, his renal failure resolved and he was discharged home. Patient was advised to take malaria prophylaxis before his travel to any malaria endemic areas.

DISCUSSION: Cerebral malaria and severe acute anemia are often peculiar to falciparum infection while organ, respiratory and metabolic dysfunction are common with severe knowlesi, vivax and other forms of severe falciparum infection.The CDC recommended treatment for cerebral malaria is quinidine. Artesunate is available as an investigational new drug through CDC in patients with adverse effects to quinidine, or with parasitemia >10% of baseline at 48 hours after quinidine.

CV14

A Case of Parapharyngeal Abscess in a Young Male

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INTRODUCTION: Parapharyngeal abscess is one of the deep neck infections. It is usually polymicrobial and can involve both aerobic and anaerobic organisms. Tonsillitis, odontogenic infections, dental infections and surgical procedures have all been implicated as causes of deep neck infections. Symptoms usually include neck pain, dysphagia, odynophagia and fe-

ver. Parapharyngeal abscess should be recognized and treated promptly to prevent significant morbidity and mortality that can occur because of the potential for airway compromise and spread to contiguous structures.

CASE REPORT: 47 years old Hispanic male with past medical history of low back pain s/p local steroid injections presented to our SFMC emergency room with odynophagia of 2 days. There was associated high-grade fever, chills, diaphoresis, generalized weakness, body aches and loss of appetite. He does not recall any preceding upper respiratory tract infection, no dental or surgical procedures. There was no history of trauma to the neck. Patient had not had any sick contacts or recent travel. Social history: smokes tobacco with 40-pack year. Drinks alcohol socially but does not use illicit drugs.

DISCUSSION: The potential for airway compromise makes early recognition important and airway is the first priority for treatment in parapharyngeal abscess. Broad-spectrum coverage with antibiotics for gram-positive, gram-negative organisms and anaerobes should be used before culture results become available. Surgical drainage of abscess may also be necessary.

CV15

Cauda Equina Syndrome: A Bewildering Diagnosis in a Young Hispanic Male

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INTRODUCTION: Cauda Equina Syndrome, a rare clinical finding, results from compression of lumbosacral nerve roots below the conus medullaris. Common causes are: disc herniation, spinal trauma, neoplasm and abscess. No set risk factors have been recognized, but males, African American and Middle age seems to play a little role. The clinical presentation is key for further timely approach and better described as a lower motor neuron lesion that includes: neuromuscular and urogenital symptoms. Here a case of acute medullar compression.

CASE REPORT: A 32 year old Hispanic male with past medical history of non-Hodgkin's lymphoma presenting with low back pain for one week, described as pounding, radiated to both lower extremities, no known increasing factors, to alleviate tried ibuprofen without relief. Associated with left lower extremity weakness, loss of sensation around the buttocks and urinary retention. He denied fever, recent trauma or fall. He has history of two similar episodes with spontaneous resolution. He recently received his last radiotherapy session four weeks ago and denied any symptoms post therapy. He denied family history of malignancy, He denied alcohol, illegal drug abuse or tobacco. Previously used to work as a cook, currently unemployed, but denied history of recent heavy lifting. On physical examination, vital signs were blood pressure: 126/80, heart rate: 97 temperature: 37.2. Cardiopulmonary not contributory, musculoskeletal showed local tenderness over lumbar spine, neurologic exam noted: bilateral lower extremities weakness 4/5, left more than right. Deep tendon reflexes absent in ankle and patellar bilaterally, saddle anesthesia around the anus and perineal, rectal tone decreased without masses or tenderness. Bilateral lower extremities had palpable pulses, no hair loss, and no edema. On lab work: only normocytic anemia of Hb: 13.7. On imaging MRI of lumbar spine denoted large epidural tumor extending from L3-L5 causing compression of the conus medullaris and large paraspinal masses, left greater than right. Instantaneously, started on IV Dexamethasone and intense physical therapy. As recommended by Oncology team followed by management for his non-Hodgkin's lymphoma with proper radiotherapy.

DISCUSSION: Cauda Equina Syndrome is a clinical diagnosis, a high index of suspicion to recognize it is a must, because a delay in treatment may worsen prognosis and outcomes. Its recommended management varies from corticosteroids through urgent surgical decompression. Rehabilitation with physical and occupational therapy plays an important role for recovery.

CV16

A Case of Malaria with Mixed Parasitemia

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INTRODUCTION: Malaria is predominantly a disease of the tropics caused by the Plasmodium species that are transmitted by female anopheles mosquito. Most cases identified in U.S are seen amongst immigrants or recent travelers to endemic regions. Symptoms could be nonspecific: fever, chills, headache and arthralgias. The use of precautions and host immunity determine the risk and intensity of the infection. The severity of infection varies from uncomplicated malaria to severe infection with end organ damage (cerebral malaria) and permanent neurological sequel.

CASE REPORT: A 62 year old Indian male with past medical history of non-ischemic cardiomyopathy, hypothyroidism, hyperlipidemia, hypertension, obstructive sleep apnea, gout and anxiety disorder presented to our SFMC emergency room with fever, headaches, chills and sweating of 6 days duration.

Fever was intermittent, high-grade and occurred in the evenings and was associated with non-bloody diarrhea. Social History: Patient is an IT consultant and had travelled to India 6 weeks back without taking any anti-malaria prophylaxis before travel. He recalled no mosquito bites. No other family members were ill. There were no pets at home. Physical exam: Patient was febrile to 101 deg F, tachycardia with HR 106bpm and had chills. Skin and mucosa were dry, patient was anicteric, with no rashes or palpable lymph nodes. Abdominal exam was negative for pain or hepatosplenomegaly and bowel sounds were normal. Neurological examination did not reveal any abnormality. Laboratory studies were positive for normocytic anemia with hemoglobin of 12.8, platelets of 104. White blood cell count was within normal limits. Liver function tests revealed: high indirect bilirubin, but was otherwise normal. Coagulation profile was also normal. Electrolytes revealed: hyponatremia and acute kidney injury. Pertinent peripheral blood smear showed mixed plasmodium species including Plasmodium vivax, Plasmodium malariae and Plasmodium ovale with 0.4% parasitemia. Immunology was also positive for Dengue fever IgM antibody. Accordingly primaquine/chloroquine combination was started and repeated smear after 3 days of treatment showed <0.1% parasitemia. After clinical improvement, our patient was discharged on Primaquine for a total of 14 days with completed resolution of symptoms at the time of outpatient follow-up.

DISCUSSION: Malaria is a life-threatening infection by Plasmodium falciparum, the most prevalent species in lethal cases. Interestingly a co-infection with different species can occur, as with our patient. Clinical suspicion and careful history including recent travel to endemic areas of the world is essential for prompt diagnosis and treatment of malaria.

CV17

Myopericarditis Secondary to a Recent Tdap Vaccination

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INTRODUCTION: Myocarditis is an inflammatory disease of myocardium. It can be produced by a variety of different causes. The viral infection is the most common cause in developed countries. The clinical manifestations are highly variable, ranging from subclinical disease to fatigue, chest pain, cardiogenic shock, and sudden death. It is important to recognize myocarditis so the appropriate treatment is promptly initiated. Our patient presented with chest pain with diffuse ST elevations and history of fever after a recent Tdap vaccination.

CASE REPORT: A 37-year-old Brazilian male with past medical history of pineal gland cyst removal presented to emergency room for evaluation of left-sided chest pain for a few hours. The pain started in the epigastric area and travelled to the left side of the chest. It was pressure-like, non-radiating, relieved somewhat by movement, no exacerbating factors, no previous occurrences. The patient admitted to fever for 72 hours (started after receiving a Tdap vaccination). He denied diaphoresis, palpitations, cough, diarrhea, dysuria. No family history of cardiovascular problems. Patient is an ex-smoker, and admitted to history of cocaine and marijuana use (few years ago). In the emergency room, patient was found to have had diffuse ST elevations. Code STEMI was called, and patient was taken emergently for cardiac catheterization (normal coronaries, ejection fraction around 60%). The patient's troponin came back elevated (30), decreased to 0.19 on discharge. The main differential was myopericarditis given the recent history of fever and immunization. The blood work was done to rule out viral causes (came back negative). Cardiac MRI was done (indicated possible myocarditis). Patient was subsequently cleared for discharge home with outpatient follow up with cardiology. Nuclear stress test was done as an outpatient four months after discharge and indicated low risk for cardiac events.

DISCUSSION: It is important to determine the etiology of myocarditis as the treatment may differ. All patients need to be asked about recent vaccination history. The infectious causes need to be excluded as the most common cause of myocarditis. While smallpox vaccine is the one that is most commonly associated with vaccination-induced myocarditis, the clinicians need to be aware of other causes.

CV18

Recurrent Stroke Secondary to Large Atrial Myxoma

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INTRODUCTION: Primary cardiac tumors are extremely rare. Their incidence is estimated to be 0.1% of total cases on autopsy. Cardiac tumors can present with different manifestations including embolization, heart failure, heart blocks, arrhythmias, pericardial effusion. Additionally, embolization of the tumor can manifest as thrombi in the systemic circulation leading to neurological sequelae. We present a case of a 46 y/o Hispanic healthy male who was presented with CVA and had a left atrial myxoma on imaging studies.

CASE REPORT: A 46 year-old Hispanic male with no past medical history presented with complaints of slurred

speech, change in mentation, blurry vision, right upper and lower extremity weakness. The patient's symptoms began one day prior to presentation. On admission, weakness and blurry vision improved but speech and mentation progressively worsened. Patient also reported a history of intermittent palpitations and dyspnea on exertion that prevented him from carrying out his daily activities. The patient denied any family history of a hypercoagulable state, coronary disease or cardiac tumors. On exam, the patient had a 4/6 systolic murmur, loudest at the 5th intercostal space. Neurological exam demonstrated expressive aphasia and dysarthria. Furthermore, right upper and lower extremity weakness was noted with appropriate tone. The rest of the exam was benign. Patient underwent a computerized tomography of head which displayed bifrontal hypodense brain lesions indicative of ischemia. Magnetic Resonance Imaging of the brain displayed acute left frontal infarction well as old right frontal, left pontine and left cerebellar infarctions. As patient presented after window period he couldn't receive tissue plasminogen activator, so he was given high dose aspirin. Transesophageal Echocardiogram displayed a large highly mobile left atrial mass attached to lower atrium and mitral annulus area. The mass transversed the mitral valve and encroached on left ventricle, leading to severe mitral regurgitation. The patient underwent an emergent excision of the mass and mitral valve annuloplasty. No post-operative complications were noted. Coumadin was started and he was recommended to follow up with cardiothoracic surgery and cardiology.

DISCUSSION: In evaluation of multiple cerebral infarcts in a young individual who has a long standing history of non-specific cardiac symptoms, left atrial myxoma should be considered in the differential diagnosis. There needs to be increased awareness on early recognition of secondary causes of ischemic CVA; outside the realm of hypercoagulability.

CV19

Pontine Infarction -A Case of Millard-Gubler Syndrome

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INTRODUCTION: Millard-Gubler Syndrome, first described in 1858, is caused by a lesion of the ventral pons and manifests as unilateral facial and/or abducens palsy with contralateral weakness of the arm and leg (1, 2). This description was based on postmortem examinations, which discovered that hemorrhage, tumor, or infarction were the common causes. We describe a patient with Millard-Gubler Syndrome caused by an ischemic stroke in the left pons. Precise anatomic confirmation was obtained by computed tomography (CT) and magnetic resonance (MR).

CASE REPORT: A 69-year-old male with past medical history significant for diabetes mellitus and hypertension presented to the emergency department (ED) with complaints of two-days of progressive weakness of the right upper and lower extremities, slurred speech, and double vision. His home medications included metformin, Januvia and lisinopril. On admission his vitals were: blood pressure: 160/90, pulse rate: 98, respiratory rate: 18, O2 saturation: 98% on room air. His NIH stroke scale was 8 but the patient was out of the window for intravenous tissue plasminogen activator. On neurological examination the patient was alert, awake, and oriented to time, place and person. Speech was slowed but articulation was intact. Abduction of the left eye was impaired (left 6th cranial nerve), the mouth was deviated to the right, and the nasolabial fold was lost on the left (5th cranial nerve). Additional findings on the right side included: flaccid hemiparesis, brisk deep tendon reflexes, and extended plantar reflexes. The remainder of the exam was normal. CT revealed hypodensity in the left pons, and MRI revealed restricted diffusion in the left pons, both consistent with acute left pontine infarct. MRA showed limited flow related enhancement in the basilar artery suggestive of thrombosis/high grade stenosis. The patient was admitted to the hospital, his medications were optimized, and physical therapy was initiated. The patient began to regain strength in both the right upper and lower extremities and was discharged to a rehabilitation facility with secondary stroke prevention.

DISCUSSION: We describe a case of Millard-Gubler Syndrome with lesion located in lateral and medial inferior pons involving facial and corticospinal tracts. Due to the myriad of other tracts and nuclei located proximally, it is often associated with one and half syndrome, abducens palsy, contralateral cerebellar ataxia and contralateral sensory deficits.

CV20

A Rare Case of Primary Hodgkin Lymphoma of the Rectum

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INTRODUCTION: Hodgkin Lymphoma (HL) is a B-Cell neoplasm characterized by Reed-Sternberg cells (or one of the variants), typically presents with lymph node enlargement in the neck and mediastinum and B symptoms (fever, drenching sweats and weight loss). Extranodal disease seen only in 15 % of patients, is

either a manifestation of advanced disease or associated with immunodeficiency disease. We present a rare case of primary Hodgkin Lymphoma of the rectum in a 31 year old male with HIV and EBV infection.

CASE REPORT: A 30 year old Hispanic male with past medical history of newly diagnosed HIV presented to the clinic with complaints of rectal bleeding for 3 months. Examination under anesthesia and colonoscopy revealed rectal mass in anterior and lateral margin starting from anal verge with active bleeding. Biopsy of mass revealed CMV colitis with scattered lymphoid infiltrate. Patient was treated for CMV infection with ganciclovir. Treatment of HIV was also initiated. Four months after 1st encounter patient came to hospital complaining of bright red bleeding per rectum, fecal incontinence and malaise. He also reported weight loss of 10 lbs over the last few months without fever, abdominal pain, night sweats, diarrhea or constipation. Examination showed temperature 38.3 Co, pulse 88 beats/min, BP 107/63, oxygen saturation 100% on room air. The remainder of the examination revealed an ulcerated, tender, fungating mass in rectum involving anus. No lymphadenopathy was noted. Initial workup revealed hemoglobin of 8.9 g/dl with low MCV fL and platelet count of 507,000 thou/ml. Patient underwent examination under anesthesia and biopsy of the mass. Histopathological examination showed fragments of lymphoid connective tissue with lymphoid infiltrate, composed predominantly of small mature lymphocytes with scattered large atypical and mono and bi-nucleated cells with abundant eosinophilic cytoplasm consistent with Reed Sternberg and Hodgkin cells. Latent membrane protein 1 immunostain for Epstein Barr Virus was positive. Taken together, these findings were consistent with classical Hodgkin lymphoma of rectum.

DISCUSSION: Hodgkin Lymphoma manifests extranodally in only 15% of cases. Primary gastrointestinal HL is frequently associated with HIV and IBD. Stomach, small bowel and esophagus are the most commonly involved sites. We present a rare case of classical HL of the rectum in patient with HIV and EBV infection.

CV21

Spontanous Retroperitoneal Hemhorrage: A Case Report

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INTRODUCTION: Spontaneous retroperitoneal hemorrhage is a rare clinical entity that has various causes including aortic aneurysm rupture, renal cell carcinoma, angiomyoplipoma, or other intrabdominal malignancies. We present a case of a patient that was found to have a retroperitoneal hemorrhage with no apparent etiology that was venous in nature with concurrent iliac vein aneurysm and acute venous thrombosis found on CT scan.

CASE REPORT: A 72-year-old Caucasian female presented to the Emergency Department with generalized weakness and light-headedness upon standing for the past 2 days. Patient denies any vomiting, abdominal pain, diarrhea, weight loss, bleeding or trauma. Patient has past medical history significant for right lower extremity DVT and IVC filter placed over 10 years ago, IDDM type II, COPD, and obesity. Home medications included low dose ASA . On physical exam orthostatic hypotension and tachycardia were observed and patient was found to have mild right lower quadrant abdominal tenderness. On preliminary labs patient was found to have a UTI and admitted to the hospital. PT was 14.6, INR 1.1, Aptt 26.9, Hgb 13.8, Hct 41.2%. The following day patient reported vague abdominal pain on the left side and some discomfort in her left lower extremity. Her Hgb dropped to 11.2, Hct 33.8%. Patient proceeded to have a CT scan of her abdomen, which revealed a retroperitoneal hemorrhage on the left with an adjacent expansion of the left common iliac vein that may have ruptured as well as a hyperdensity below the IVC filter in the iliac vein suspicious for a diffuse thrombosis. CT with IV contrast showed the retroperitoneal hemorrhage with no active extravasation to suggest an active arterial bleed. During the hospital course no intervention was necessary and the patient was monitored closely for hemodynamic stability. Hemoglobin remained stable and patient was discharged to rehabilitation with follow up for a hypercoaguable work up once out of the acute phase.

DISCUSSION: Spontaneous retroperitoneal hemorrhage is rare entity. The interesting aspect in this case is that trauma and iatrogenic bleed caused by anticoagulants are ruled out. This suggests the patient may have underlying malignancy or a hypercoagulopathy that will be further investigated once the patient is no longer in the acute phase of bleeding and thrombosing.

CV22

Adenosine-Induced Ventricular Tachycardia Complicating Fractional Flow Reserve Measurement

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INTRODUCTION: Even though coronary angiography represents the gold standard in the diagnosis of CAD, it has the major limitation that it cannot provide certainty on the hemodynamic relevance of the observed

stenosis. The measurement of fractional flow reserve (FFR) is a standardized and well-established method frequently used to evaluate the hemodynamic significance of epicardial coronary stenoses. Although intravenous infusion of adenosine is frequent, its use in the catheterization lab may have some drawbacks compared with intracoronary adenosine, such as the need for large amount of drug, higher costs and higher occurrence of systemic adverse effects. No major adverse events related to the intracoronary drug administration have been reported from multiple trials measuring FFR.

CASE REPORT: An 82-year-old female with history of hypertension, dyslipidemia with complaints of dyspnea on exertion and abnormal nuclear stress test presented for cardiac cath. The right coronary artery had a discrete 70% stenosis. The decision was made to check if the lesion was physiologically significant using FFR. After the intracoronary adenosine was administered, the patient went into polymorphic ventricular tachycardia. The patient spontaneously converted back to sinus rhythm. It was taken that this may be suggestive of ischemia, though the actual gradient could not be measured due to drop in pressure during the tachycardia. Therefore, an intervention was performed and a stent was deployed. Final cineangiography revealed no significant residual stenosis, and no evidence of dissection or thrombus. The patient was discharged home the following day and has been doing well on subsequent office visits with no evidence of any further arrhythmias. A 76-year-old female with diabetes, hypertension and dyslipidemia was admitted to the hospital for gastroenteritis. During the hospital stay she developed chest pain and troponin of 0.12. The patient had a recent stress nuclear scan done, which showed anterolateral reversible ischemia. The patient also had a cardiac catheterization done few months ago and at that time was noted to have a prox-mid 60% long LAD lesion that was managed with medical therapy. Since, the patient kept having recurrent chest pain, the cardiac cath was repeated and showed the LAD lesion was unchanged.

DISCUSSION: We described two patients here who went into ventricular tachycardia after intracoronary adenosine injection. In both instances no actual FFR reading was recorded and the ventricular tachycardia was taken as a sign of ischemia. Although, based on this assumption both patients underwent stent placement, they had very different outcomes. To our knowledge there is only one such case reported in the literature. Proposed mechanism is QT prolongation with adenosine injection leading to torsades.

CV23

A Rare Presentation of Polymicrobial Bacteremia

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INTRODUCTION: This is a 56-yo M with a past medical history of uncontrolled diabetes type II, hypertension, hyperlipidemia who presented with SIRS criteria 8 days after falling in snow. Patient was found to have sepsis secondary to polymicrobial bacteremia with streptococcus agalactiae and methicillin sensitive staphylococcus aureus in the setting of a 7.7 cm pleural space abscess which likely developed from a hematoma in the setting of patient's fall.

CASE REPORT: 56M with a past medical history of uncontrolled diabetes type II, hypertension, hyperlipidemia who presented with tachycardia, tachypnea and fever 8 days after falling in snow hitting the anterior and lateral part of his right shoulder. Physical was remarkable for shotty supraclavicular and right axillary lymphadenopathy, and tenderness in right axillary area. His work up revealed a leukocytosis of 19.6, with a left shift of 91%, and bandemia of 13. Patient was found to have sepsis secondary to polymicrobial bacteremia with streptococcus agalactiae and methicillin sensitive staphylococcus aureus in the setting of a 7.7 cm pleural space abscess which likely developed from a hematoma in the setting of patient's fall. A chest x ray showed an opacity in the right upper lobe field. Patient was started empirically on zosyn and daptomycin. A chest CT showed a 7.7 cm pleural space air and debris containing mass anterior to the right upper lobe which extends through the first intercostal space and abuts the undersurface of the right pectoralis muscle. A doppler ultrasound was compatible with deep venous thrombosis of right subclavian and axillary veins. Blood cultures came positive for streptococcus agalactiae and methicillin sensitive staphylococcus aureus. Patient underwent for drainage and a percutaneous pig tail catheter placement. Initial drainage produced 60cc of purulent fluid. Cultures of this purulent fluid produced same organisms identified in blood cultures. A transesophageal echocardiogram was negative for endocarditis. Patient was discharged on ceftriaxone and recovered uneventfully.

DISCUSSION: Polymicrobial bacteremia involving group B streptococcus was found in 13-20% according to case series. Staphylococcus aureus was associated with group B streptococcus polymicrobial bacteremia in most studies. In our patient, the trauma sustained during the fall in snow likely produced a hematoma which became infected and acted as the source of bacteremia.

CV24

Clostridium Perfringens Septic Arthritis in a Natural Joint

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INTRODUCTION: An 87 year-old African American male, nursing home resident with past medical history of hypertension, Alzheimer dementia, chronic constipation, diverticulosis, osteoarthritis, left total knee replacement, presented with encephalopathy in the setting of sepsis secondary to septic arthritis of his native right knee joint. Synovial fluid cultures produced Clostridium perfringens. Patient was found to have colitis which likely was the source of the C. perfringens septic arthritis through bloodstream distant seeding. No other similar case has been found in the literature.

CASE REPORT: An 87 year-old African American male, nursing home resident with past medical history of hypertension, Alzheimer dementia, chronic constipation, diverticulosis, osteoarthritis, left total knee replacement, who was sent to the hospital because of three days history of anorexia, weakness and altered mental status. As per nursing home staff patient had 3 episodes of non-bloody diarrhea 3 days prior to admission which self-resolved the same day however patient became progressively anorexic, and with mental status deterioration. The morning prior admission patient was difficult to arouse. Reviewing nursing home records patient had received two doses of oral metronidazole when diarrhea started. Physical was remarkable for tachycardia of 97/minute, fever of 38Â°C. Patient was somnolent, arousable upon painful stimuli. Patient's abdomen had present bowel sounds, it was not distended but patient grimaced upon palpation of left side of colon. The extremities showed changes consisting with degenerative joint disease, left knee with an old surgical scar, with no warmness, and no edema. Right knee was edematous, warm upon palpation, with decreased range of motion (patient grimaced), and with crepitus. Work up revealed elevated CRP (15.1) and ESR (150). Sinovial fluid had a leukocyte count of 2100 with 70% neutrophils. X-ray of right knee was compatible with severe lateral joint space narrowing, subchondral sclerosis with a moderate effusion. CT of abdomen showed colitis. Joint fluid cultures came positive for Clostridium perfringens. Blood cultures were negative. Patient recovered uneventfully and was discharge on levofloxacin and metronidazole.

DISCUSSION: Septic arthritis due to Clostridium species is an unusual clinical occurrence. Previously reported cases of C. perfringens septic arthritis have prosthetic joints, rheumatoid arthritis and puncture wounds as predisposing factor. To the knowledge of the author this is the first case of C. perfringens septic arthritis in a native joint.

CV25

Xanthogranulomatous Cholecystitis in a Patient with Acalculous Cholecystitis and an Innocuous Appearing Gallbladder

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INTRODUCTION: Xanthogranulomatous cholecystitis (XGC) is an idiopathic inflammatory disease of the gallbladder characterized by an intramural destructive process with marked proliferative fibrosis and infiltration of lipid-laden histiocytes. XGC accounts for 0.7-10% of all inflammatory diseases of the gallbladder. The mean age of presentation is between 44 to 63 years, with female predominance. Although XGC is seen primarily with chronic calculous cholecystitis or polyps, our patient presented with acalculous cholecystitis yet was found to have Xanthogranulomatous Cholecystitis on histopathologic examination.

CASE REPORT: This 49 year-old Hispanic female with past medical history of hypertension presented to our medical clinic with complaints of intermittent right upper quadrant pain of 3-4 years duration. Her discomfort was associated with nausea and dyspepsia but she denied anorexia, weight loss, jaundice, melena, hematemesis and association of pain with food. She denied personal history of cholecystitis or family history of hepatobiliary carcinoma. Physical examination was normal and did not reveal Murphy's sign. The gallbladder ultrasound demonstrated a non-echogenic focus in the posterior wall of the gallbladder commented upon as possible sludge or polyp but no gallstones were visualized. She was referred for surgery and underwent an uncomplicated laparoscopic cholecystectomy. The intraoperative report described a mobile gallbladder with a smooth serosal surface and velvety, bile-stained mucosa without adhesions or fibrous tissue; no polyps or stones were seen in the gallbladder. Histopathological examination revealed findings consistent with XGC. Our case is unique in that the gallbladder had normal gross pathologic features as contrary to the morphology mentioned in other published case reports and that this occurred in the absence of cholelithiasis or polyps.

DISCUSSION: XGC is due to extravasation of bile into the gallbladder wall via breaks in the sinuses of Rokitanski-Aschoff, or mucosal ulceration, which can create fistulas, hepatic abscesses, perforations and strictures. XGC is clinically important because

it can be masked by chronic cholecystitis and confused, clinically and radiologically, with gallbladder carcinoma.

CV26

Malignant Triton Tumors in Sisters with Clinical Neurofibromatosis Type-1

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INTRODUCTION: Malignant triton tumors (MTTs) are uncommon sarcomas, a subgroup of malignant peripheral nerve sheath tumors (MPNSTs). MPNSTs arise from Schwann cells or in existing neurofibromas. MPNSTs with elements of rhabdomyoblastic differentiation are termed MTTs. MTTs are associated with a high incidence of local recurrence and distant metastases. The treatment consensus yet does not exist. We report two sisters, both of whom were diagnosed with MTTs. MTTs account for <10% of MPNSTs.

CASE REPORT: Firstly, a 36 yr. old female presented with left sided chest wall swelling. On examination, she was found to have examination findings consistent with clinical NF-1. On imaging, a soft tissue mass in the left lower anterolateral chest wall was seen. Histopathological examination (HPE) showed high grade MPNSTs with skeletal muscle differentiation (Triton Tumor). The patient was treated with Ifosfamide and Adriamycin along with radiation. She still has no evidence of disease recurrence 4 years later. Her sister subsequently presented to us at age 42 yr. with left sided lateral chest wall pain. Imaging showed a multi-compartmental retroperitoneal cystic mass. HPE of which showed MTT. The plan for her is to start on chemotherapy and radiation. Around 50% of MPNSTs cases arise in patients with neurofibromatosis type 1 (NF1).

DISCUSSION: The 5-year survival rate is 5-15% for MTTs. Radical surgical excision is the only curative intervention known so far. With this case reports we hope to emphasize further the association of NF-1 with this rare MTTs and that the first sibling is disease free four years after diagnosis.

CV27

Non-Healing Ulcer

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INTRODUCTION: Patient with Rheumatoid Arthritis presented to the clinic with Right leg Ulcer

CASE REPORT: A 51 year old female patient which start complaining of painful bilateral hand join swelling that started 4 months ago, which has been treated with NSAID without improvement start noticing painful papule on her posterior aspect of the leg, she went to an emergency room and she was given Doxycycline for possible skin infection and to follow up with primary clinic, the papule then turned into ulcer and getting worsened with time, when she presented to our clinic the Diagnosis of Rheumatoid arthritis was made and pyoderma gangrenosum was the most likely cause of the ulcer, Methotrexate 7.5 mg weekly was started and marked improvement was noticed over a period of three weeks.

DISCUSSION: Pyoderma Gangrenosum is uncommon type of ulcer, that usually presented in association with systemic disease, usually Inflammatory bowel disease and polyarthritis, therapy usually consists of Biological agents and antibiotics, mostly it shows improvement over the course of treatment.

CV28

Crazy Paving Appearance: A Case Of Chronic Dyspnea

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INTRODUCTION: Pulmonary alveolar proteinosis (PAP) is a rare disorder characterized by abnormal accumulation of alveolar surfactant. Its prevalence is approximately 3.7 to 6.2 cases per million. Diagnosis of PAP could be delayed as it is a rare disorder requiring invasive diagnostic procedures (e.g. open lung biopsy or bronchoscopy). We report a case of 41 year old Haitian female, who was diagnosed with acquired PAP by transbronchial biopsy and transferred to tertiary facility for whole lung lavage.

CASE REPORT: A 41 year old Haitian female who works as a nurse's aide presented with several months' history of exceptional dyspnea and dry cough. She denied any history of COPD, asthma, fever, chills, weight loss, edema, night sweats, PND, orthopnea or smoking. She had no past history of Tuberculosis or exposure to TB, HIV, bird/pigeon exposure or cardiovascular disease. On examination she was afebrile, hypoxic requiring oxygen and had bilateral basal crackles. There was no clubbing or cyanosis. Initial x-ray showed bilateral alveolar, interstitial and questionable nodular appearing infiltrate consistent with bilateral airspace disease. Patient was empirically started on antibiotics for atypical pneumonia. Workups for tuberculosis, HIV, Blood and sputum cultures were negative. Serum Angiotensin Converting Enzyme level was elevated which led to consideration of sarcoidosis. CT scan of chest with contrast revealed bilateral diffuse crazy paving appearance of the lungs with thickening of

the interlobular and intralobular septa; no lymphadenopathy. Patient was offered lung biopsy but she refused as she was symptomatically mildly improved with antibiotics. She was readmitted after 8 weeks with worsening complaints and persistent bilateral infiltrates and crazy paving pattern on radiologic imaging. Patient was started on steroids to treat possible interstitial lung disease or sarcoidosis. Bronchoscopy guided biopsy was performed and was positive for PAS positive staining consistent with a diagnosis of pulmonary alveolar proteinosis. Patient was then transferred to a tertiary care center for further management including whole lung lavage.

DISCUSSION: Imaging and currently available routine blood tests are non-specific for the diagnosis of PAP. Furthermore, increased susceptibility to infections among individuals with PAP may further complicate diagnosing this condition. Our case suggests the need for a more readily accessible non-invasive laboratory testing method than what is currently available.

CV29

Acute Wilson's Disease Managed by Hemodialysis and Chelating Agent

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INTRODUCTION: Wilson's disease was first described by Alexander Wilson, a neurologist who described pathological changes of the liver and brain. The disease is caused by copper deposition in different tissues, commonly presents with liver dysfunction and neuropsychiatric disorders. There is wide spectrum of liver affection in Wilson's disease including acute liver cell failure. We present a case report of a patient with medical history of depression and kidney stones who developed acute liver cell failure due to Wilson's disease. The patient survived with hemodialysis and copper chelating agents with significant improvement of his clinical condition.

CASE REPORT: A 38 years Caucasian male with medical history of depression and hypertension was initially admitted to hospital for lower extremities edema and cellulitis. On the second day, he was transferred to intensive care unit (ICU) for hypoxic respiratory failure secondary to pulmonary edema. Later on, the patient developed multi-lobar pneumonia and sepsis. While in ICU, patient developed jaundice with increasing Total bilirubin from 1.3 mg/dl on admission to 28.1 mg/dL, mostly direct bilirubin 22.3mg/dL, with mild elevation of ALT 108IU/L, AST 248IU/L. Of note, alkaline phosphatase level was 31IU/L. As the patient had cholestatic pattern with low alkaline phosphatase and the ratio of ALP: Total bilirubin was less than 2, acute liver failure due to Wilson's disease was suspected. Indeed, the serum ceruloplasmin was low (10.6 mg/dl), serum copper level was found to be elevated (216 UG/Dl) and Kayser-Fleischner rings were detected with slit lamp examination. Ultrasound guided percutaneous liver biopsy was done and showed liver tissue with mild to moderate fatty change, inflammatory activity grade I and fibrosis grade I on trichrome stain using Scheuer classification for grading and staging. Quantitative copper measurement in the liver was 11 mcg/g As the Patient was still in ICU being treated for severe pneumonia with multiple organ failure including renal and liver failure on hemodialysis and mechanical ventilator support, was deemed medically unstable for liver transplantation and the decision was to start medical treatment for Wilson disease on day 16.The patient was started on trientine 500mg Q8 hours via NG tube.

DISCUSSION: Wilson's disease is autosomal recessive disease leading to decreased copper excretion. Acute WD is a rare cause for acute liver cell failure. Treatment of acute Wilson's disease is liver transplantation which is life-saving. Other measures including plasma exchange, molecular adsorbent recirculating system and hemodialysis have been studied as alternative to lower the serum copper [3-4]. In our case report, the patient survived with hemodialysis and copper chelating agents.

CV30

Babesiosis in an Immunocompetent Patient

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INTRODUCTION: Babesiosis is a tick-borne illness with an overall mortality of 5%. Although high parasitemia is an indication for red blood cell exchange, its association with severity of babesiosis is conflicting. Studies show that alkaline phosphatase (ALP)>125 U/L, white blood cell count (WBC) >5x103/Î_L, splenectomy and high parasitemia (>4%) are associated with severe babesiosis. We report a case of babesiosis in an elderly patient who did not develop any complications despite high parasitemia.

CASE REPORT: A 68 year old Caucasian female with a past medical history of chronic lower back pain presented to the emergency department with complaints of lower back pain radiating to the abdominal right lower quadrant. She had associated symptoms of generalized body aches, subjective fever, and malaise. She stated that she lived in a rural area, saw deer frequently in her neighborhood and recalled sitting on grass about 4 weeks ago. She denied any recent travel, skin lesions including insect bites, or blood transfusions in

the past. The physical examination showed no obvious abnormalities except jaundice. No skin lesions were observed. Laboratory results revealed hyponatremia 126, elevated alkaline phosphatase 366 IU/L, total bilirubin 5.3 mg/dL, aspartate aminotransferase 115 IU/L, and alanine aminotransferase 61 IU/L. The patient had an elevated white blood cell count of 11.9 and a normocyctic anemia (hemoglobin 9.3) and platelets of 121. A urinalysis showed amber color, containing moderate bilirubin, large blood, total protein >300, nitrite positive, RBCs 5-10, many crystals, finely granular casts with proteinuria of 1.8 g/day. A computed tomography of the abdomen showed mild hepatomegaly, intrahepatic edema, gallbladder mural thickening, no biliary duct dilation, renal calcification without obstructive uropathy, but no splenic abnormality. On the day after admission, the patient developed a fever of 38.3C with a drop in hemoglobin. A peripheral blood smear revealed ring-shaped parasites with no sideroblasts or helmet cells, which was later confirmed as babesiosis. A Babesia polymerase chain reaction showed an elevated Babesia microti IgG antibody titer of 1:256, but a normal IgM antibody titer of <1:20. All immunological testing was negative for any underlying disease including asplenemia, human immunodeficiency virus (HIV), Ehrlichiosis and Lyme disease. The patient was started on ceftriaxone, doxycycline, mepron and azithromycin. Due to the progressive hemolysis after initiation of antibiotics, along with the high parasitemia of > 50%, red cell exchange transfusion was initiated. A total of 3 sessions with 20 units of PRBCs was performed. The hemolytic anemia improved after the exchange transfusion and she was maintained on doxycycline, azithromycin, and atovaquone.

DISCUSSION: Cellular immunity plays a pivotal role in the resolution of babesiosis. Our case did not have any risk factors for compromised immunity except for older age, which could explain no complications despite the high parasitemia. Further investigations are warranted in understanding the role of parasitemia in babesiosis.

CV31

Endoscopic Ultrasound Guided Drainage of Peri-Rectal Abscess

Cavanagh, Y.; Shah, N.; Hosein, K.; Shaikh, S.; St Joseph's Regional Medical Center

INTRODUCTION: Abdominal and pelvic abscesses can occur as a consequence of surgery and are associated with significant morbidity and mortality. It is well accepted that the preferred treatment is antibiotic therapy and drainage. Surgery is reserved for patients presenting with perforation or those who do not respond to conservative measures. Previously available options for drainage included percutaneous and CT guided drainage. Recently, endoscopic ultrasound (EUS) guided drainage of abscesses has come to light as a viable and safe alternative.

CASE REPORT: The patient is a 41 y/o male who underwent appendectomy 18 days prior to presenting with a two-day history of pulsating, 10/10 abdominal pain; exacerbated by passing stool, and alleviated by Gavisconnon. He reported accompanying bloody vomitus, diarrhea, fever, chills and dizziness. On physical examination, suprapubic tenderness was appreciated however there were no rebound tenderness, ascites or organomegaly. An abdominal CT scan with contrast demonstrated a fluid collection with fat necrosis measuring 3.3cm in the right lower quadrant, a pelvic abscess below the rectum measuring 5.6cm, and a seminal vesicle abscess above the urinary bladder measuring 4cm. The patient underwent exploratory laparoscopy, which demonstrated extensive adhesions involving the omentum, anterior abdominal wall, small bowel and sigmoid colon. The laparoscopy was aborted due to dense adhesions and CT guided drainage was attempted but also unsuccessful. A subsequent colonoscopy identified an abscess cavity <2cm from the colonic lumen, by utilizing endoscopic ultrasound (EUS) guidance. The dimensions of the abscess cavity were further delineated fluoroscopically. Implementing a 19-gauge needle, a guide wire was passed through the FNA needle and coiled in the abscess cavity. A hurricaine balloon was used to dilate the track (10mm x 4cm), after which a copious amount of purulent material was evacuated into the gastrointestinal lumen. A 10 French x 3cm double pigtail stent was inserted to facilitate drainage of residual materials. Repeat imaging verified complete resolution of the stented abscess cavity, at which time the stent was removed.

DISCUSSION: EUS-guided drainage and stenting provides an accurate, efficient and safe management option. It allows access to areas that are technically challenging to access with a CT-guided or surgical approach. This novel approach is a valuable, innovative tool in the management of intra-abdominal collections such as abscesses.

CV32

Multiple Intussusceptions in an Anabolic Steroid Abuser

Cavanagh, Y.; Shah, N.; Thomas, A.B.; Gupta, A.; St. Joseph's Regional Medical Center

INTRODUCTION: Androgens are hormones whose abuse has been steadily increasing over the past four decades. It has expanded beyond the scope of profes-

sional athletes to include high school students (1-5%), individuals focused on physique (13.5%) and certain occupations. Intussusception is a complication of anabolic steroid abuse that has not overtly been reported in the literature. However, it is well established that aanabolic steroids contribute to polycythemia and intravascular hyperviscosity. This induces sludging that may subsequently cause ischemic injury. It is also well documented that ischemic bowel may serve as foci for telescoping, leading to intussusceptions.

CASE REPORT: We present the case of a 34 y/o male with a history of hypertension, dyslipidemia, anxiety, reflux, hiatal hernia and IBS who presented with complaints of severe cramping abdominal pain associated with nausea, vomiting, bright red blood per rectum and constipation. He is a recreational body builder; weighing 265 pounds, with a BMI of 40.3. The patient denied having similar symptoms in the past and was most recently taking 1,500mg of Testosterone/Nadrolone, via unspecified injection, per week for three months. Three weeks prior to admission, when he decreased the dose to 500mg per week. On presentation he was found to be diaphoretic, tachcyardic and in mild distress. He had tenderness in the suprapubic region with no guarding, rebound tenderness or palpable masses. Laboratory studies revealed WBC: 15.0, HGB: 17.9 and HCT: 51.2%. An abdominal CT scan demonstrated mild, diffuse, nonspecific colonic thickening, with two separate short segment small bowel intussusceptions without evidence of obstruction. A colonoscopy was completed the day after admission and demonstrated edema and erythema in the distal ileum and colon, most dense in the distal transverse colon and increasing within the rectum. Biopsies indicated acute and chronic colitis from the descending colon forward and changes suggesting ischemic colitis in the rectum. The patient was medically managed and follow-up CT scan on the third day of admission, demonstrated resolution of intussusceptions.

DISCUSSION: Consistent with previous reports, our patient's anabolic steroid abuse led to the development of polycythemia that resulted in hyperviscosity and subsequently led to intravascular sludging and mesenteric ischemia with associated bowel wall thickening. These bowel segments, consequently served as lead points in the formation of two simultaneous small bowel intussusceptions.

CV33

Urinary Tract Infection and Staghorn Calculus Associated with Raoultella Planticola

Cavanagh, Y.; Alford, J.; Rabbat, M.; St. Joseph's Regional Medical Center

INTRODUCTION: *Raoultella planticola* is a gram-negative bacillus, formerly known as *Klebsiella planticola* and *Klebsiella trevisanii*. It is a member of the Enterobacteriaceae family, and although it is primarily an environmental commensal, there has recently been a surge in pathogenic cases.

CASE REPORT: Our patient is a 75-year-old male with a history of diverticulosis, enlarged prostate, nephrolithiasis, and hypertension, who presented with encephalopathy three weeks after resection of a thoracic intradural meningioma. Physical exam was significant for lower abdominal pain and urinary retention. On laboratory evaluation acute kidney injury, uremia, and hyperkalemia were observed. Abdominal ultrasound revealed a large, non-obstructive staghorn calculus in the left kidney. Urine culture was positive for ampicillin-resistant *R. planticola*.

Historically *R. planticola* has not presented a pathogenic threat to humans. As recently as 2000, the incidence of K. planticola was reported to be less than 0.5%. However, some authors including Podschun et al postulated that *K. planticola* was increasingly becoming more prevalent as a human pathogen. Since the first reported pathogenic case in 1984 *R. planticola* has been implicated in cases of conjunctivitis, acute prostatitis, cystitis, cholecystitis, necrotizing fasciitis, cholangitis, soft tissue infections, and pancreatitis. Among these cases only that of prostatitis and cholangitis occurred in immunocompromised patients. The incidence of both pathogenic and drug resistant cases of *R. planticola* infection is increasingly being reported in the literature. Recent epidemiologic studies have also described pathogenic cases of drug resistant *R. planticola*. The first case of *R. planticola* carrying the blaIMP-8 gene that codes for imipenem resistance was published in early 2014. Additionally, pathogenic strains isolated in New Jersey and Ohio carried blaKPC gene, conferring hesitance to beta-lactams. In our case, susceptibility testing indicated ampicillin resistance. This reinforces recent speculation regarding the emergence of pathogenicity and drug resistance among *R. planticola*. To the best of the authors' knowledge, this is the second reported case of urinary tract infection associated with *R. planticola* and the first associated with a staghorn calculus. Staghorn calculi are typically associated with urease producing bacteria such as *Proteus* and *Klebsiella*; neither of which our patient had a prior history of. He was successfully treated with ciprofloxacin.

DISCUSSION: Among the exceedingly rare cases of pathogenic infection associated with *R. planticola*, we present the second documented case of UTI caused by *R. planticola* and the first case to be associated with a staghorn calculus. Our case highlights the emergence of *R. planticola* as a drug resistant pathogen that must now be considered in the differential for a variety of infections, particularly UTI.

CV34

Sotalol Induced Torsades de Pointes Ventricular Tachycardia

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INTRODUCTION: Torsade de pointes(TDP) is an uncommon and distinctive form of polymorphic ventricular tachycardia characterized by a gradual change in the amplitude and twisting of the QRS complexes around the isoelectric line. Early afterdepolarization (EAD), triggers torsades. Sotalol has been associated with life-threatening pro-arrhythmias, including torsade de pointes, although the incidence of this adverse effect is low. One of the key factors to consider is that sotalol is excreted unchanged renally.

CASE REPORT: 42 year old female with PMH of peripartum cardiomyopathy s/p AICD for primary prevention in 2012, HTN, DM Type 2 presented to the ED after several syncopal episodes. She felt short of breath and lightheaded, following by which she lost consciousness. Patient regained consciousness within a few seconds, the event happened about five times. When the EMS arrived she was noted to be in ventricular tachycardia. Her AICD also fired three times. The patient denied any chest pain, palpitations, nausea, vomiting or diaphoresis during the events. The patient also had CPR performed for thirty minutes. Cardiac monitor strips available from the ambulance records as well as from the ER suggestive of multiple runs of ventricular tachycardia, and also the12-lead EKG showed normal sinus rhythm at 68 beats per minute, prolonged QTc at 733 milliseconds but there is no significant ST or T wave changes. The patient was initially started on amiodarone and lidocaine drip in the ER. On reviewing patient's medications it was noted that patient was on Sotalol 160 mg po twice a day. Had elevated creatinine of 1.2 at presentation with creatinine clearance of 60.On reviewing the Telemonitor, it was noted that patient was in Torsades with heart rate of 133. Patient was admitted to the ICU, 8 mg intravenous magnesium sulfate infusion was intiated, which normalized the QTc. Amiodarone and lidocaine was discontinued. Echocardiogram showed EF of 50-55%. Patient remained asymptomatic throughout hospital stay.

DISCUSSION: TDP is hemodynamically unstable and can cause dizziness and syncope. Depending on their cause, most individual episodes of torsades de pointes revert to normal sinus rhythm within a few seconds, but may also persist and degenerate into ventricular fibrillation, leading to sudden death in the absence of prompt medical intervention.

CV35

Anti-N-Methyl-D-Aspartate Receptor (NMDAR) Encephalitis Associated with Ovarian Teratoma: A Challenging Diagnosis

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INTRODUCTION: Anti-NMDAR encephalitis is a paraneoplastic encephalitis associated with anti-NMDAR antibodies, first reported in 1997. It is most commonly seen in young women with ovarian teratoma, as well as in men and children. Some of the characteristic clinical features include bizarre dyskinesia, epileptic seizures, hypoventilation, neuropsychiatric manifestations, and decreased level of consciousness.

CASE REPORT: A 25-year old French woman with no medical or psychiatric history was brought in from Newark Liberty International Airport due to acute mental status changes. She was travelling with her boyfriend and younger sister from Belgium to United States for a leisure trip. The patient was noted to be acutely agitated on the plane, evidenced by incoherence of speech, and attempting to open the cockpit door. On arrival, she exhibited bizarre behavior with uncoordinated movements. As per patient's boyfriend, there was no history of alcohol or substance abuse. Urine drug screen, alcohol, and ammonia level were negative. Psychotropic medications did not improve her mental well-being. A CT scan as well as MRI of brain did not show any acute pathology. A diagnostic lumbar puncture has CSF lymphocytic pleiocytosis, with normal opening pressure, glucose, and protein. EEG revealed mild, diffuse slowing. Empiric acyclovir was initiated pending CSF work-up. Blood, urine, and CSF cultures were negative. Fungal, viral, and acid fast bacilli culture were also negative. Cytology has no malignant cells. Patient clinically deteriorated with acute urinary retention, and acute hypoxic respiratory failure from aspiration pneumonia. A CT scan of the chest, abdomen, and pelvis disclosed multilobar consolidation, and distended urinary bladder up to umbilicus. CSF studies including PCR for HSV 1/2, West Nile virus, Lyme, VDRL, 14-3-3 protein, myelin basic protein, oligoclonal bands, and cryptococcal an-

tigen were negative. HIV antibody, interferon gamma release assay, and ANA were also negative. She was started on high dose steroids due to concern for autoimmune encephalitis, which was then tapered with modest improvement. A repeat CT of the abdomen and pelvis revealed a left ovarian mass suggestive of ovarian teratoma with positive serum anti-NMDAR antibodies on CSF. She underwent resection of ovarian teratoma, with concurrent intravenous immunoglobulin therapy. Currently, the patient has improved neurologically following a trial of rituximab and cyclophosphamide.

DISCUSSION: Anti-NMDAR encephalitis and its association with ovarian teratoma in young women is still a relatively unknown diagnosis. The diversity of symptoms frequently results in misdiagnosis as a psychiatric, infectious or toxicological process. Internists must consider the diagnosis when a young female presents with acute mental status changes and dyskinesia, after ruling out toxicological and infectious causes. Resection of ovarian tumor and immunotherapy has been associated with improved outcomes.

CV36

A Case of NSTEMI without Angiographically Significant Coronary Artery Disease: Cardiac Syndrome X

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INTRODUCTION: Patient with cardiac syndrome X (CSX) usually presents with typical chest pain, EKG changes suggestive of ischemia and normal coronary arteries. The cardiac syndrome X is more prevalent in young female patients. Cardiac magnetic resonance (CMR) has been used primarily in research settings to diagnose CSX . The differential diagnoses include stress-induced cardiomyopathy, left ventricular hypertrophy, right ventricular hypertrophy, systemic amyloidosis and diabetes mellitus. We report a case of NSTEMI without angiographically significant coronary artery disease, likely cardiac syndrome X.

CASE REPORT: This is a 46 year-old Caucasian female with past medical history of Hypertension, obstructive sleep apnea and obesity who presented for evaluation of chest discomfort. She describes the pain at retrosternal chest pressure radiating to the back and her left arm. It was associated with shortness of breath, nausea and lightheadedness. She smoked half pack of cigarettes daily for 20 years but denied drinking alcohol or using illicit drugs. She takes no medications at home. Vitals showed blood pressure of 132/76 mmHg, heart rate of 73 beats/min; oxygen saturation 99% on room air and temperature of 97.1o F. The patient appeared to be in no acute distress. On physical examination, neck was supple without elevated jugular venous pressure. Cardiovascular exam revealed regular rate and rhythm without murmurs or gallops. The extremities had 2+ pulses throughout without edema. EKG showed sinus rhythm, first degree atrioventricular block and T wave inversion in the inferolateral leads, suggestive of ischemia. Laboratory data showed an elevated troponin at 0.46ng/mL. The patient was admitted for NSTEMI and started on aspirin, statin. The cardiac catheterization conclusions were no angiographically significant coronary artery disease. The patient was discharged home with instructions to follow up with her cardiologist. However, one month later the patient experienced similar chest pain while working and was taken to the ER. At that time,acute coronary syndrome was ruled out. The patient was discharged with the instructions to follow up with her cardiologist.

DISCUSSION: We report a case of NSTEMI without angiographically significant coronary artery disease. It is most likely CSX because of her typical chest pain, acute coronary event and no angiographically significant coronary artery disease. A cardiac magnetic resonance enhanced with gadolinium would have been helpful to localize the myocardial defect.

CV37

Central Neurogenic Hyperventilation in a Conscious Patient: Are Opiods the Only Resource as a Bridge Therapy?

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INTRODUCTION: Central Neurogenic hyperventilation (CNH) is a rare respiratory syndrome first reported by Plum and Swanson in 1959. It is defined by respiratory alkalosis in the presence of normal or elevated arterial oxygen, decreased arterial carbon dioxide, elevated arterial pH. CNH has been strongly associated with CNS lymphomas, CLIPPERS (Chronic Lymphocytic Inflammation with Pontine Perivascular Enhancement Responsive to Steroids syndrome), anti-NMDA receptor Encephalitis, subcortical infarct specifically thalamic, brainstem astrocytomas, gliomas and a potential consequence of hepatic encephalopathy.

CASE REPORT: A 74 year-old Cuban male presented to the ED with persistent nausea and vomiting accompanied by ataxia with a left-sided preference treated for CN VII palsy one-week prior. Initial MRI brain revealed a hyperintense lesion in cerebellar peduncles. Symptoms were controlled under oral steroids but recurred once steroids were tapered. Patient was transferred to the ICU with resultant severe respi-

ratory alkalosis with a respiratory rate of forties to fifties with inadequate metabolic compensation. ABG revealed pH of 7.63, PCO2 at 11, HCO3 at 20.9, PO2 at 149 and O2 saturation was 98.2% on room air. Ventimask (VM) with 330 cc of deadspace improved his work of breathing and respiratory rate despite a noted semi-stuporous state. Adjuvant pulse steroid dosing was initiated after reviewing worsened MRI findings including T2 flair hyperintensities in the medial thalami, caudate heads, midbrain, pons, medulla and bilateral middle cerebellar peduncles, bilateral frontal, parietooccipital regions and both cerebellar hemispheres. Subsequently, CSF analysis revealed atypical lymphoid cells but flow cytometry diagnosed B-cell lymphoma with a normocellular bone marrow. CSF culture, AFB, HSV PCR, Cryptococcus, VDRL, JC virus PCR were negative. Patient was initiated on immunoglobulin therapy followed by chemotherapy with Rituximab. Patient later developed recurrent episodes of hyperventilation complicated with aspiration pneumonia and hypoxemic respiratory failure. Patient also developed VRE bacteremia while receiving chemotherapy. Patient was intubated for septic shock, developed severe acute respiratory distress syndrome, and deteriorated further clinically. Patient eventually passed away on the 40th day.

DISCUSSION: Despite the longevity of CNH, no current guidelines exist likely due to its undefined pathophysiology. Prior approaches had included supportive and disease-specific treatments. The supportive component is crucial to improve quality of life affecting both comatose and alert patients. Opoid analgesics had reduced the respiratory burden historically.

CV38

Non-Secreting Non-Fibrotic Hepatocellular Carcinoma in an Average Risk Population

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INTRODUCTION: Hepatocellular carcinoma (HCC) is the third leading cancer worldwide. Although the current HCC screening examinations in the high risk populations have led to increased detection and early interventions. Screening and management of HCC in apparently average risk populations is still uncertain. Non-fibrotic HCC (NFHCC) is a fairly investigated entity potentially arising from non-alcoholic fatty liver disease (NAFLD) with varying degrees of inflammation. Herein, a case of non-secreting NFHCC in a 63 year old obese male with no apparent risk factors.

CASE REPORT: We present a 63 year old Caucasian obese male (BMI 35.2 Kg/m2) with no significant past medical history admitted to our hospital after sustaining injuries during motor vehicle accident. The patient complained of chest and abdominal pain. Subsequently, work up was significant for spinal fracture and an incidental right hepatic lesion found on abdominal ultrasound. On further questioning, the patient denied any alcohol abuse, intravenous drug abuse or family history for liver or GI tract malignancy. The patient also denied weight loss, jaundice or prior similar abdominal pain. The physical examination was unremarkable, except for right upper quadrant abdominal tenderness, mostly subcostal margin. Unremarkable liver function test, coagulation profile, hepatitis B serology, HBV DNA level, HCV antibody, anti-nuclear antibody, anti-smooth muscle antibody, iron profile and alfa Feto-protein serum level were obtained. To further investigate the hepatic lesion, a MRI of the abdomen with IV contrast was done which revealed a 3.8 cm heterogenous lesion with dark central and ring enhancement suspicious for malignancy and diffuse steatosis otherwise normal biliary tree and pancreatic duct appearance without lymphadenopathy. Malignancy was confirmed by liver biopsy. The patient underwent colonoscopy resulting benign. After a discussion with the patient and surgery department, the plan was to proceed with surgical resection of the isolated hepatic tumor. The patient successfully underwent a laparoscopic hand-assisted resection of the segment 6 and 7 of the liver. The final surgical pathology confirmed a moderately differentiated HCC with hepatic steatosis.

DISCUSSION: NFHCC lesions were previously observed to be related to viral hepatitis especially HBV due to increased hepatocyte turnover. Nowadays, some NFHCC do not appear to have a clear cause or premalignant environment. Molecular signaling pathways triggered by NAFLD may contribute. Fatty infiltration may become a sufficient insult in the future.

CV39

A Case of Superior Mesenteric Artery Dissection: The Important Facts in Order to Elucidate Treatment

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INTRODUCTION: The detection of superior mesenteric artery (SMA) dissection has increased by the advancement in diagnostic technology. The symptomatic entity still remains a rare and potentially fatal disease if complicated. Cystic medial degenera-

tion, atherosclerosis, fibromuscular dysplasia, elastic tissue disorders, rapid deceleration injuries are potential predisposing factors. No guidelines are available in the world bringing up controversy in particular instances. We report a case of superior mesenteric artery dissection of significant length caused by weight lifting in a non-smoker normotensive patient.

CASE REPORT: This is a 54 year old Hispanic male with no past medical history but remote history of alcohol abuse who presented to our hospital complaining of new onset epigastric pain triggered by attempting to mobilize a 500-pound load onto a carrier. Patient described the pain as burning, non-radiating of great intensity, exacerbated by bending over, alleviated by hydromorphone and associated with self-limiting bilious non bloody emesis. The patient is overweight who was fully awake, hemodynamically stable. Absence of carotid bruits, cardiac murmurs, rubs or gallops. Mild epigastric tenderness to light and deep palpation of the abdomen. No voluntary or involuntary guarding and normoactive bowel sounds present. Distal pulses present and brisk. Ancillary diagnostic tests were negative for hyperlactatemia, anemia, dyslipidemia or diabetes by hemoglobin A1C. Initial CT abdomen and pelvis with IV contrast to evaluate abdominal pain out of proportion found a peripheral decreased density involving the SMA beginning 1.0 cm distal to the origin compatible with a dissection without aorta dissection. This was confirmed by follow up CT angiogram (CTA) which showed compromise of the entire length and the branches were arising from the true lumen. Based on these results, high ranged heparin infusion was started to prevent further thromboembolism in the surrounding area of the intimal flap; and medical management continued in the intensive care unit. Presently, the patient is being treated with therapeutic anticoagulation with a plan to continue with oral agents unless complications arise.

DISCUSSION: In patients with uncomplicated SMA dissection, a conservative approach with anticoagulation and follow-up imaging is strongly recommended as first line therapy. Length of involvement could dictate a different approach such as endovascular stents or urgent laparotomy based on the emergence of clinical deterioration or radiographic signs of bowel ischemia.

CV40

A Susceptible Bowel: The Natural Course after Disseminated Histoplasmosis

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INTRODUCTION: Histoplasmosis is the most prevalent endemic mycosis in the United States, with gastrointestinal (GI) tract involvement reported in about 70-80% of cases. Plenty has been said in regards to isolated episodes of progressive disseminated histoplasmosis (PDH) affecting the intestine, yet to be determined is the natural course of a disrupted bowel rendered susceptible to either a possible structural intestinal complication, or a superimposed infection.

CASE REPORT: A 49 year-old heterosexual male from Honduras with AIDS (CD4 count of 87 and viral load of >10 E6 copies/ml off HAART) presented with fever, abdominal pain, and bloody mucoid diarrhea. He appeared toxic, wasted, but hemodynamically stable. The is no rash, peripheral lymphadenopathy, with hyperactive bowel sounds, borborygmi, and periumbilical tenderness radiating to left lower quadrant associated with guarding. He required multiple blood transfusions due to significant anemia. Colonoscopy revealed a mass-like ulcer in the ascending colon, initially identified as bowel wall thickening accompanied by fat stranding on CT abdomen. Biopsy was consistent with chronic granulomatous fungal colitis. Cosyntropin stimulation test ruled out adrenal insufficiency. Induction Amphotericin B was started followed by oral itraconazole with significant clinical improvement. Urinary antigen for Histoplasma was positive. Patient returned one week later with worsening abdominal distension and recurrence of diarrhea secondary to noncompliance to medications. C. difficile colitis complicated the course but improved after oral metronidazole. Currently, patient is at his 4month of itraconazole with a plan to repeat colonoscopy to assess colonic mass.

DISCUSSION: Relapse from Histoplasmosis or complications are significantly reduced by maintenance therapy after 12 to 24 months. Nevertheless, PDH sometimes takes an unexpected turn when co-infections such as parasitic, viral or bacterial develop increasing Histoplasma pathogenicity. Should this occur, be alert to manage differently as it could affect the long-term outcome.

CV41

A Calcium Delema: A Case of Idiopathic Milk Alkali Syndrome

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INTRODUCTION: The presence of hypercalcemia is a relatively common problem. Most times it is encountered in the outpatient setting as an incidental finding on laboratory work up. The two most common causes by far, accounting for greater than 90% of cases, are primary hyperparathyroidism versus malignancy. In this case no cause could be identified.

CASE REPORT: A 71-year-old white woman with a history of hypertension, dyslipidemia, and hypothyroidism, on lisinopril and levothyroxine presented to the emergency department with change in mental status associated with weakness, fatigue, and 20 pound unintentional weight loss over six months. The initial serum calcium was 16.7 mg/dL. The serum creatinine was 1.7 mg/dL and the serum bicarbonate was 33 mEq/L. Because of the magnitude of the hypercalcemia in the setting of the weight loss, the initial concern was that the hypercalcemia was related to an occult malignancy. Diagnostic studies revealed the following: A decreased PTH level,a suppressed PTHrP level, a suppressed. 25-vitamin D level and a suppressed 1,25-vitamin D level. A serum protein electrophoresis was normal. Since the patient had acute kidney injury and metabolic alkalosis in the setting of hypercalcemia, she met criteria for the diagnosis of milk-alkali syndrome. Despite extensive questioning this reliable patient denied ingestion of calcium-containing agents or food. Repeat values of PTH and calcium have been normal. We conclude that this patient had idiopathic milk-alkali syndrome secondary to an unknown source of calcium and alkali.

DISCUSSION: A review of the literature did not reveal any documentation of ”idiopatic hypercalcemia”.

CV42

Neovascularity and Fistulous Communication on Coronary Angiography in a Patient with Left Atrial Thrombus and Severe Mitral Valve Stenosis

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INTRODUCTION: Coronary neovascularity and fistula formation found on coronary angiogram have been described in the literature in association with left atrial neoplasm, thrombosis in patients with mitral valve disease, or congenital anomaly.

CASE REPORT: 82 year old female with a past medical history significant for severe mitral stenosis and chronic atrial fibrillation (on anti-coagulation therapy with Coumadin) was admitted for blood-streaked sputum and shortness of breath. Transesophageal echocardiogram revealed normal ejection fraction of 55-60%, severe thickening and calcification of the anterior and posterior mitral valve leaflets, with reduced mobility, and a mean transmitral gradient of 11 mmHg when averaged for 5 beats. The left atrium was severely dilated, with severe smoke (spontaneous contrast). The right atrium was also severely dilated. There was severe tricuspid regurgitation, with severe pulmonary hypertension (systolic pulmonary artery pressure of 72 mmHg). There was a large heterogeneous echodensity, extending from the left atrial appendage, and coursing along the lateral wall of the left atrium measuring 8.9 cm x 3.6 cm. Coronary angiogram revealed non-obstructive coronary artery disease; neovascularity and fistulous communication arising from the left circumflex artery, with staining of the myocardium. There was also some puddling of contrast within the left atrium from enlarged atrial branches, and pooled contrast outlining a large irregular defect.

DISCUSSION: Although transesophageal echocardiography is most frequently used for non-invasive assessment of intracardiac structures, coronary angiography can still provide a useful diagnostic tool in the diagnosis of left atrial thrombus in patients with mitral valve disease.

CV43

Spontaneous Isolated Infra-Renal Abdominal Aortic Dissection, A Rare Cause of Abdominal Pain

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INTRODUCTION: Acute aortic dissection occurs when blood enters to the medial aortic layer through an intimal tear, resulting in separation of the layers of the aortic wall. Thoracic aorta is usually involved with extension to the abdominal aorta in an anterograde fashion. Spontaneous isolated infra-renal abdominal aortic dissection is an extremely rare entity that has been reported in few case reports in literature. However, its recognition and prompt management is crucial to prevent devastating complications. Computerized tomography and Magnetic resonance images are the best modalities to identify this entity. Treatment strategies of IAAD are not well defined and relies on institutional preference and expertise. Therapeutic options include open surgical repair, endovascular repair, and observation.

CASE REPORT: A 54 year-old male patient, with a past medical history of hypertension, presented to the

emergency department with a history of one day left lower quadrant pain. The pain was associated with nausea. No vomiting, change in bowel habits, fever, chills, chest pain, or any focal neurological deficits were reported. No previous history of similar complaints. No previous history of trauma or previous surgeries or vascular interventions was reported. He had a history of 40 pack.year smoking and a history of intravenous drugs abuse. His vital signs were significant for elevated blood pressure of 179/118. The physical examination didn't reveal any significant abnormality. Basic blood workup didn't reveal any significant abnormality. CT-scan of the abdomen and pelvis with intravenous contrast revealed acute isolated abdominal aortic dissection extending from the distal aorta to the right common iliac artery. Blood pressure was promptly controlled with intravenous labetalol and vascular surgery was consulted. The patient symptoms improved with blood pressure control and a decision was made to observe the patient without surgical intervention.

DISCUSSION: Spontaneous isolated infra-renal abdominal aortic dissection can present differently compared with the classic type B aortic dissection, and requires high index of suspicion. Accurate, timely diagnosis is crucial to prevent serious complications. Continued surveillance is an accepted modality in stable patients.

CV44

Grave's Disease Unmasking Underlying Left Ventricular Non-Compaction

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INTRODUCTION: Isolated LV Non-compaction (LVNC) is a rare genetic cardiomyopathy characterized by modification of the LV wall into an outer compact layer and an inner non-compacted layer consisting of deep intra-trabecular recesses and prominent trabeculations resulting in clinical manifestations of dilated cardiomyopathy. Various congenital heart disorders and neuromuscular disorders have been associated with LVNC. We would like to report a case of LVNC, which was unmasked due to development of hyperthyroid state secondary to new onset Graves's disease.

CASE REPORT: 26 y/o African American female with no significant medical history presented with chief complains of worsening shortness of breath, orthopnea, PND for one month. Patient also reported heat intolerance, palpitation and multiple episodes of lose watery diarrhea over the proceeding few months. Physical exam revealed bilateral crackles and sinus tachycardia on EKG. Laboratory values revealed and elevated BNP of 623 pg/ml, elevated T4 (4.49 ng/dl) with low TSH (<0.01 uIU/ml). Initial chest X-Ray revealed bilateral interstitial edema. Echocardiogram with contrast demonstrated hyper-trabeculation Cardiac MRI confirmed diagnosis of LV Non-compaction with ratio of non-compacted to compacted myocardium of 3.5 and ejections fraction of 30%. Elevated anti-thyroglobulin antibody (29IU/ml) and elevated thyroid stimulating antibody (261%) confirmed diagnosis of Graves disease fro which patient was started on methimazole. Patient was treated for heart failure with diuretic, beta-blockers, ACE inhibtors and spironolactone and was discharged home on a wearable cardioverter-defibrillator.

DISCUSSION: LVNC is characterized by modification of the LV wall into a bi-layered outer compact and inner spongy layer. Hyperthyroidism can lead to a remarkable increase in preload, heart rate resulting in precipitation of heart failure. To our knowledge this is the first reported case of LVNC unmasked by Grave's disease.

CV45

A Case Report on Complications of Right-Sided Infective Endocarditis and Its Implications

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INTRODUCTION: The right-sided infective endocarditis (IE) has always been associated with a lesser degree of complications than the left-sided infective endocarditis. Here we are reporting a case of complicated, right-sided endocarditis with a large, friable and highly mobile tricuspid valve vegetation. It has persistently produced embolic events (EE) despite an appropriate course of intravenous antibiotics.

CASE REPORT: A 36-year-old woman with a history of hepatitis C virus (HCV) infection and chronic polysubstance dependence disorder presented to the acute medical unit with fever, dyspnea, pleuritic chest pain, and hemoptysis of one-week duration. The patient had been actively injecting cocaine and heroin into her right forearm causing a chronic open ulcer. Initial investigation involved a transthoracic echocardiography, which revealed a large, friable highly mobile vegetation of >20 mm seen on the tricuspid valve. Her presentation was further complicated by septic emboli shown on the CT of the chest. The blood cultures were positive for Group G streptococcus and MRSA. In addition to administering bactericidal therapy for endocarditis, we considered the need for surgical intervention, but this patient had no clear indications for valve surgery. The patient received a total of 6 weeks of Vancomycin. However, about 2 months after the completion of the intravenous antibiotics, the patient

returned to our acute care unit with a sudden onset of acute renal failure requiring emergency hemodialysis. Her chest x-ray showed worsening of septic emboli, which appeared to have become multiple cavitary lesions. The transthoracic echocardiography was repeated, which again showed the tricuspid valve vegetation measuring >20mm. In light of nephrology recommendation, the kidney biopsy was done and resulted in a picture of crescentic necrotizing glomerulonephritis, most likely due to persistent infective endocarditis.

DISCUSSION: The very large vegetations (>15mm) have been shown to be independently associated with a worse prognosis. A recent prospective study showed that vegetation length on echocardiography has major prognostic implications by predicting EE under antibiotic therapy. Whether a more aggressive therapeutic strategy (ie, early surgery) is required warrants further prospective studies.

CV46

A Case of Ascending Aortic Dissection with Concurrent Acute Myocardial Infarction, Stroke and Pericardial Tamponade

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INTRODUCTION: Aortic dissection is a disease of immediate consequence, as mortality of a proximal dissection is in excess of 50% when left untreated. Early recognition of the dissection event can lead to faster definitive correction with surgical and/or novel percutaneous approaches. Widely varying signs and symptoms can, however, make this diagnosis a challenge. This is a case of aortic dissection that is presented as concomitant ST elevation myocardial infarction,stroke and pericardial tamponade.

CASE REPORT: 60 year old male with past medical history of hypertension which was adequately controlled, presented to emergency department with chest pain of 2 hours duration, the pain was described as tearing, retrosternal, radiating to left neck and shoulder and associated with nausea, and sweating. Patient also reported having a new onset slurred speech and right upper extremity weakness.There was no history of coronary artery disease, diabetes mellitus, smoking or family history of ischemic heart disease. Initial vital signs showed Blood pressure of 120/90 mmHg in right arm, and 100/70 mmHg in left arm, Heart rate of 90 beats.Physical exam showed jugular venous pressure 3 cm above the sternal angle with negative kussmaul's sign. Cardiac exam showed muffled heart sounds, with early diastolic murmur, 3/6 in intensity,without radiation and with no S3 or S4 gallop.Neurological and musculoskeletal exam showed expressive aphasia, intact cranial nerves, normal muscle tone, power was 3/5 in the right upper extremity otherwise normal, had +2 deep tendon reflexes. Initial lab results showed a white blood cell count of 8.14 k /Î_L, hemoglobin of 12.2 g/dL, platelets of 177 k/Î_L, creatinine of 0.89 mg/dL,cardiac enzymes were negative.electrocardiogram (EKG) showed ST segment elevations in inferior and lateral leads. Given the patient chest pain and EKG findings, the patient's chest pain was thought to be secondary to acute coronary syndrome, specifically ST elevation myocardial infarction (STEMI) and the patient was brought quickly to the cardiac catheterization lab for an emergent coronary angiography. The coronary angiogram showed normal coronary arteries with ascending aortic dissection.After that vascular surgery was immediately consulted, and an aortic computed tomography (CT) scan was done, which showed dissection of the ascending aorta. Head CT scan was also done and showed acute left middle cerebral artery territory infarction.CT angiogram of the neck showed normal extracranial carotid, vertebral and subclavian arteries. The decision for immediate surgical repair was made, the patient underwent emergency ascending aortic and hemiarch replacement under cardiopulmonary bypass with Hama shield (38 mm) platinum graft that was done successfully without complications. After that patient had an uncomplicated postoperative course and was discharged in a stable condition.

DISCUSSION: Acute aortic dissection (AD) an extremely severe condition having a high risk of mortality.The classic symptom may mimic other conditions such as myocardial ischemia,leading to misdiagnosis. Coronary malperfusion associated with aortic AD is relatively rare but may have fatal results.The diagnosis of ACS may lead to the inappropriate administration of thrombolytic or anticoagulant treatment resulting in catastrophic consequences. Emergency imaging techniques help to guide the correct diagnosis.

CV47

Cannabinoids Hyperemesis Syndrome

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INTRODUCTION: Cannabinoid Hyperemesis Syndrome (CHS) was first described in 2004. CHS is characterized by cyclical nausea and vomiting, abdominal pain, and an unusual compulsion to take hot showers in the presence of chronic use of cannabinoids. The pathophysiology of CHS is not well understood. However, it is known that chronic marijuana use stimulates cannabinoid receptor type 1 (CB1) in the brain result-

ing in decreased peristalsis. Due to its novelty, CHS is often unrecognized by clinicians leading to expensive workup of these patients with cyclical symptoms. Testing should be geared towards excluding central nervous system, endocrine, metabolic, and gastrointestinal causes of nausea and vomiting after a careful history and physical examination.

CASE REPORT: 33 year old female with long-term history of cannabinoid use and no significant past medical history, presented to emergency department complaining of abdominal pain for 3 days, the pain was periumbilical, localized and cramping in nature, it was also associated with nausea and many episodes of vomiting of clear fluids, with no diarrhea, constipation or urinary symptoms. The patient reported having recurrent similar episodes of pain, nausea and vomiting for the last 4 years, usually every 3-4 months which used to last for 2-3 days and terminated without medical intervention and indicated that warm baths usually provides relief of her symptoms. She admitted to smoking marijuana daily, she smoked 2-3 cigars per day for at least the past 12 years. An extensive gastrointestinal evaluations were done before, but failed to identify a clear cause. On physical exam her vital signs were normal, she was afebrile with temperature of 36.8°C, pulse of 88/min, a respiratory rate of 16/min, a blood pressure of 137/83 mmHg, and oxygen saturation of 98% while breathing ambient air. She was awake and alert, her mucus membranes were dry, her abdomen was soft, non tender with positive bowel sounds. Laboratory data included a white blood cell count of 11,300 cells/mL with normal complete blood count (CBC), basic metabolic profile (BMP) was normal except for potassium of 2.9 mmol/L, liver enzymes, amylase and lipase were normal. Urine drug screen was positive for cannabinoids. Based on proposed diagnostic criteria for CHS, the diagnosis of Cannabinoid Hyperemesis Syndrome was made. The patient was admitted for rehydration, antiemetics, the patient was advised to discontinue marijuana use. She had a symptom-free period with the cessation of marijuana use.

DISCUSSION: Cannabinoid Hyperemesis Syndrome is characterized by cyclic vomiting, abdominal pain, and compulsive need to take hot showers. It is an episodic, recurrent disorder with symptom free periods in-between. The symptoms resolve in the hospital as cannabinoid blood levels wane. The associated abdominal pain is usually diffuse,mild, and poorly characterized. The pathophysiology of CHS is not well understood. However, it is known that chronic marijuana use stimulates cannabinoid receptor type 1 in the brain.

CV48

Spontaneous Rupture of Hepatocellular Carcinoma

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INTRODUCTION: Hepatocellular carcinoma (HCC) is the most common primary malignant tumor of the liver,and one of the leading causes of death in patients with cirrhosis.Spontaneous rupture is a fatal complication of HCC that occurs in 3-15 percent of cases, and is associated with worse short and long term prognosis. The exact mechanism of spontaneous rupture of HCC is not clearly known at the present time, but it is believed to be related to a tear in the tumor surface or rupture of a feeding artery.Risk factors that could be responsible for HCC rupture include subcapsular location,rapid growth of the tumor with necrosis and erosion of vessels and blunt abdominal trauma especially with superficial tumors. This case report exemplifies the importance of early diagnosis and treatment of ruptured HCC.

CASE REPORT: We are presenting a case of a 64 year-old female with past medical history of hypertension and hepatitis C which was diagnosed and treated in 2000, with interferon and ribavirin.She presented to our emergency department with a worsening right upper abdominal pain for the last few months, the symptoms continued to worsen until her presentation to the emergency department. Initial vital signs showed blood pressure of 140/76 mm Hg, pulse rate of 74 beat per minute, and respiratory rate was 18 breaths per min. Physical examination was significant for a right upper quadrant tenderness,soft abdomen with no guarding or rigidity and active bowel sounds, normal heart sounds with no murmurs or added sounds and normal breath sounds. Initial lab results showed a white blood cell count of 7.4 k /mL, hemoglobin of 14.2 g/dL, platelets of 177 k/mL, creatinine of 0.89 mg/dL, AST of 30 IU/L, ALT of 29 IU/L, ALP of 63, total bilirubin of 0.8, Prothrombin time of 13.6 seconds, Partial thromboplastin time of 25.7 seconds , INR of 1.3, albumin of 3.9 g/dL, alpha feto protein of 1380 ng/mL. An abdominal ultrasound was done which showed a 7 * 6 cm mass in the right hepatic lobe , then abdominal computed tomography (CT) scan with contrast and triple phase abdomen CT scan was done for better visualization of the mass which showed a 7.2*5.8 cm heterogeneous enhancing mass in the sixth segment of the liver, with a pseudocapsule bulges on the liver capsule, which has an adjacent small 6*3 cm accumulation of complex fluid which likely represents a ruptured HCC, and less likely a benign liver tumor with regional hematoma, the liver was abnor-

mal in appearance with nodular contour suggestive of underlying cirrhosis/fibrosis. The patient's hemoglobin level dropped to 12.2 g/dL and she became more tachycardic during the course of her admission, so the impression was that the patient has a ruptured HCC, and the decision was to do an IR guided bland embolization of the tumor. The embolization was done using polyvinyl alcohol particles (PVA). After that, the patient remain hemodynamically stable, and later she underwent resection of the tumor and the sixth segment of the liver, during surgery there was no evidence of spread of the tumor outside the liver. At this point the decision was made to follow up the patient closely with AFP,LFT and imaging studies every 3 months for the first 2 years.

DISCUSSION: Spontaneous rupture is a major life threatening complication of HCC that occurs in 3-15% of cases with geographical differences. The incidence is decreasing due to early detection and screening for HCC. Short and long-term survival rate after ruptured HCC is worse compared to non-ruptured HCC patients. Spontaneous rupture is considered the third leading cause of HCC related death,after tumor progression and liver failure with an associated mortality that is higher than ruptured esophageal varices.

CV49

Percutaneous Endoscopic Gastrostomy Tube Migration Associated with Acute Pancreatitis

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INTRODUCTION: Percutaneous endoscopic gastrostomy (PEG) tube is a useful way of providing enteral nutrition to patients with swallowing problems who need chronic nutritional support. Because of its ease and safety of placement, the number of patients with PEG tubes continues to rise. Most of the complications associated with PEG tube are minor, but several have the potential to cause significant morbidity if not recognized and treated correctly. This case report illustrates one of the problems related to PEG tube migration to the duodenum and the associated complications, including disturbance of the biliary flow and acute pancreatitis.

CASE REPORT: A 76 year old female who is a nursing home resident, with a past medical history of Alzheimer dementia, diabetes mellitus, coronary artery disease, hypothyroidism, dyslipidemia and oropharyngeal dysphagia for which she had a PEG tube inserted one year prior to her admission ,her PEG tube was replaced at bedside in the nursing home with a balloon gastrostomy tube shortly before her presentation .The patient was sent from the nursing home for abdominal pain of one day duration,the pain was associated with non-bloody non-bilious vomiting, without any change in bowel habits, fever or chills. Her list of medications included Tylenol, Plavix, diltiazem, insulin lispro, levothyroxine, simvastatin, esomeprazole, and magnesium hydroxide. Initial vital signs showed blood pressure of 145/70 mmHg, pulse rate of 110 beat per minute, and respiratory rate was 18 breaths per min, oxygen saturation was 98 percent on room air. Physical examination was significant for tachycardia,normal heart sounds with no murmurs or added sounds, normal breath sounds and a soft abdomen with epigastric tenderness and active bowel sounds, PEG tube was noted in place.Blood work showed Hemoglobin of 12.1 g/dL , WBC 8.9 k /Î_L , platelets 322 k /Î_L, creatinine 1.53 mg/dL, urea 60 mg/dL, glucose 381 mg/dL, calcium 9.3 mg/dL, albumin 3.3 g/dL, alkaline phosphatase 248 U/L, total bilirubin 0.5 mg/dL, AST 22 U/L, ALT 28 U/L, LDH 204 U/L, lipase 918 U/L,serum triglyceride and serum calcium were within normal limits. Abdominal ultrasound showed distended gallbladder with no gallstones, sludge or biliary dilatation. Computed Tomography (CT) scan of the abdomen revealed suboptimal position of the PEG tube,with the balloon and tip in the second/third portion of the duodenum ,without evidence of pancreatic inflammation.

DISCUSSION: PEG tubes use has increased significantly. It is estimated that 10 percent of nursing home residents and about 1.7 percent of Medicare patients over the age of 85 years undergo gastrostomy tube placement.The most common complications related to established PEG tubes are peristomal infection and leakage,buried bumper syndrome, peritonitis,necrotizing fasciitis and aspiration.Acute pancreatitis secondary to migrated replacement gastrostomy tubes has been rarely reported in the literature.

CV50

Persistent Left Superior Vena Cava

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INTRODUCTION: Persistent left superior vena cava (PLSVC) is rare, and yet the most commonly described thoracic venous anomaly. It is reported in 0.3% of the general population. This anomaly is frequently observed in patients with congenital heart disease and has occasionally been reported in patients without evidence of other congenital abnormalities.

CASE REPORT: 75 year old male with past medical history of hypertension, Diabetes mellitus, seizure disorder, hemorrhagic stroke. Who was transferred from nursing home after he had a tonic-clonic seizure.

Upon arrival to emergency department he was found to be in postictal state, lethargic, febrile with temperature of 101.6 F, hypotensive with BP of 86/45 mmHg, tachypnic and tachycardic. Head CT scan didn't show any evidence any new intracranial hemorrhage, stroke or space occupying lesions. His labs showed white blood cells count of 14,000 K/uL, hemoglobin of 14g/dL,sodium level of 151, lactic acid of 3.6 and creatinine of 3.7mg/dl. After initial resuscitation , the patient was transferred to intensive care unit and a left side internal jugular central venous catheter was inserted under ultrasound guidance. Follow up chest x-ray after line placement showed a new left internal jugular vein central line with the tip projecting over the left side of the mediastinum instead of crossing midline to the right to enter the superior vena cava. Extravascular placement was excluded, and the blood sample drawn from the catheter looked like venous blood (dark blue rather than bright red) with PaO2 of 45 mm Hg, while the ABG's showed PaO2 of 85 mm Hg, which confirms that the catheter was intravenous. A variation of venous anatomy was suggested, but confirmation of the anomaly was necessary. A computed tomography or venography with a contrast dye has been the conventional and precise method of investigation. But considering the patient's status, exposure to contrast dye and radiation during the procedure was considered to be harmful. Finally, we performed a bed-side transthoracic echocardiography for the diagnosis. Echocardiogram revealed a dilated coronary sinus with normal right sided filling pressures, raising the suspicion for the presence of a PLSVC.

DISCUSSION: Persistent left SVC(PLSVC) is the result of a persistent patency of an embryological vessel that is present during the early developmental period. It usually drains into the right atrium through a dilated coronary sinus. However, in some cases, it may drain directly into the left atrium producing a right-to-left shunt, or directly into the right atrium.In most cases PLSVC is asymptomatic; however, in certain situations the observation of this abnormality may have important clinical implications.

CV51

A Case of Hepatitis C Virus Infection and Type I Membrano-Proliferative Glomerulonephritis without Cryogloburinemia

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INTRODUCTION: HCV infection is associated with a 4-fold increased risk of renal insufficiency. Renal manifestations seen among patients with chronic HCV infection include membrano-proliferative glomerulonephritis (MPGN) resulting from essential mixed cryoglobulinemia.

CASE REPORT: A 54-year-old African American prisoner with past medical history of hypertension, hepatitis B (post treatment), and chronic HCV infection presented with worsening epigastric pain of 5 weeks duration. On physical examination, the temperature was 36.7°C, the heart rate 87 bpm, the blood pressure 181/122 mmHg, the respiratory rate 18/minutes and oxygen saturation 100% on room air. The positive pertinent findings were dry skin, elevated jugular venous pulse, and decreased breath sounds at the left lung base. The abdomen was distended but soft, with hypoactive bowel sounds, tender and positive for fluid wave. There was pitting edema on bilateral lower extremities. There was no jaundice, rash, telangiectasia or caput medusae. Laboratory studies revealed increased blood uremia nitrogen level 67 mg/dl, creatinine 2.8 mg/dl, and aspartate aminotransferase 60 U/L; decreased total protein 5 g/dl and albumin 2.9 g/dl. Platelet, coagulation panel, and alanine aminotransferase were within normal limits. Urinalysis showed red blood cell >100 high power field, total protein >300 mg/dL with hyaline casts, and elevated total protein-to-creatinine-ratio of 3.8. Complement levels (C3 and C4) were decreased to 88 and <3 mg/dL, respectively. IgM kappa and IgG lambda monoclonal bands were detected in immunoglobulin assay. Antinuclear antibodies, anti-neutrophil cytoplasmic antibodies and cryoglobulin levels were negative. Hepatitis panel showed HCV genotype 1a with a viral load of 2.3x106 IU/mL. Computed tomography of the abdomen without contrast revealed large volume intra-abdominal ascites and bilateral pleural effusions. No structural renal abnormality was observed. Paracentesis revealed spontaneous bacterial peritonitis without malignant cells. Renal biopsy revealed type I MPGN with focal crescents. The Patient was transferred to receive treatment for chronic HCV infection.

DISCUSSION: Few case reports exist on type I MPGN in patients who are HCV positive but cryogloburinemia negative. Reviews indicated multiple concerns on cryoglobulin tests (e.g., sample handling and methodology) potentially leading to false-negative results.

CV52

A Case of Guide Wire Fracture with Minimal Manipulation: Case Report and Literature Review

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INTRODUCTION: Dislodgment of wire is a rare complication of endovascular interventions, often life threatening with a risk of distant embolization and acute coronary thrombosis though the outcome of those complications are unknown.

CASE REPORT: A 61-year-old male with past medical history of diabetes mellitus, hypertension, dyslipidemia, admitted for staged PCI after history of recent STEMI with primary PCI of Left anterior descending artery. We initially cannulated the left circumflex artery, a KINETIX plus MOD support (0.014*185cm) wire was used, and drug eluting stent was placed across the mid left circumflex lesion and deployed at a maximum inflation pressure of 12 Atm, during an attempt to pull back the wire to cannulate OM-3 vessel a fracture of the distal segment of KINETIX wire occurred though the operator did minimal manipulation of the wire. Because an attempt of retrieval using a snare failed the decision to place a stent over the fracture wire was made.

DISCUSSION: Dislodgment or fracture of catheter components is rare but more frequently encountered nowadays as the number of interventional procedures is increasing. Complications might be life threating and immediate intervention should be considered. Stenting over a fractured catheter component might be protective from future thrombotic events as in our case, consensus might be needed in this regard and further research is required.

CV53

Ruptured Left Ventricular Pseudoaneurysm: A Possible Complication of Power Injector Assisted Ventricular Angiography. A Case Report and Review of the Literature

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INTRODUCTION: Left ventricular pseudoaneurysm, also referred to as contained left ventricular wall rupture, is a rare complication that is reported in about 0.2 to 0.3 percent of all myocardial infarction patients.Since it has a high risk of fatal rupture, early surgical repair is recommended once pseudoaneurysm is diagnosed.

CASE REPORT: We are presenting a case of 66 year-old male with a past medical history of diabetes mellitus and hypertension, who presented to our emergency department complaining of chest pain for three days. Emergent Coronary angiography was done for STEMI and showed a total occlusion of the posterior descending artery. Left ventricular angiogram (LV Gram) showed an inferior wall pseudoaneurysm, During cardiac catheterization the patient received two powered injection LV Grams. Shortly after that the patient became hypotensive and hemodynamically unstable, which then developed in to cardiac arrest. At this point the assumption was that the pseudoaneurysm ruptured, causing hemopericardium and cardiac tamponade, so pericardiocentesis was immediately performed and a bedside echocardiogram confirmed the diagnosis of moderate to severe pericardial effusion with diastolic collapse of the right atrium and ventricle. The patient's blood pressure didn't improve after the pericardiocentesis despite the removal of about 150 ml of bloody pericardial fuid. By that time the cardiothoracic surgeon was available and an emergent lower mini sternotomy surgery was performed ,during which the pericardium was resected, and bloody pericardial fluid with clots was seen confirming the diagnosis of cardiac rupture. Unfortunately the patient remained pulseless with no recordable blood pressure, despite all the efforts which were made to resuscitate him, and he was pronounced dead.

DISCUSSION: Fatal rupture, hemopericardium, and tamponade are among the most important complications of pseudoaneurysm. Although no literature is available concerning the safety of left ventriculagraphy angiography in patients who presents acutely with left ventricular pseudoaneurysm, we suggest that care should be taken while performing left ventriculography to avoid fatal rupture.

CV54

A Interesting Case of Rhabdomyolysis Due to Ingestion of Energy Drink Volt

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INTRODUCTION: Rhabdomyolysis is defined as elevation of serum creatine kinase (CK) levels of at least 10 times the upper limit of normal; followed by a rapid decrease of the CK level. Classical features include myalgia, weakness and pigmenturia. Acute renal failure due to acute tubular necrosis is the most anticipated complication. Common causes include substance abuse, medication, trauma and epileptic seizures. We present a case of male who exercised for 2 hours after ingesting energy drink and subsequently developed rhabdomyolysis.

CASE REPORT: A 35 y/o male with no significant past

medical history presented to the Emergency department for dark colored urine from past 3 days. Patient stated that he had not been to the gym for about a year and as part of a New Year resolution he wanted to start working out again. Patient took the supplement Neon Volt before starting the work out 3 days ago. He worked out for 2 hours that day and drank only juices. The next morning patient noticed inability to move his arms, chest pain and dark colored urine. His symptoms didn't resolve so he came to the hospital. Patient denied dysuria, fever, and trauma. Patient has history of cigarette smoking half a pack a day from 18 years. He admitted to taking marijuana daily but denied cocaine abuse. On Physical Examination, temperature was 97.8, Respiratory rate 16, Pulse 77 and blood pressure 147/97, saturation was at 98% on room air. The positive pertinent findings are musculoskeletal examination were decreased range to movements at elbow with flexion and chest wall tenderness. Lab studies showed CK of 73739 and Basic metabolic panel showing sodium 140, potassium 4.0, chloride 104, bicarbonate 27, Blood Urea Nitrogen 14, creatinine 0.89. The day after admission, patient's CK level went up to 100,000. After continuing with the I.V fluids, CK levels decreased significantly and patient's symptoms improved. All throughout hospital course, patient's kidney function remained unremarkable.

DISCUSSION: The use of nutritional supplements in the United States has increased over the past 2 decades. Review of literature revealed several reports of adverse events associated with the abuse of such products. Thus, we hypothesize that the supplements combined with normal physical training activities could result in serious muscle injury.

CV55

Kaposi's Sarcoma Following Initiation of HAART

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INTRODUCTION: AIDS-related Kaposi's sarcoma is a common indolent illness seen in our HIV population. These patients can have multiple episodes of Classic Kaposi's before restarting HAART. There is another form of Kaposi's sarcoma which is disseminated and rapidly progressive disease seen after initiation of HAART. This is believed to be a form of Immune Reconstitution inflammatory syndrome (IRIS).

CASE REPORT: A 64 year old male with PMHx of HTN, HIV presented to the outpatient podiatry clinic for evaluation. In his initial visit the patient was noted to have multiple reddish-flesh colored nodules on the lower extremities and feet. He was recently diagnosed with HIV 4 months prior and was started on HAART 1 month ago. He stated he was compliant with his medications. Upon further questioning, the nodules had first appeared approximately 1 week ago and were rapidly progressing. He denied previous history of similar lesions or any other systemic complaints. Given the unusual presentation, a skin biopsy was performed and pathology revealed Kaposi's Sarcoma. The patient was referred to hematology/oncology clinic for further evaluation. A CT scan of the chest and abdomen was done which showed scattered, bilateral, irregular shaped, pulmonary nodules predominantly in a peribronchial vascular distribution, compatible with patients history of Kaposi's Sarcoma and it also showed a 1.7 cm focal lesion within the right lobe of the liver. He continued to follow up in podiatry clinic and private infectious disease physician. He is now scheduled to receive chemotherapy with his hematologist/oncologist.

DISCUSSION: The onset of IRIS-associated Kaposi's sarcoma is usually seen as early as 3 weeks after initiation of HAART. These cases can be either mild or severe (some even life threatening). In patients with rapidly progressing and symptomatic IRIS-associated Kaposi's sarcoma, initiating systemic chemotherapy has been useful in suppressing further progression and HAART therapy should be continued.

CV56

A Case of Respiratory Failure with Dual Infectious Etiology

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INTRODUCTION: Combined, bacterial-bacterial infections in children and adults are less common and not commonly reported in the literature. Community acquired pneumonia can be severe even with mono-infection of either bacteria or viral induced. One-tenth of inpatients with severe CAP (SCAP) require treatment in intensive care units (ICUs), typically requiring ventilatory support or septic shock treatment.

CASE REPORT: 49 yo African American female PMH significant for SLE, DM2, HTN, latent tuberculosis detected 6 months prior to this episode, which has been treated with Isoniazid since then presents to the ED @ SMMC, complaining of 1 day of labored breathing. The patient states she has a cough productive of green sputum and fevers. She checked her temp at home and it read 101.5 Fahrenheit. She became notably short of breath throughout the day with left sided chest pain on inspiration. Home medications include Isoniazid, Pyridoxine, Prednisone, azathioprine. Exam reveals VS: T 101.5, BP 87/61, P: 120, RR 28 on 96% 3LNC. On general appearance, she was lethargic;

speaking in short sentences, and was awake, alert and oriented. She had mild pallor. She had no pharyngeal swelling, erythema or exudates. Chest examination was remarkable for tachycardia and tenderness over the left lower chest wall. Lung examination was consistent with rales in the left lower lung field. Subtle dullness on percussion was also noted on the left lung field.Lab data revealed Leukocytosis at 16.2, and procalcitonin level of 163. CXR noted blunting of the left costophrenic angle due to suspected pneumonia. Pt. was in septic shock and respiratory failure. She was empirically given Vancomycin, PipTazobactam, and Levofloxacin. Blood cultures drawn in ED, became positive for streptococcus pneumonia (2 bottles), determining the organism responsible for the apparent pneumonia. Atypical serologies which were also sent revealed Mycoplasma IgM antibody was positive (963).

DISCUSSION: Polymicrobial infections in CAP have been considered to cause more severe inflammation and clinical disease than single microbial infections. Our described case had a severe presentation, possibly due to a response to more than one etiologic organism. Failed clinical improvement in cases of appropriate therapy should prompt consideration for searching additional infectious etiologies.

CV57

Left Ventricular Aneurysm and Ventricular Tachycardia as Initial Presentation of Cardiac Sarcoidosis

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INTRODUCTION: Cardiac sarcoidosis (CS) is a rare, potentially fatal disease. It has a wide range of clinical presentations that range from asymptomatic electrocardiogram changes to sudden cardiac death. Ventricular aneurysms and ventricular tachycardia are seen late in the disease, and are rarely the presenting manifestation of the disease. Diagnosis of CS is challenging and often missed or delayed.

CASE REPORT: We report a 35-year-old patient who presented with sustained ventricular tachycardia and ST-elevation on electrocardiogram. Cardiac catheterization showed normal coronaries and left ventricular aneurysm. Subsequent 2D-echocardiography showed an infiltrative disease pattern. Cardiac MRI was done that showed late gadolinium enhancement in the septum, apex and lateral wall. The patient was diagnosed with cardiac sarcoidosis and treated with immune suppression and antiarrhythmic agent. In addition underwent AICD implantation.

DISCUSSION: Our case highlights the importance of suspecting cardiac sarcoidosis in young patients presenting with electrocardiogram changes, and present an atypical presentation of this disease.

CV58

Hafnia alvei as an Unusual Causative Agent for Skin and Soft Tissue Infection

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INTRODUCTION: *Hafnia*, one of more than 40 genera of the Enterobacteriaceae family, *H. alvei* has for decades been considered a commensal of the human gastrointestinal tract. However, there is increasing awareness and recognition of H. alvei as a causative agent for disease especially in immunocompromised patients. The patient presented in the following case presented with cellulitis with abscess formation and subsequent acute osteomyelitis with *Hafnia alvei* isolated on culture.

CASE REPORT: A 50-year-old gentleman with past medical history of intravenous drug abuse presented with complaint of right thumb swelling and pain associated with fever and chills for two days. He admitted to burning himself two weeks prior, and the swelling and erythema had progressively worsened. On exam diffuse swelling of the right thumb noted and fixed flexion with pain was elicited upon passive extension. X-ray revealed soft tissue swelling without any fracture or osseous abnormality. Infectious disease consultation was obtained, and patient's antibiotic regimen changed from vancomycin and piperacillin plus azobactam to ceftaroline plus metronidazole to cover for gram-positive organisms including MRSA and anaerobes. The patient was evaluated by surgery and subsequently underwent incision and drainage of the right thumb flexor tendon sheath, drainage of the circumferential abscess, debridement of the necrotic nail bed, and resection of the distal phalanx after intraoperative exam revealed bone softening consistent with osteomyelitis. The purulent materials as well as necrotic tissue and bone samples were sent to microbiology and pathology respectively. Prior to the return of these results, however, the patient signed out against medical advice and received no further antimicrobial therapy. Cultures later revealed isolates of *Hafnia alvei* and *Streptococcus viridans* group, while the pathology results expressed fragments of hyperkeratotic skin and underlying subcutaneous tissue with acute inflammation consistent with abscess and fragments of bone with evidence of acute osteomyelitis. He was readmitted two weeks later with a complaint of increasing pain, erythema, and swelling of the right thumb associated with fever, chills, and generalized fatigue. Magnetic resonance

imaging (MRI) of the right hand, at that time, indicated the presence of soft tissue edema in the distal aspect of the thumb and possible osteomyelitis. Patient returned to the operating room for further excision of necrotic tissue and resection of osteomyelitic bone. He subsequently signed out against medical advice again before completing therapy. He was ordered to complete an extensive course of antibiotics with arrangements for outpatient follow up with surgery and infectious disease.

DISCUSSION: The most concerning issues pertaining to the Hafnia genus are its pathogenesis and subsequent disease spectrum in humans. Although there is prior isolation from nearly every body fluid and orifice, H. alvei infection rate is relatively rare; and its clinical significance is in those at the extremes of ages and immunocompromised states. Treatment is generally based on antimicrobial susceptibility testing with sensitivity generally to carbapenem, monobactam, quinolones, and aminoglycoside.

CV59

Peritoneal Tuberculosis Mimicking Advanced Ovarian Carcinoma

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INTRODUCTION: Peritoneal tuberculosis is a form of abdominal tuberculosis that predominantly involves the omentum, intestinal tract, liver, spleen or the female genital tract in addition to the peritoneum. It results from reactivation of latent tuberculous foci in the peritoneum or from haematogenous spread from a primary disease in the lungs. Many women with peritoneal tuberculosis lack typical symptoms and laboratory data, therefore, peritoneal tuberculosis is usually difficult to diagnose in women and often mimics advanced-stage ovarian carcinoma or primary peritoneal carcinoma.

CASE REPORT: 39-year old female patient with no past medical history presented with a one week history of lower abdominal pain, unintentional weight loss, and generalized fatigue. Her first day of the last menstrual period was 30 days ago. She denied nausea, vomiting, or change in bowel habit. No fever or chills. No urinary symptoms. She is from Peru, moved to the United States 8 years ago. She is G 5 P 2+3. Her vital signs were normal. Physical examination revealed mild lower abdominal tenderness. Gynecological examination results were normal. The rest of her examination was unremarkable. Laboratory studies were normal, except for CA125 level: 203 U/ml. Transvaginal ultrasound scan showed bilateral complex ovarian lesions. CT scan (abdomen/pelvis) showed bilateral complex multiseptated adnexal masses, small ascites with stranding of the suprapubic omental fat and peritoneal nodules. Findings suggestive of bilateral ovarian malignancy with omental and peritoneal metastasis. Diagnostic laparoscopy revealed the presence of multiple nodules diffusely covering the peritoneal surfaces, omentum and adnexa. Frozen section, at the time of laparoscopy, revealed necrotizing granulomas most consistent with disseminated tuberculosis that was confirmed at the time of final pathologic review and culture. Laparoscopy confirmed the diagnosis of peritoneal tuberculosis and no malignancy, and thereby unnecessary extended surgery was avoided. Antituberculosis treatment was commenced, with full resolution of her symptoms and a decrease in CA-125 level.

DISCUSSION: Peritoneal tuberculosis is an uncommon disease and many women are initially thought to have ovarian malignancy. Laparoscopy including biopsies is a sufficient method to provide the diagnosis. If no malignancy is detected and the diagnosis of peritoneal tuberculosis is confirmed, unnecessary extended surgery is avoided and anti-tuberculosis treatment is started.

CV60

Warfarin-induced Leukocytoclastic Vasculitis

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INTRODUCTION: Oral anticoagulants are widely used in the prevention and treatment of venous and arterial thrombotic events. Bleeding is a major adverse effect, but other non-hemorrhagic adverse reactions are also considerable. Warfarin-induced skin changes are uncommon adverse effects of warfarin therapy. The cutaneous complications of warfarin therapy include ecchymosis, photosensitivity, purple toes syndrome, skin necrosis, and vasculitis. We report a 79-year old male with leukocytoclastic vasculitis secondary to warfarin. Skin biopsy confirmed leukocytoclastic vasculitis. Cutaneous lesions resolved after warfarin was discontinued.

CASE REPORT: 79-year old male presented with a 5-day history of progressive, well-demarcated non-pruritic cutaneous lesions on his lower extremities. He had a history of hypertension and dyslipidemia. He had prescriptions of Lisinopril, hydrochlorothiazide, and simvastatin. Moreover, he had taken warfarin 2.5 mg P.O daily for 4-weeks as a deep venous thrombosis prophylaxis after he had right total knee replacement surgery for sever osteoarthritis 4-weeks ago. The patient denied any history of drug or food allergy. No fever or chills. No insect bites. No joints pain or

headache. No nausea, vomiting, hematuria or urinary symptoms. His vital signs were normal. Physical examination revealed bilateral lower extremities (ankle - mid thigh) palpable non-planshale purpura. The rest of his examination was unremarkable. All blood tests including platelet count were normal, except for creatinine: 1.47 mg/dL, proteinuria and complement 3 level was mildly decreased. Histological examination of the involved skin demonstrated small blood vessels vasculitis with predominantly neutrophilic infiltrate admixed with few eosinophils consistent with leukocytoclastic vasculitis. Warfarin was suspected as the cause of the vasculitis, and it was discontinued. Oral prednisone therapy was started at a dose of 40 mg/day, as well as antihistamine. The skin lesions gradually improved after the discontinuation of warfarin and initiation of steroid therapy. Furthermore, his renal function recovered, as well as proteinuria. The patient was discharged, on tapered prednisone, in stable condition free of cutaneous lesions and with recovered renal function.

DISCUSSION: Warfarin-induced vasculitis is very rare. To our knowledge, this is the first case report of warfarin-induced normal-latency leukocytoclastic vasculitis who presented with proteinuria in addition to skin lesions. It is critical to be aware of this potential adverse effect of warfarin to enable prompt diagnosis and treatment in similar cases.

CV61

Mondor's Disease of the Penis: A Forgotten Entity

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INTRODUCTION: Mondor's disease of the penis is a very rare and under-reported condition which is characterized by thrombosis in the superficial dorsal penile vein (SDPV). This benign condition is self-limiting and usually completely resolves after 6-8 weeks of conservative management. Surgical options include thrombectomy and SDPV resection when the condition associated with chronic or severe pain. Although penile Mondor's disease is rare, proper clinical diagnosis and consequent reassurance can help the patient to dissipate the anxiety and the following erectile dysfunction.

CASE REPORT: 41-year old male with no past medical history presents with swelling and pain of penis for 3-weeks. Our patient noticed the appearance of a painful cord on the dorsal aspect of his penis, being more painful during erections. The pain was throbbing in nature. There was no associated itching, discharge, hematuria, or dysuria. He denied any history of trauma, vigorous sexual activity, or use of constriction devices. He admits to one sexual partner. He also denied any history of fever or lower urinary tract symptoms. Physical examination revealed a slightly-anxious but physically healthy man with a dorsal cord-like swelling, extending from the pubic-symphysis to mid-shaft of his penis, mild tenderness during palpation. Genitourinary-examination was normal. There was no inguinal lymphadenopathy and the standard laboratory tests (blood and urine) were without pathologic findings. The patient underwent ultrasonography which revealed a non-compressible portion of superficial dorsal vein as well as the lack of venous flow signals in Doppler ultrasonography. Provisional diagnosis of thrombosis of the superficial dorsal vein of the penis was made, and conservative treatment was prescribed in the form of nonsteroidal anti-inflammatory drugs and 500 mg of ciprofloxacin twice daily for 5 days for prophylaxis. The patient was reassured of the benign nature of his condition and was instructed to abstain from sexual activity and was advised to review at three weeks. On his first follow-up visit at 3 weeks, his physical examination revealed a complete resolution of the swelling.

DISCUSSION: Mondor's disease of the penis is a benign and self-limited disease. Patients complain of cord-like-indurations on the dorsal-aspect of the penis. The etiology is unknown. The diagnosis is clinical. Treatment is conservative. Patients should be informed about the avoidance of sexual-intercourse. In most cases, symptoms resolve completely within 6-8 weeks.

CV62

Bilateral Thalamic Stroke Due to Occlusion of the Artery of Percheron in a Patient with a Patent Foramen Ovale

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INTRODUCTION: The Artery of Percheron (AOP) is a rare vascular variant in which a single dominant thalamoperforating artery arises from the P1 segment and bifurcates to supply both paramedian thalami. Occlusion of this uncommon vessel results in a characteristic pattern of bilateral paramedian thalamic infarcts with or without mesencephalic infarctions. We report a 37-year old man with acute bilateral thalamic infarcts. Further evaluation with an aim to define the etiology revealed a patent foramen ovale as the cause of embolism.

CASE REPORT: 37-year old man with no past medical history presented at the emergency department after being found unresponsive in bed. He was last seen normal approximately 6 hours before presentation.

There was no recent history of fever, headache, seizure, or trauma and no known toxic substance exposure. On arrival, his vital signs were normal. On neurological examination, he was comatose with a Glasgow coma scale of 6/15. The pupillary light reflex was absent in both eyes. The vertical oculocephalic reflex was absent. His limbs moved in response to painful stimuli. The rest of his examination was unremarkable. All blood tests including hypercoagulable state workup were normal. Patient was intubated for airway protection, improved after two days, and was extubated. Head Computed Tomography & Brain Magnetic Resonance Imaging demonstrated areas of abnormal signal with mildly restricted diffusion within the medial thalami bilaterally suggestive of acute/subacute infarcts secondary to an acute ischemic stroke in the AOP territory. MR angiography demonstrated patent posterior circulation including the tip of the basilar artery and both posterior cerebral arteries. Anticoagulant therapy was administered. Further evaluation with an aim of defining the etiology revealed a patent foramen ovale on transesophageal echocardiography with spontaneous passage of contrast bubbles from the right auricle to the left cavities. During his stay, he gradually regained consciousness during the hospitalization days with Glasgow coma scale of 10/15. Upon discharge to acute care facility, his eye signs remained along with persistent memory impairment.

DISCUSSION: Occlusion of the Artery of Percheron (AOP) is a rare cause of coma in young patients. Diffusion-weighted-MRI is the imaging modality of choice for early diagnosis and should not be delayed for altered mentation which is a hallmark of this condition since early recognition may lead to more favorable outcomes.

CV63

Mucinous Neoplasm of the Appendix and Pseudomyxoma Peritonei

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INTRODUCTION: Primary tumors of the appendix are unusual and most of them are carcinoids. Adenocarcinomas of the appendix are a category of rare tumors of the gastrointestinal tract, with a frequency of 0.2% -0.5% of all intestinal malignancies and 4%-6% over neoplastic lesions of the appendix. Mucin-producing cystedenocarcinomas or mucous adenocarcinomas, and non-mucin producing or colonic-type adenocarcinomas are included in this category. Their main presentation is that of an acute appendicitis or as a palpable mass, mainly in the right-lower quadrant.

CASE REPORT: A 63-year old male patient presented with right lower quadrant abdominal pain, which started one day before, without other pathological findings in the clinical examination. Laboratory tests on admission showed: WBC: 6.600/mm3 (with normal type), Hb: 14.8 g/dl, Hct: 44.4% and normal coagulation values. The patient was hospitalized for further investigation and underwent medical treatment for 2 days. Computed tomography (abdomen/pelvis) reported normal internal organs and the patient were discharged after the initial clinical symptoms were minimized. Two weeks later the patient presented again with the same abdominal pain. The diagnosis of acute appendicitis was set. CT scan showed and the patient underwent an open laparotomy on a MacBurney section. During the operation a dense and diffuse myxomatous collection was found around the appendix. Appendicectomy took place as well as thorough cleaning of the peritoneal cavity. Histological examination of the specimen revealed appendiceal mucinous neoplasm with high risk of recurrence arising in a mucinous cystadenoma with focal transmural mucin dissection with marked acute and chronic inflammation. The patient was then scheduled for peritoneal cavity infusion with heated chemotherapy in an attempt to eradicate residual disease.

DISCUSSION: Mucin producing adenocarcinomas of the appendix are a category of rare cancers of the gastrointestinal tract. Although at present they are a well-studied pathologic entity, the crucial issue of their preoperative diagnosis remains unsolved.

CV64

Fatal HSV-1 Pneumonia in Patient with Medically Controlled HIV Infection (High CD4, Low Viral Load)

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INTRODUCTION: Herpes simplex viruses (HSV-1, HSV-2; Herpesvirus hominis) is a double stranded DNA virus which produces a variety of infections involving mucocutaneous surfaces, the central nervous system and on occasion visceral organs. HSV pneumonitis is uncommon except in severely immunosuppressed patients and may result from extension of herpetic tracheo-bronchitis into lung parenchyma. The mortality rate from untreated HSV pneumonia in immunosuppressed patients is high. Here we present a case with HSV-1 Pneumonia in patient with controlled HIV infection.

CASE REPORT: 54 yo AAM with PMHx of HIV on HAART therapy (CD4-294/28%), COPD presents with

SOB * 1 week associated increased sputum production greenish-yellow. Denied any fever, chills, nausea, vomiting or any muscle aches. Flu vaccine was up to date. Patient did say that in his household people were sick with cold like symptoms. No genital or oral lesions were appreciated on physical examination. Vitals in the ER showed RR 42, HR 112, BP 122/86 and O2 Sat 88% on 42% Bipap. Labs showed WBC: 21, Procalcitonin: 14.8. CXR showed multilobar PNA. Patient was intubated subsequently for Acute respiratory failure and started on Vancomycin, Azithromycin and Ceftriaxone. Influenza A and B was negative. LDH was 585. Patient was still spiking fever on antibiotics with T max: 105 F. Patient went into septic shock secondary to PNA and needed pressor support. Despite treatment, patient's oxygenation worsened. Bronchoscopy was done and BAL was sent which was Positive for Herpes Simplex Virus. HSV 1 IgG was high >62. HSV culture was sent. Patient was started on Acyclovir and later changed to Valacyclovir which resulted in significant improvement of the overall condition of the patient. Patient still needed respiratory support for which tracheostomy was done. Pt was discharged to LTACH.

DISCUSSION: This patient with well controlled HIV had severe ARDS secondary to HSV - 1 Pneumonia which resulted in severe respiratory failure requiring tracheostomy. This case shows the severity by which HSV pneumonia can present and should always be kept in mind when treating HIV patients with pneumonia not responding to empiric antibiotic therapy.

CV65

Metoclopramide induced Parkinsonism in an Intensive Care Patient with Vomiting

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INTRODUCTION: Parkinsonism is a disorder characterized by tremor, bradykinesia, and rigidity. While appearing as Parkinson's disease clinically, Parkinsonism is comprised of all etiologies which may produce this particular constellation of symptoms, such as medications, heavy metals, or other toxins. We present a case of a patient who exhibited acute Parkinsonism features while on metoclopramide for post-operative nausea and vomiting.

CASE REPORT: The patient is a 55 year old male patient with Glioblastoma Multiforme who presented for elective craniotomy with resection of the lesion. The patient recovered well after treatment, but his course was complicated by nausea and vomiting which were felt to be post-operative in nature. He was prescribed 10mg of metoclopramide per required need every six hours which he took readily. On day 3 of his admission, the patient was noted to have rest tremor by the nursing staff. Further examination revealed bradykinetic movements and rigidity of the arms and legs bilaterally, quite different from his baseline neurologic status the day prior. Metoclopramide was discontinued with eventual return of his symptoms to baseline.

DISCUSSION: Parkinsonism is a potential side effect of anti-dopaminergic medications such as Metoclopramide with its central and peripheral effects. This case illustrates the need for careful consideration and monitoring of patients on Metoclopramide.

CV66

Orolingual Angioedema in an Acute Stroke Patient After TPA Administration

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INTRODUCTION: Orolingual angioedema is a life threatening condition, most classically associated as a side effect of angiotensin converting enzyme inhibitors (ACE Inhibitors). In many cases, the complication is limited to the lips and tongue, but, occasionally, may extend to the oropharynx and lead to upper airway obstruction. We present the case of a 52 year old male patient who presented with an acute stroke and met criteria for thrombolytic therapy with secondary orolingual angioedema after tPA administration.

CASE REPORT: The patient is a 52 year old male patient with a past medical history of hypertension and diabetes who presented to the emergency room with acute onset of conjugate gaze palsy to the left, right hemibody weakness and sensory loss with neurologic symptoms localizing to the pons. His initial vitals were 154/66 BP, 99 HR, 23 RR, with a 98% oxygen saturation. A non contrast CT of the head was obtained which revealed no acute intracranial hemorrhage. Due to lack of contraindications to thrombolysis, the patient was given tissue plasminogen activator (tPA). Shortly after administration, the patient began to complain of shortness of breath and "my tongue is swelling and I can't talk well". Physical examination revealed markedly swollen lips and tongue, limiting the oral cavity and complicating articulation. The patient was emergently treated with epinephrine and histamine blockers with some resolution of symptoms.

DISCUSSION: Orolingual angioedema is a potentially life threatening complication of some medications. This illustrates another concerning case of orolingual angioedema secondary to tissue plasminogen activator (tPA) with marked swelling of the lips and tongue.

CV67

Lymphangioma-Like Kaposi Sarcoma Presenting as Stasis Verruciformis-A Case Report

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INTRODUCTION: Lymphangioma-like Kaposi Sarcoma is a rare subtype manifestation of Kaposi Sarcoma. Kaposi Sarcoma is a tumor manifestation due to human herpesvirus 8 and typically presents in individuals who are HIV positive. Clinical presentations of lesions are unusual and non-specific to kaposi sarcoma and can often result to a misdiagnosis. Early diagnosis of LLKS can lead to long term treatment options and significant reductions in symptoms. Such modalities include surgical debridements, HAART, and chemotherapy.

CASE REPORT: A 68 year old male presented to the Wound Center for treatment of multiple slow growing granulating lesions that covered more than 60% of his left lower extremity. Dermatological manifestations had a wide variety of clinical presentations. A small portion of lesions were closed bulla type lesions that revealed fluctuantions upon palpations. A good majority of the foot contained circumscribed verruca-like plaques with thickened, rough, and spiky appearance. The majority of the lesions appeared to be hypergranulated, pedunculated, denuded, weeping wounds. Several excisional biopsies of lesions and wound cultures were obtained and came back with non-conclusive results. Initial biopsies results revealed hypergranulation tissue with evidence of skin necrosis and bacterial colonization.

DISCUSSION: Discussed differential diagnosis included neurofibromas, filariasis, madura foot, and pyogenic granulomas. Histological identification remains the gold standard for identification despite clinic appearance with strong suspicion. Without a proper diagnosis and treatment of LLKS, it can lead to severe debilitating wounds leading to a loss of quality of life.

CV68

Split Thickness Skin Graft as a Successful Limb Salvage Option for Treatment of Diabetic Wounds Complicated with Subcutaneous Emphysema

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INTRODUCTION: Diabetic wounds complicated with subcutaneous emphysema can be life threatening infections and often result in aggressive surgical intervention of the lower extremity especially in the diabetic population. These complications include major amputations and even death. We present three diabetic patients who presented with complicated diabetic wound infections, underwent emergent surgical procedure, and later, successfully, underwent application of split thickness skin graft to facilitate secondary closure of surgical sites.

CASE SERIES: In our case series, we present three cases of gas gangrene that initially underwent emergent I&D with antibiotic therapy, local wound care at post-op visits, and successful limb salvage with the application of autologous split thickness skin graft for secondary wound closure.

DISCUSSION: By applying split thickness skin graft to treat lower extremity wounds one can enhance secondary closure of wounds. Our three folded approach included initial I & D, aggressive local wound care, and finally STSG, to maximize healing process and achieve our limb salvage goals.

CV69

Adult Polycystic Kidney Disease: A Rare Cause of Uncontrolled Hypertension in a Young Man

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INTRODUCTION: Autosomal dominant polycystic kidney disease (ADPKD) occurs in approximately 1 in every 400 to 1000 live births. It is estimated that less than one-half of these cases will be diagnosed during the patient's lifetime, as it is often clinically silent. The diagnosis of (ADPKD) relies principally upon imaging of the kidney. Typical findings include large kidneys and extensive cysts scattered throughout both kidneys. Renal ultrasonography is customarily utilized for screening because it is safe, effective, and inexpensive.

CASE REPORT: A 37 year old Hispanic male came to medical clinic for pre-operative evaluation for repair of his abdominal hernia. The patient's blood pressure (BP) was elevated in clinic (210/136) and he was sent to the emergency room for further evaluation and management. He denied any complains of headache, visual changes, chest pain, dyspnea, palpitations, dizziness, abdominal pain, nausea or vomiting. The patient had known past medical history of hypertension and chronic kidney disease, which was diagnosed 3 years ago, but he had been non-compliant with respect to his antihypertensive medications. In the emergency department, patient's vitals showed BP of 206/133 mmHg, heart rate of 72/min, respiratory rate of 16/min, temperature of 98.2˚F and O2 saturation of 100% on room air. On physical exam, he had multiple cystic lesions of variable sizes on his scalp and back. Cardiovascular exam revealed normal first and

second heart sounds with no murmur, rub or gallop. Lung examination was clear to auscultation bilaterally. Neck exam did not demonstrate any jugular venous distension. Abdominal exam was significant for 3 x 6 cm mass in the epigastrium. Lab work showed elevated blood urea nitrogen and creatinine of 30 and 3.71 respectively. CT abdomen revealed bilateral renal and hepatic cysts. Patient was admitted to coronary care unit for BP control with intravenous nicardipine and nitroglycerin. He developed a headache for which CT of the head was done which ruled out a cerebral bleed. Patient was counseled regarding adherence to medication and regular follow up with nephrology and was discharged on oral medications.

DISCUSSION: ADPKD is common genetic disorder leading to end stage renal disease in the United States. Almost 50% of patients require dialysis by age of 60. If left undiagnosed, fatal complications like subarachnoid hemorrhage may occur. Early screening in young patients; with family history of ADPKD is recommended to avoid significant morbidity or mortality.

CV70

Acute Iron Poisoning in an Adult

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INTRODUCTION: Iron is an element essential for myriad cell functions, but in excess quantities is highly cytotoxic, and can even be lethal. The majority of acute iron toxicity cases occur in children less than 5 years of age who present with accidental ingestion of iron supplements. Intentional iron tablets overdose in adults is uncommon. Clinical outcome is variable and depends upon the quantity of iron ingested, other drugs consumed concurrently and the time until treatment.

CASE REPORT: We report a case of a 25-year-old female with no past medical history who presented after a suicide attempt via multi-drug overdose. She felt depressed for the past 2 months after undergoing an elective termination of pregnancy at approximately 24 weeks. The patient ingested an indefinite number of prenatal vitamins, iron pills and diphenhydramine along with unknown medications from her step-father's prescriptions. She took 2 handfuls of medications at 10 AM, and within 15 minutes developed symptoms of nausea and non-bilious, non-projectile red colored vomiting. Three hours after ingestion she developed intermittent epigastric pain and presented to the Emergency Department at 7pm. She was noted to have lassitude, flat affect and severe abdominal pain; she could not lay supine, and felt better curled up and lying still. Her tenderness was associated with feelings of warmth and sweating and decreased urinary output. She did not develop constipation, cough, diarrhea, dyspnea, headaches, fever, loss of consciousness or seizure activity. Diagnostic tests were notable for WBC 12.9, hemoglobin 14, anion gap 12, elevated iron level 322, salicylates < 4, acetaminophen 2.4, elevated osmolality 298. Of note, Iron level was 322. Normal liver fuction. Urine drug screen was positive for opiates and tricyclic antidepressants. Abdominal x-ray revealed hyper opaque densities in the antral area of her moderately distended stomach. Her bowel was irrigated via nasogastric tube and she received chelation therapy with desferrioxamine along with supportive care. During the patient's hospital stay, her iron level continued to decrease and her physical symptoms completely resolved although psychiatry was involved for her depression.

DISCUSSION: Treatment of acute iron poisoning includes early decontamination of the gut, chelation with parenteral desferrioxamine, intensive supportive therapy and, occasionally, dialysis. Administration of desferrioxamine may color the urine a pinkish red, a phenomenon termed "vin rose urine."

CV71

Oncologic Brainstem Herniation

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INTRODUCTION: Basal cell carcinoma is commonly referred to as an "epithelioma" because of its typical low propensity for metastasis. Metastatic basal cell carcinoma is estimated to occur in less than 0.5% of cases, making widespread malignant disease an incredibly rare occurrence. Primary basal cell carcinoma in the head and neck is the culprit lesion in an estimated 85% of metastatic disease. This case demonstrates a primary head and neck basal cell carcinoma with metastases to the brain, with devastating results.

CASE REPORT: This is a 62 year old African American male with extensive oncologic history of basal cell carcinoma. Notably, the patient had no medical care previous to being incarcerated. The patient had been previously diagnosed with basal cell carcinoma with pulmonary metastases, as well as an occipital mass lesion thought to represent brain metastases. The primary basal cell tumor was estimated to be greater than 10 cm, as evidenced by a large scar from resection. He underwent multiple surgeries as well as radiation therapy, with limited success.. There was extensive tumor invasion into the oropharynx, necessitating a PEG insertion. His overall prognosis was labeled as guarded. Immediately prior to presentation, the patient had been developing worsening ataxia. The

patient was evaluated in the emergency department. The patient was found to be significantly altered with a GCS score of 8. He was febrile with a temperature of 101.4 degrees Fahreinheit. A head CT with contrast showed a concerning increase in the size of the previously mentioned occipital brain lesion. Additionally, there was concern for mass effect, vasogenic edema, and threatening early brainstem herniation. The patient was intubated and transferred to a tertiary facility for stat neurosurgical intervention.

DISCUSSION: This case demonstrates an unusual consequence related to basal cell carcinoma. While head and neck basal cell carcinoma is the most likely basal cell to metastasize, there are few reports of brain metastases in the literature. Had this patient sought even basic medical care, his outcome might have been different.

CV72

Prader Willi Syndrome and Medication Sensitivity

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INTRODUCTION: Prader Willi Syndrome is a genetic disorder characterized by neonatal hypotonia, feeding problems, global developmental delay, small stature, hypogonadism and small hands and feet. Hyperphagia results in obesity and medical conditions such as diabetes, hypertension and hyperlipidemia. Patients with Prader Willi Syndrome are more vulnerable to psychiatric disorders such as psychosis and mood disorders. Behavioral issues often impacts the individual and families the most. Patient's can become overmedicated due to agitation or disruptive behavior. Careful monitoring and awareness of medication sensitivity is essential in this population.

CASE REPORT: Patient is a 27-year-old, obese, Caucasian male with history of Prader Willi syndrome, intellectual disability, mood disorder NOS and intermittent explosive disorder. He was a transfer from another facility where he was admitted for increased agitation, screaming and flight of ideas. He was having paranoid delusions that gang members were trying to kidnap him. He had recent medication changes by his outpatient psychiatrist. Upon admission, he appeared sedated, diaphoretic, illogical and disorganized. Prior to admission, he was given multiple p.r.n. medications including Intramuscular Haloperidol, Lorazepam and Diphenhydramine. It appeared the patient had drug toxicity and he had a rash in the buttock region. All medications were held and he was transferred to the medical unit for intravenous hydration and observation. His labs and electrolytes improved. His rash was a result of contact dermatitis. He returned to the psychiatric unit AAOX3 and less disorganized. However, he would have outbursts of agitation and begin crying unprovoked. Medications were slowly introduced and he was titrated up to 50mg PO TID of Chlorpromazine. He tolerated the medication well. He was also noted to be isolative with poor sleep and anxiety at bedtime. He was given Mirtazapine 30mg PO QHS and Clonazepam 0.5mg PO QHS. With this medication regimen, family and staff noted improved behavior. He was less agitated, paranoid, sedated and denied auditory hallucinations. Along with medication management, he was given a strict behavioral plan to address his food seeking tendencies and provide a strict routine to minimize agitation.

DISCUSSION: Management of Prader Willi Syndrome is a collaborative effort between the medical and psychiatric teams. Co-morbid conditions associated with Prader Willi Syndrome require close observation for drug-drug interactions and medication sensitivities. Behavioral issues, such as agitation, aggression, skin-picking or head banging are best addressed with behavioral interventions and cautious medication administration.

CV73

Sickle Cell Disease and Recurrent Psychosis

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INTRODUCTION: Sickle cell disease is an autosomal recessive disorder that can clinically manifest in multi-organ dysfunction. Patients can suffer from anemia, vaso-occlusion, hypoxia, micro-infarction, acute chest syndrome and stroke. Neuropsychiatric symptoms such as depression and anxiety may develop. In rare cases, patients will develop delusions or hallucinations. Reported cases of psychosis and sickle cell disease did not report a family history of psychotic disorders. This case presents a sickle cell patient who develops psychosis and the treatment of those symptoms.

CASE REPORT: 30 year old Haitian female with history of sickle cell disease - hemoglobin SC, seizures, TIA, acute chest, DVT and psychosis NOS presents with peri-rectal abscess and paranoid, disorganized behavior. Her first psychotic episode began 10 months ago during a sickle cell crisis. Since that time, she was hospitalized twice psychiatrically. Both admissions resulted in transfer to the medical floors for sickle cell crisis. She was prescribed Risperidone with good effect. However, she was non-compliant with psychiatric treatment and follow up. She was

compliant with her hematology appointments. On this admission, she was admitted for incision and drainage of peri-rectal abscess in the left gluteus. CBC showed mild anemia and electrolytes were within normal limits. Urine toxicology was positive for opiates and CT and MRI of the head without contrast done from previous admissions were unremarkable. Psychiatric examination showed the patient dressed in a hospital gown with a scarf over her head. She was fairly groomed, AAOX3, paranoid, agitated, disorganized, rocking back and forth, and mumbling to herself. She believed that people were hacking into her computer. She was preoccupied with "spirits" disturbing her. She also described poor sleep, poor appetite, poor concentration and low energy. She was prescribed Risperidone 1mg PO BID for psychosis and Duloxetine 30mg PO Daily for depressive symptoms. She was medically cleared and transferred to inpatient psychiatry unit for further treatment. She became less paranoid and bizarre on the medications and her mood symptoms improved.

DISCUSSION: Sickle cell patients developing psychosis have been reported with possible etiologies such as hypoxia, silent infarctions, substance use, depression or idiopathic cause. Resolution of psychotic symptoms occurred with anti-psychotics. In this case, Risperidone was beneficial for the patient. Collaborative psychiatric and medical follow up are essential to manage these patients.

CV74

Recurrent Pneumonia in an Adult Secondary to Aspiration of a Molar Tooth

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INTRODUCTION: Unlike children, clinical presentation of foreign body aspiration in adults is often subtle, and diagnosis requires careful clinical assessment and use of bronchoscopy. Patients with recurrent pneumonia or wheezing limited to a particular region (eg. right middle lobe) have a local anatomic abnormality suggesting the presence of a benign of malignant disease. We present a case of an adult with two years of atypical asthma, chronic cough and recurrent pneumonia secondary to unintentional aspiration of her molar tooth.

CASE REPORT: Patient is a 41 y/o Hispanic female with history of asthma (2 years), recurrent pneumonia (>2 episodes in 1 year), chronic cough (2 years), diabetes who presented with progressive cough with productive whitish sputum, fevers, worsening shortness of breath for 4 days. The cough occurs throughout the day intermittently and does not worsen at night or day. Her last episode of pneumonia was 4 months. Patient also admits to losing her job at a cafeteria due to her chronic cough. She denies any allergies. Socially drinks alcohol and denies tobacco and drugs. Family history is negative for lung cancer or asthma. Vitals revealed Temp: 102.1F BP: 133/77 HR: 115 RR: 18 Oxygen: 94% room air. Pertinent physical exam findings revealed poor dentition, crackles at the Right lung base with dullness to percussion. No wheezes were heard bilaterally. Left lung: clear to auscultation. Pertinent lab findings revealed leukocytosis of 16.6. Normal renal function and hemoglobin. HIV test was negative. Chest X-ray showed persistent right middle and lower lobe lung opacity since last admission. CT scan revealed a possible broncholith in the right bronchus with signs of pneumonia and atelectasis distally. Bronchoscopy was performed which revealed a partially obstructing right main bronchus due to a molar tooth. Patient recovered after removal of foreign body without complications. She was discharged on oral antibiotics and her pneumonia, chronic cough and atypical asthma resolved within a few weeks.

DISCUSSION: Adults presenting with signs of asthma later in life with recurrent pneumonias isolated to one lobe should be evaluated cautiously. Aspirations in adults are variable depending on age and culture. With regards to treatment, flexible bronchoscopy is used for diagnosis with rigid bronchoscope being the standard of care in removal.

CV75

Terminal Complement Blockade By Eculizumab (Ecu) For Vero-Toxin E.coli (VTEC) Associated Hemolytic-Uremic Syndrome (HUS)

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INTRODUCTION: Cell injury in VTEC HUS is, in part, complement mediated. Ecu, a humanized monoclonal antibody, is directed at C5 and prevents the formation of the C5-9 membrane attack complex (MAC). Here we explore the use of Ecu in Ecoli O157 HUS.

CASE SERIES: Children with typical diarrheal prodrome HUS received Ecu at clinical presentation. Doses were administered as per a previously established weight cohort dosing regimen at time 0, +1 wk, then every 2 wks until all disease manifestations resolved, but at least for 3 doses. Two patients presented with 1-2 wks of bloody diarrhea followed by progressive weakness, palor and oliguria. Microangiopathic hemolytic anemia was demonstrated along with significant renal dysfunction. Patient 1 became anuric with hyperkalemia and received hemodialysis. Both patients received Ecu approx 18 hrs after

hospitalization. Ecoli O157 was demonstrated in the stool of both patients.

DISCUSSION: The rapid resolution of disease manifestations in both patients, with normalizing of the hematologic parameters within 24 hours and dramatic improvement in renal function within 48 hours of the first dose, establishes Ecu as potentially the first effective treatment for VTEC HUS. The absence of any early adverse reactions is reassuring. The complete normalization of the urinalyses of both patients (including the patient who required dialysis) within a few weeks is encouraging given the well known propensity for late renal complications in patients s/p HUS episodes. More experience with this agent in the treatment of VTEC HUS is urgently needed to fully establish its role.

CV76

A case of Type A Aortic Dissection Diagnosed by Percutaneous Coronary Intervention

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INTRODUCTION: This is the case of a patient presenting with acute onset of chest pain and ST-segment elevation myocardial infarction on electrocardiogram (EKG) who was subsequently diagnosed with Type A aortic dissection and cardiac tamponade during cardiac catheterization. Following diagnosis by percutaneous coronary intervention (PCI) the patient was immediately transferred to an affiliated hospital for emergent cardiothoracic surgical repair.

CASE REPORT: The patient is a 60 year-old male with a history of hypertension who presented to a tertiary care facility complaining of constant, sharp retrosternal chest pain, severity 10 out of 10, radiating to the neck and left shoulder associated with diaphoresis and dyspnea. Pain began acutely 12 hours prior to presentation, without aggravating or alleviating factors; the patient denied fever, chills, or abdominal pain. During initial assessment he was found to be hypertensive at 164/118 with significant EKG findings of ST-segment elevations in Leads II, III, and aVF representing acute inferior wall infarct. The remaining vital signs were within normal limits. A Code STEMI was called and the patient was rapidly transported to the cardiac catheterization lab. During percutaneous transluminal coronary intervention the guidewire was advanced and contrast dye injected. Contrast injection revealed a false lumen, with turbulent flow of contrast and a dye hold in the proximal ascending aorta. Following PCI the patient was continued on ventilatory support under sedation and was transported to an affiliated tertiary care hospital for cardiothoracic surgery evaluation and emergent surgical repair. Pre-operative CT scan confirmed ascending aortic aneurysm with dissection and hemopericardium with tamponade. The patient underwent open surgical repair of the ascending aorta with hemiarch replacement. The patient was managed post-operatively in the cardiac recovery unit, where the patient was continued on ventilatory support. He received platelet and red blood cell transfusions for thrombocytopenia and acute blood loss anemia. He was prescribed antihypertensive medications to maintain a systolic blood pressure of 130-140 mmHg. He was successfully extubated on post-operative day 3 and began physical therapy. On post-operative day 7 the patient developed waxing and waning confusion and neurology was consulted. Head CT showed no acute intracranial abnormality, carotid Doppler was negative for stenosis and dissection, and a daily baby aspirin regimen was recommended. The patient was discharged to home on carvedilol, amlodipine, amiodarone, atorvastatin, aspirin, pantoprazole, and cephalexin.

DISCUSSION: This case demonstrates an incident in which acute Type A aortic dissection was diagnosed as an incidental finding during PCI for ST-segment elevation myocardial infarction. It should be noted that PCI may worsen aortic dissection because contrast injection has been reported to be a risk factor for the extension of dissected aorta. It remains unclear if cardiac catheterization contributed to a worsening in the extent of this patient's aortic dissection.

CV77

Mantle Cell Lymphoma Presenting With Ascitis

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INTRODUCTION: Mantle cell lymphoma (MCL) is a B-cell lymphoma that represents 2-6% of non-Hodgkin lymphoma (NHL). It affects males more than females, usually over the age of 50. Its' course varies from being indolent to aggressive with overall median survival 3-5 years and is incurable. Malignant cells are positive for CD19, 20, 22, 5, Cyclin-D1, surface IgM/D and negative for CD23. Translocation (11:14) is the main underlying pathogenic genetic aberration, which over-expresses Cyclin-D1 that promotes cell cycle progression.

CASE REPORT: A forty-six year old male with a past medical history of rheumatoid arthritis and type 2 diabetes mellitus, who was on adalimumab and metformin, presented to the hospital with worsening respiratory tract infection. He also complained of increasing abdominal distension over a period of three months and unintentional weight loss. On ex-

amination, he was febrile with generalized wasting and non-tender palpable lymphadenopathy, ascites, and hepatosplenomegaly. Labs showed elevated WBC count of 71,000 and absolute lymphocyte count of 61,000 elevated uric acid and LDH. Peripheral smear showed more than 50% atypical lymphocytes with no blasts seen. The bone marrow biopsy flow cytometry and cytogenetics showed t(11:14), positive cyclin D1 and CD5 and negative CD10 and CD23. The diagnosis of MCL was established. Once the patient was stabilized, an abdominal paracentesis was performed and showed cytological analysis consistent with MCL. Staging work up revealed findings consistent with Ann Arbor stage IV disease. Two cycles of chemotherapy were given, however minimal was seen on repeat imaging. The patient was discharged but readmitted subsequently several times for symptomatic ascites and progression of disease. Palliative chemotherapy was administered, however. he continued to deteriorate and expired within five months from diagnosis.

DISCUSSION: Most patients with MCL usually present with generalized adenopathy, splenomegaly and bone marrow infiltration. The gastrointestinal tract and Waldeyer's ring are the most common sites of extra-nodal involvement. Our patient has a rare presentation of ascites as the initial site of involvement.

CV78

A Case of *Staphylococcus Intermedius* Vertebral Osteomyelitis

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INTRODUCTION: *Staphylococcus intermedius* (S. Intermedius) is a zoonotic pathogen that is part of the normal skin and oral flora of dogs and other animals. Case reports of human infections are rare, but the true incidence is unknown because the pathogen is frequently misidentified as *Staphylococcus aureus*. Most reported cases in humans have been related to dog exposure. To our knowledge, ours is the only known case of vertebral osteomyelitis with S. intermedius due to Staphylococcus intermedius without significant canine exposure.

CASE REPORT: A 49-year-old Hispanic male patient with a past medical history of anxiety and alcoholic liver disease presented with progressive low back pain, worsening acutely over the preceding week. The pain was severe, and radiated bilaterally to the legs, with the right predominantly affected. He had fallen six months prior, reporting a compression fracture of L1 and a clavicular fracture that were both managed conservatively. The patient denied having any pet exposure in the home, however had reported a single remote exposure to a dog while at a social gathering. He denied any fever, chills, rigors, chest pain, dyspnea, cough, urinary frequency or urgency, dysuria, urinary or fecal incontinence, anesthesia, leg weakness or paresthesia, or abdominal pain. On examination there were no neurological deficits, nor saddle anesthesia. Straight leg raise testing was negative, and strength was intact in both lower extremities. Focal tenderness was elicited over the midline in the lumbar region. MRI with contrast showed heterogeneous marrow, intra-discal and end plate enhancement from L1-L3 compatible with discitis and osteomyelitis. CT-guided biopsy of the L3-L4 interspace confirmed osteomyelitis and biopsy culture initially reported as coagulase negative staphylococcus grew S. intermedius. Auxiliary infectious workup including blood and urine cultures, Hepatitis B and C viral panels, HIV, and TB Quantiferon were all negative. He completed a course of intravenous Vancomycin for 42 days as an inpatient, followed by a course of oral Trimethoprim/Sulfamethoxazole. Follow-up MRI showed improvement in the discitis and osteomyelitis.

DISCUSSION: S. intermedius represents an interesting and novel pathogen that's relevance is apparent given the growing pet-owner population. As well, in terms of basic microbiological techniques, current literature shows it can be falsely identified as MRSA, notably due to its intermediate Coagulase reactivity, which can be sluggishly or rapidly reactive. Case

CV79

Streptococcus Pyogenes Pneumonia with Pleuritis

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INTRODUCTION: Streptococcus pyogenes pneumonia, a group A strep (GAS) species, is a relatively uncommon cause for pneumonia in an immunocompetent adult. Complications, specifically pleuritis, can rapidly occur and require prompt recognition and appropriate treatment. We present one of four recent cases of Streptococcus pyogenes pneumonia with patients who presented with classic symptoms, and then rapidly developed significant pleuritis.

CASE REPORT: We present a 57 y/o hispanic male with past medical history of asthma who presented with shortness of breath, wheezing, and cough productive of yellowish sputum. Vital signs on admission were blood pressure of 121/77, heart rate of 128, respiratory rate of 18, temperature of 101.1, and oxygen saturation of 100% on room air. X-ray on admission demonstrated a right-sided patchy infiltrate and so the patient was diagnosed with community acquired pneumonia and

started on vancomycin and azithromycin. Within 48 hours, a small to moderate sized right-sided pleural effusion was noted. A CT scan confirmed a large loculated pleural effusion, but also evidenced a 3.4cm x 4.1cm abscess in the right lower lobe. CT guided drainage was performed removing 590cc of yellowish pleural fluid, and 40cc of pus from the abscess. A repeat CT guided drainage was performed removing an additional 350cc of serosanguinous fluid. Cultures evidenced Streptococcus Pyogenes Sero Group A in both the sputum/tracheal aspirate and in the blood. The patient continued to show improvement and was subsequently discharged on Augmentin for 2 weeks.

DISCUSSION: GAS pneumonia is characterized by the rapid onset of fever, chills, dyspnea, productive cough, and pleuritic pain, with numerous potential complications, most notably rapidly progressing pleuritis. Prompt recognition and early intervention are key to positive outcomes. Treatment consists of antibiotics and surgical drainage, but may require surgical intervention (i.e. thoracoscopy).

CV80

Hepatocellular Carcinoma in the setting of Acute Intermittent Porphyria:A Case Report

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INTRODUCTION: Acute intermittent porphyria (AIP) is a genetic disorder involving an insufficiency of the enzyme porphobilinogen deaminase of the heme biosynthesis pathway. Clinically, this manifests as acute attacks of abdominal pain and neuropsychiatric dysfunction, these attacks can be life threatening. Although rare condition, AIP is reported to be the most common form of acute hepatic porphyrias in the United States and genetic carriers of this condition are found to be at an increased risk of hepatocellular carcinoma (HCC).

CASE REPORT: We report a case of 55 year old Slovakian female with a past medical history of acute intermittent porphyria since 25 years. She presented to the emergency room complaining of persistent, sharp,right upper quadrant pain with intractable nausea and vomiting. On physical exam, she appeared dehydrated with tachycardia and right upper quadrant tenderness but murphy's sign was absent. Laboratory studies revealed: hemoglobin-14.6 g/dL, hematocrit-43.8%, white blood cell count -13.8 K/mm3, platelets-147 K/mm3. An underlying contraction related metabolic alkalosis was present with bicarbonate level -28 meq/L.Renal functions revealed BUN/ creatinine- 27/0.8 mg/dL, likely secondary to dehydration. Liver function tests indicated AST-33 U/L, ALT-23 U/L, alkaline phosphatase-78 IU/L, bilirubin(total)-0.4 mg/dL and albumin-4.4 G/dL. Urine porphobilinogen levels were found to be significantly elevated at 43.3mg/L. A Triple Phase Computed Tomography scan(CAT Scan) of the abdomen Figure-1A, revealed HCC with arterial enhancement of a fungating mass measuring 7.3 cm x 8.7 cm x 6.3cm in segments 4a and 8 of the liver. In addition the serum alpha fetal protein level was found to be only 3 ng/mL, and she tested negative for HIV ,Hepatitis A,B, and C serologies. In the acute setting, patient was aggressively treated with glucose loading and intravenous fluids and antihypertensive therapy. She showed remarkable clinical improvement, with the need for us to begin hemin therapy.

DISCUSSION: In recent years the incidence of HCC has tripled in the United States, although surveillance is recommend for high risk groups such as in HCV, HBV carriers. American Physicians also need to be aware of the established risk of HCC in genetic carriers of AIP , and implement recommended screening options.

CV81

Hypercalcemia in Advanced Prostatic Carcinoma: A Rare Event

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INTRODUCTION: Advanced prostate cancer is most frequently associated with predominantly osteoblastic metastasis and hypocalcemia, the occurrence of hypercalcemia in this setting is an exceptionally rare event. Despite its propensity for skeletal metastases during the advanced stages, prostate cancer is most frequently associated with hypocalcemia, this is contrary to malignancies of the breast, lung and multiple myeloma. Many factors work against the onset of hypercalcemia in prostate cancer, beginning from the osteoblastic nature of lesions favouring a positive calcium balance, suggesting a different physiology of mineral metabolism in these patients.

CASE REPORT: We present the case of a 63 year old Mexican man with history of advanced prostatic adenocarcinoma and trans-urethral resection of prostate presented to ER with nausea, vomiting, polydipsia and altered mental status. The patient had previously received multiple lines of therapies including leuprolide, pelvic radiation therapy, docetaxel, cabazitaxel and abiraterone. He was medically castrated secondary to leuprolide therapy, with a testosterone level level 1.20 ng/dL. Clinically, he appeared dehydrated and pale, with no other remarkable findings.

Laboratory findings indicated severe hypercalcemia with calcium-16.1 mg/dL, serum alkaline phosphatase -251 IU/L, PSA-149 ng/mL, hemoglobin-7.6 g/dL and platelets-61,000, BUN-30 mg/dL and creatinine-2.44 mg/dL, intact Parathyroid hormone (PTH) of 10.5 PG/mL and PTH related peptide (PTHrp) of 0.74 pmol/L (normal<2.0 pmol/L). He underwent a PET scan (Figure 1A) and bone scan (Figure 1B) revealing extensive metastatic osteoblastic lesions. His bone marrow biopsy was indicative of metastatic carcinoma of prostatic origin,resulting in severe anemia and thrombocytopenia. The patient was treated with aggressive hydration, calcitonin and pamidronic acid. The patient's clinical status improved with resolving hypercalcemia and acute kidney injury, he was discharged on enzalutamide, leuprolide and zometa. Our patient had followed up two weeks after discharge, his improvement in clinical status was maintained and there was complete resolution of the hypercalcemia with calcium of 9.5 mg/dL.

DISCUSSION: Prostate cancer is typically associated with metastatic osteoblastic lesions, hypocalcemia and hypophosphatemia. We believe that independent and synergistic roles between direct stimulation of osteoclastic activity (via neoplastic cells) and growth factors (like EGF, TGF) and underlying tumor mosaicism should be considered in patients presenting with unexplained hypercalcemia in prostatic carcinoma, it is not merely an extension of skeletal metastases.

CV82

A Case of Posterior Circulation Stroke Mimicking Transient Global Amnesia

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INTRODUCTION: Ability to deduct the anatomical correlation of posterior ischemic infarcts is challenging because majority of the time the clinical presentation in these cases is a symptom salad with a syndrome like picture rather than clear cut clinical deficits. One of the rarest forms of presentation is by transient amnesia. This controversial presentation led us to explore the etiological debate of transient global amnesia (TGA), which is a short term, transient, limited neurological disorder.

CASE REPORT: An 88 year old Hispanic female was brought to the hospital due to confusion of unknown duration. She was last seen normal 2 days ago. Past medical history is significant for hypertension, hyperlipidemia, chronic systolic heart failure, bioprosthetic mitral valve replacement, atrial fibrillation currently on anti-coagulation. Patient was living independently prior coming to the hospital. On physical examination, patient was found to have profound global amnesia with predominant retrograde memory loss. Neuropsychological testing revealed normal executive functioning, intelligence, attention, language, and mood. Her short term working memory was also intact. Her confusion was attributed solely because of her memory loss to the extent that she was unable to identify her family. She had no other complaints. No gross motor, sensory deficits were noted. Gait examination revealed ataxia. Initial lab tests revealed patient was sub therapeutic despite being on Coumadin for anti-coagulation. Computed tomography of brain without contrast was unremarkable. Magnetic resonance imaging of brain revealed multiple tiny infarcts in bilateral occipital lobes, right cerebellum and posterior pons. The multiplicity of infarcts, regionalization of vascular supply, prominent cardiac risk factors, state of sub therapeutic anti-coagulation point towards etiology of thromboembolism to distribution of posterior circulation. Patient was treated for Ischemic stroke and given higher doses of Coumadin to achieve therapeutic range of INR. At 6 weeks of follow-up patient completely regained her memory and currently has no neurological deficits.

DISCUSSION: The usual clinical presentation of vertebra-basilar cerebrovascular ischemic events is dizziness, limb weakness, dysarthria, headache, nausea, vomiting with amnesia being one of the rare forms.We hope to highlight this varied presentation of posterior circulation stroke at the same time raising a question regarding pathophysiology of transient global amnesia.

CV83

Acute Aortic Dissection With Rupture Into The Right Ventricular Outflow Tract

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INTRODUCTION: Acute aortic dissection is a dreaded diagnosis. One of the rarer complications is the rupture of dissection into one of the cardiac chambers, also known as aorto-cameral fistula. It is similar to acute aortic syndromes in clinical presentation and mortality, emphasizing the need for prompt diagnosis and management. We present a case of 76-year-old female who presented with chest pain and was found to have acute aortic dissection with rupture into right ventricular outflow tract (RVOT).

CASE REPORT: A 76-year-old female with a history of hypertension, diabetes, chronic kidney disease and coronary artery disease s/p bypass grafting (18 years ago) presented with sudden onset chest pain.

Examination revealed a continuous murmur loudest at the left upper sternal border, unremarkable electrocardiogram and minimally elevated troponins. A bedside transthoracic echocardiogram showed an abnormal continuous flow originating in the RVOT and traveling into the right atrium. Subsequently, a transesophageal echocardiogram revealed a localized dissection flap in the ascending aorta just above the sinotubular junction with intact sinuses of valsalva. Right and left heart catheterization localized the site of aorto-RVOT fistula and confirmed the step-up in the RVOT oxygen saturation. The patient however decided against surgery and opted for supportive care. She died a week later after an eventful hospital course. Prior history of cardiac surgery seems to be the most predominant risk factor in majority of these cases. Adhesions due to surgery can explain the pathological process that leads to the formation of fistula with rupture into a cardiac chamber, bypassing pericardial sac. Clinically patients may present acutely with severe chest pain or chronically with heart failure symptoms. A good auscultatory exam and a prompt bedside echocardiogram might suffice in establishing this less known diagnosis.

DISCUSSION: It is extremely rare for an acute aortic dissection to rupture externally into the RVOT while sparing the aortic root.The anatomy of mediastinum dictates the extension of ascending aortic dissection into its contiguous structures. It is paramount to exclude this entity due to its significant impact on the hemodynamic status of the patient.

CV84

Diabetes Ketoacidosis in Thin Young Type 2 Diabetes Mellitus Patient

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INTRODUCTION: Diabetic ketoacidosis (DKA) is a potentially life threatening complication in patients with diabetes mellitus (DM). Predominantly occurring in Type 1 DM (T1DM) patients, it can occur in Type 2 DM (T2DM) patients. Several investigators reported > 50% of African-American persons with newly diagnosed DKA have clinical, metabolic and immunologic features of T2DM including obesity and significant family history of DM. Here we present a young thin male patient in DKA who states he has T1DM yet has features suggesting T2DM.

CASE REPORT: 18 year old African-American male with past medical history of DM presents to hospital complaining of epigastric pain for two days. Associated symptoms included intermittent blurred vision, polyuria, polyphagia and polydipsia for two weeks. Per patient, this presentation was similar to one year earlier when first diagnosed with T1DM. Home medications included 34 units subcutaneous (SC) long acting basal insulin nightly and four daily SC prandial rapid acting insulin based on a sliding scale regimen. Patient explained he lost his means to procure insulin five weeks earlier, used what he had and was without insulin for the past three weeks. Initially labs: blood glucose level of 611 mg/dL, an anion gap of 21 and a positive serum acetone.

DISCUSSION: Describing DM as 3 distinct types (T1DM, T2DM, gestational) appears too simplistic with the recognition of variants. Pending immunologic studies, this case illustrates either the potential for misdiagnosing T2DM (e.g. "Flatbush diabetes") or a T1DM variant with T2DM features.

CV85

Intravenous Bisphosphonate Induced Hypocalcemia

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INTRODUCTION: Bisphosphonates are often used in patients with advanced osteolytic metastatic cancer to relieve bone pain. 1,2 Bisphosphonates are generally well tolerated. Hypocalcemia can result from intravenous (IV) bisphosphonate use in patients with low to normal levels of calcium or vitamin D. Metastatic prostate cancer typically presents with osteoblastic lesions which can also increase risks for hypocalcemia. Here we present an example of hypocalcemia secondary to IV bisphosphonate use in a patient with bony metastatic prostate cancer.

CASE REPORT: 72 year old male with past medical history of coronary disease status post recent coronary bypass graft surgery, prostate cancer with bony metastases, diabetes mellitus, hypertension, and peripheral artery disease status post femoropopliteal bypass was admitted to hospital for CHF exacerbation and a right hip fracture. Initial lab results demonstrated low-normal levels of calcium (8.5 mg/dL), albumin (3.9 g/dL), elevated PTH (193 pg/mL) and insufficient vitamin D (23 ng/mL). Alkaline phosphatase was also elevated, consistent with bony metastases. After hip repair surgery, the patient received a single dose of IV bisphosphonate treatment for skeletal muscle stabilization. After two days calcium levels began to decline. Calcium and vitamin D were repleted with oral calcitrol, ergocalciferol, calcium gluconate and calcium carbonate. Calcium levels continued to decline reaching a nadir of 5.3 mg/dL. The patient was immediately placed on calcium infusion drip and telemetry with aggressively monitoring of serum calcium. Within 24

hours, calcium levels rose to the lower end of normal limits (5.3 mg/dL to 7.3 mg/dL [8.2 mg/dL corrected]). Calcium infusion was subsequently replaced with oral calcium and calcitrol was tapered down. All electrolytes, including calcium, normalized over the next 48 hours. The patient remained asymptomatic and had no electrocardiogram changes. Subsequently, the patient underwent physical therapy and was later discharged in stable condition.

DISCUSSION: IV bisphosphonate use in cancer patients for bone stabilization is becoming more common but can particularly worsen hypocalcemia in bony metastatic prostate cancer patients. Vitamin D and calcium levels must be adequate prior to IV bisphosphonate use and calcium values must be monitored closely to prevent significant morbidity/mortality from hypocalcemia.

CV86

Baclofen Induced Brain Death

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INTRODUCTION: Brain death implies permanent absence of cerebral and brainstem functions. Pre-requisites must be cleared before the clinical exam for brain death shall be done including: core temperature > 36 C, SBP >100, eucapnia, euvolemia, no hypoxia, no drug use, poisoning or medical conditions which may confound the exam. In adult patients, trauma and subarachnoid hemorrhage are the most common etiologies. Baclofen, a widely used central acting muscle relaxant, can mimic brain death in overdose.

CASE REPORT: 30yo Hispanic male with past medical history of paraplegia status post traumatic injury fracture of the T7 vertebrae one year earlier, presented to the Emergency Department after a friend found him unconscious and nonreactive to verbal or painful stimuli. He was last witnessed carrying out his normal activities of daily living the prior night. The patient was intubated in the field.

DISCUSSION: Baclofen overdose can mimic brain death. Here we describe our patient who overdosed on Baclofen, met brain death criteria, who subsequently was discharged fully functional. Any patient on Baclofen meeting brain death criteria should be re-evaluated frequently to rule out reversible metabolic cause secondary to drug overdose.

CV87

A Case of Graves Disease requiring Total Thyroidectomy

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INTRODUCTION: Graves disease is an autoimmune disorder that results in hyperthyroidism. Treatment includes anti-thyroid drugs, radioactive iodine ablation or thyroidectomy. The decision is made on a case by case basis. Medical therapy is a low cost, convenient option which may not be lead to permanent remission. Radioactive ablation also a low cost option which results in permanent resolution of hyperthyroidism. Surgery, a high cost option, leads to immediate and permanent cure of hyperthyroidism. However, it is associated with complications such as recurrent laryngeal nerve palsy and hypoparathyroidism.

CASE REPORT: A 30 year old Hispanic Female presented to our hospital with increasing neck swelling for 2 months. The neck swelling was associated with increasing dysphagia and cough. On further history she reported diarrhea, unintentional weight loss, tremors, palpitations and irregular menses for many months. She had been diagnosed with Grave's Disease ten years ago and was treated with methimazole and propranolol as an outpatient but was non-compliant with therapy. Her history was also remarkable for allergy to iodine in the past, resulting in generalized edema and shortness of breath. Her initial vital signs were remarkable for heart rate was 114/min, BP 114/60, respiratory rate 16 of and afebrile. Her physical exam was remarkable for bilateral exophthalmos and a diffusely enlarged thyroid gland with positive bruit. Cardiopulmonary exam was significant for tachycardia and lungs clear on auscultation. Neurological exam noted mild bilateral upper extremities tremors and generalized proximal muscle weakness. Her skin was warm and moist to touch. Labs were remarkable for TSH <0.01 uIU/ml (Normal 0.27-4.2) , free T4 >7.77 ng/dl (Normal 0.93-1.7) and free T3 >20 pg/ml (2.3-4.2). Non-contrast CT of the neck revealed diffuse thyromegaly with mild transverse narrowing of the subglottic trachea. The patient's symptoms were stabilized in hospital and permanent treatment options were entertained. However, given her non-compliance with medications as an outpatient, enlarged thyroid gland with compressive signs and symptoms, and significant iodine allergy the only viable treatment option was total thyroidectomy. She underwent successful total thyroidectomy and is currently doing well on levothyroxine therapy.

DISCUSSION: The goal of treatment for patients with Graves disease is to induce euthyroid state. If a patient

is unable to achieve remission in a reasonable time by using medical management, the next option usually considered is iodine ablation. The incidence of true iodine allergy is rare. However, this patient described symptoms very suggestive of a true allergic reaction. Total thyroidectomy is the least common form of therapy because of risks. However, it was the only choice available for this patient.

CV88

Meningiomas; Not as Harmless as they Seem

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INTRODUCTION: A meningioma is a type of tumor that develops from the meninges. Most meningioma (90%) are categorized as simply benign tumors, with remaining 10% being atypical or malignant. However, the term simply benign can be misleading as growth of these tumors can constrict the brain; leading to disastrous complications. We report a case of Hispanic man plagued with uncontrollable headaches, seizures and diplopia due to large cavernous sinus meningioma that entangled the left internal carotid artery and was refractory to conventional therapy.

CASE REPORT: A 38 year-old Hispanic man presented with severe migratory right hemicranial headaches for 2 weeks. The headache was accompanied with vertigo and nausea. His only past medical history was migraines. Computed tomography scan of head done one year prior did not show any intracranial pathology. Initial physical exam was unremarkable with regards to cardiopulmonary, gastrointestinal, and genital-urinary. His neurological examination revealed a sustained lateral gaze nystagmus and a minimal end-point dysmetria bilaterally. All other components of the neurological examination were unremarkable. Magnetic resonance image (MRI) of brain with and without contrast revealed a left cavernous sinus mass, 2.4 x 1.7 x 5.0 cm, causing a narrowing of the intracavenous portion of left internal carotid artery. The mass displaced pituitary gland. The dural enhancement overlying cavernous sinus suggested meningioma. MR angiography showed high-grade left internal carotid artery stenosis of at least 80%, secondary to the mass. Transcranial Doppler showed vasospasm of the right anterior cerebral and middle cerebral arteries without evidence of right to left anastomotic redirection of flow in the anterior communicating artery.

DISCUSSION: Meningiomas account for about 34% of primary brain tumors. They are typically classified as benign due to slow growth. Usually large meningiomas are amendable to surgical intervention. But surgical options are limited based on location and involvement of surrounding structures. In such cases, these simply benign lesions lead to incapacitating complications.

CV89

Acute Aphemia in a Young Adult Male with Congestive Heart Failure

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INTRODUCTION: Aphemia has been described as an "isolated disorder of articulation" and may be best, or most simply, understood as severe apraxia of speech, though this designation has been met with some controversy. It possibly lies on the spectrum of aphasia with preservation of comprehension and ability to communicate by writing with loss of articulation. Lesions causing isolated aphemia have been localized to the left precentral gyrus. We present the case of a 32 year old male patient who presented with acute onset of aphemia.

CASE REPORT: This is a 32 year old male patient with viral non-ischemic cardiomyopathy s/p biventricular assist device (BiVAD) who was completely at his neurological baseline whereupon he developed acute onset of loss of the ability to speak. A stroke code was activated with a subsequent full neurological assessment which revealed an awake, alert individual who appropriately nodded "yes" or "no" to questions of orientation, followed all simple and complex commands well indicating intact comprehension, and was able to fully communicate by writing, but was unable to form any words. The remainder of the examination was normal, including intact cranial nerves, intact and symmetric motor strength of the face and appendicular musculature, intact and symmetric sensory exam, and an intact cerebellar function and normal gait. Within 20 minutes, the patient's symptoms improved to the point that he was able to speak with evidence of severe dysarthria with eventual full resolution of symptoms within 30 minutes. During the period of resolving symptoms, the patient was reassessed for language functions several times and these were found to be intact. An MRI was not performed as the patient's ventricular assist device was not MRI-compatible, and a CT of the head was performed which was unremarkable. This was felt to be consistent with the nature of the patient's transient event. The mechanism for this event was felt to be secondary to his reduced ejection fraction, ultimately resulting in an embolic process or hypoperfusion resulting in decreased perfusion to the brain tissue acutely, though this is less likely.

DISCUSSION: Aphemia is rare and, very often, presents a diagnostic conundrum for the inexperienced physician. Knowledge of the features of aphasia will prove beneficial in correctly identifying this condition. Most notably, this disorder is characterized by the patient's intact comprehension and intact ability to communicate by writing.

CV90

Enterobacter Cloacae-Induced Right Heart Valve Infective Endocarditis in a Woman Without Valvular Disease

Nemani, K. C.; Salamera, J.; Butler, J.; Trinitas Regional Medical Center and Seton Hall University

INTRODUCTION: Infective Endocarditis is observed in patients with predisposing factors such as Intravenous Drug Use (IVDU) and underlying Valvular disease (including rheumatic fever). The organisms are predominantly gram positive bacteria. Infective Endocarditis (IE) due to Gram Negative Bacteria (GNB) is uncommon as the causal organisms; within those, the majority are due to Haemophilus, Actinobacillus, Cardiobacterium, Eikenella, and Kingella (HACEK) species. Non-HACEK GNB IE is rarer still in patients without valvular heart disease which predisposes to septic vegetations. This case describes such a patient with Enterobacter cloacae IE in the absence of classical risk factors.

CASE REPORT: A 63-year old Haitian female with long standing history of type 2 diabetes mellitus, hypertension, and end stage renal disease on Renal Replacement Therapy presented with an alteration in mental status. Initial evaluation ruled out intracranial sources, medication side effects and uremia. A few days prior, she had a brief hospital stay for vaginal bleeding at which time blood cultures showed Enterobacter cloacae. She received dialysis via a right-sub-clavian PermaCath and received one-dose of levofloxacin during dialysis on the day of admission. Her catheterized urine sample was cloudy with positive leukocyte esterase and nitrites, but, unfortunately, no urine culture was submitted. Both her PermaCath line and peripheral cultures confirmed line sepsis with superimposed urinary tract infection. Her PermaCath was removed, the tip also grew Enterobacter cloacae and sensitivity-adjusted antibiotics were continued. Her mental status did not improve, and she had recurrent fevers despite removal of the seeding source. A transesophageal echocardiogram (TEE) revealed vegetations on the Tricuspid Valve (TV) with small perforation on the anterior leaflet. After the bacteremia had cleared, she received six weeks of carbapenem monotherapy, with follow-up cultures and TEE to confirm successful treatment of IE.

DISCUSSION: The recent International Collaboration of IE Prospective Cohort Study analyzed 2,761 cases of IE where <2% were GNB of the non-HACEK variety; only 2 cases were attributed to Enterobacter species. Despite the rarity, clinicians must be aware of the increased risk in our growing population with ubiquitous intravascular devices e.g., cardiac pacemakers, ICDs, PICCs, PermaCaths etc. Even in the absence of valvular disease, as in our patient, one must suspect Gram-Negative Infective Endocarditis.

CV91

Dual Left Anterior Descending Artery System: One Native, One Aberrant

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INTRODUCTION: A dual left anterior descending artery (LAD) System is a rare coronary anomaly defined as the presence of two LADs in the Anterior Interventricular Sulcus (AIVS). In this report, we present a rare form of the Dual LAD system in which one vessel arises natively and the second aberrantly from a separate ostium.

CASE REPORT: Our patient is a 60 year old male with a PMH of hypertensive heart disease, dyslipidemia, and non IDDM who presented for evaluation of chest pain with abnormal stress test showing a reversible defect in the territory of the LAD. Patient was scheduled for an elective cardiac catheterization. The left coronary sinus revealed separate LAD and left circumflex artery origins; the LCx had mild 30-40% diffuse disease. The Native LAD had 80% eccentric narrowing proximally; it then gave rise to a large septal perforator and moderate Diagonal vessel, both at jeopardy from the proximal lesion. Just distal to the first Septal Perforator, the LAD shows chronic total occlusion. Right coronary sinus angiography showed a Right Coronary Artery as well as, via contrast reflux, and aberrant vessel travelling to the Anterior LV region arising from a separate ostium. Selective engagement of this vessel revealed a large artery with excellent flow running from its origin in the right coronary cusp, anteriorly across the pulmonary arterial trunk, and entering the anterior Interventricular (IV) Sulcus immediately distal to the stump of the Native LAD. We believe this vessel is an aberrant dual LAD because it gave septal perforators and wrapped around the apex.

DISCUSSION: In cases with a high total occlusion of the Native LAD, cardiologists must keep in mind that, though rare, collateralization can mitigate the lesion, even to such as extent as to preserve LV Ejection Fraction. In our case, the anomalous vessel was a

second LAD arising from the right coronary cusp, which is exceedingly rare. If suspicion of collaterals were not raised, unnecessary angioplasty may have resulted.

CV92

Diabetic Predisposition to *Klebsiella pneumoniae* Pyogenic Liver Abscesses

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INTRODUCTION: *Klebsiella pneumoniae* is a known cause of nosocomial URI in the United States. In recent years, however, the K1 serotype has emerged from Southeast Asia as a causal pathogen for Community-Acquired Pyogenic Liver Abscesses (CA-PLA), with a small scattering of cases reported in America. Diabetes Mellitus type-2 has recently been proposed as a predisposing factor for *Klebsiella pneumoniae* K1 infection and its subsequent CNS sequelae.

CASE REPORT: A 54-year-old male cargo-ship worker with previously diagnosed but untreated DM-II presented with a three-day history of constipation and anuria with suprapubic distention. Foley catheterization yielded 1L of urine. Laboratory studies revealed diabetic ketoacidosis superimposed on sepsis, addressed with an insulin drip / IVF and Vancomycin with Zosyn, respectively. At the time, patient was admitted to the ICU. Initial CT scan of the abdomen to identify cause of obstructive uropathy revealed a severely enlarged prostate and right peri-/para-renal stranding indicative of severe UTI. Multiple ill-defined hepatic lesions were also noted. Over the first twelve hours, the patient progressed into septic shock necessitating vasopressor support for persistent hypotension despite adequate fluid replacement. Antibiotics were switched to meropenem. The patient developed ARDS requiring ventilator support. He also developed sepsis-induced ITP with thrombocytopenia to 18,000; Solumedrol therapy was initiated. After two days of ventilator support, antibiotics, and steroid therapy, patient improved and was extubated. Leukocytosis resolved and vasopressor support was weaned and discontinued. Antibiotics were switched from meropenem to Ceftriaxone. At this time, the patient was stable enough for a liver biopsy to assess the ill-defined lesions noted on initial CT scan, which turned out to be pyogenic abscesses. The patient was subsequently transferred to the medical ward. The patient continued to improve but noted continued abdominal pain. Repeat CT-scan indicated prostatitis and persistent nephritis with areas of liquefaction. TURP and laparoscopic-nephrectomy were performed with good clinical response. Patient was maintained on ceftriaxone therapy and showed excellent clinical improvement. He was finally able to return home to the Philippines on oral ciprofloxacin.

DISCUSSION: K. pneumoniae has, in the last decade, become an emerging global pathogen with highest incidence in Southeast Asia. A firm link is established between the K1 serotype and CA-PLA, often resulting in CNS damage. In our patient, early, aggressive therapy including ventilator and vasopressor support then surgical removal of necrotic areas allowed for recovery without CNS sequelae. This case reminds clinicians to be mindful of the possibility of CA-PLA in Diabetics, especially from Southeast Asia.

CV93

Primary Tuberculosis Presenting as Pleural Effusion in a Young HIV-Seronegative Patient

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INTRODUCTION: Tuberculosis (TB) is an important cause of morbidity and mortality which can be preventable if an appropriate diagnosis is made, and prompt treatment is provided in a timely manner. Pleural effusion is seen in 5% of extra-pulmonary disease due to Mycobacterium tuberculosis. It can occur with primary tuberculosis, or more frequently as a reactivation disease. Here we present a case of an HIV-seronegative young patient who presented acutely with extensive pleural disease and responded well to multi-drug therapy after prompt diagnostic evaluation.

CASE REPORT: A 28-year old female, originally from Mexico with no past medical history, manifested with a 3-day history of left sided pleurity and resting tachycardia. A CT angiography of her chest ruled out pulmonary embolism, but it showed small left pleural effusion and pleural based 3mm nodular opacity. A tuberculin skin test (TST) had > 15mm induration, and HIV screening was non-reactive. Patient previously had a negative TST 3 years before admission, which was performed during her pregnancy. Urinary antigens for legionella and pneumococcus as well as ANA were negative. Multiple sputa for acid-fast bacilli were negative. After cardiothoracic surgical evaluation, a left exploratory thoracotomy with pleural biopsy, wedge resection, and pleural fluid analysis were performed. Pleural fluid was grossly cloudy, with wbc of 1700, predominantly lymphocytes at 90%, and glucose of 79 mg/dL. Intraoperatively, multiple whitish nodules on visceral pleura as well as large granuloma on diaphragmatic surface were identified. Pathology was consistent with granulomatous pleuritis, but AFB stain was negative without evidence of malignant

cells. A lung biopsy showed multiple non-caseating and caseating granulomas. After 44 days of incubation, a tissue culture from her diaphragm and left lower lobe was positive for AFB. Anti-Koch's regimen was initiated consisting of isoniazid, rifampin, ethambutol, and pyrazinamide. Patient continued to improve post-operatively and was advised to follow-up at the TB clinic.

DISCUSSION: This case highlights importance of keeping TB as one of differential diagnosis in a patient presenting with unilateral pleural effusion. Definitive diagnosis depends on finding M. tuberculosis in pleural fluid, sputum, or pleural biopsy. Natural history of untreated TB pleural effusion is usually spontaneous resolution in 4-6 weeks with development of active pulmonary TB or extrapulmonary TB in 40-60% of cases several years later.

CV94

Disseminated Histoplasmosis Mimicking Colon Malignancy

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INTRODUCTION: Histoplasma capsulatum, a thermally dimorphic fungus, is an important opportunistic infection in patients with advanced HIV disease and is associated with significant morbidity and mortality. Progressive Disseminated Histoplasmosis (PDH) occurs in 1 in 2,000 patients with acute infection. Diagnosis of PDH requires a high index of suspicion with identification of symptoms and signs, along with appropriate diagnostic tests. Here we present a case of a young, HIV infected patient with a CD4 count of 15 who was found to have disseminated histoplasmosis but eventually recovered with appropriate treatment.

CASE REPORT: A 48-year old male, originally from Honduras with HIV for the past 10 years (viral load >1 million, CD4 count of 15) and has not been on any treatment, presented with intermittent fevers for a few months, 20-lbweight loss, anorexia, abdominal pain, melena, and profound anemia requiring blood transfusion. A colonoscopy revealed an ulcerated mass in his ascending colon, and pathology was consistent with narrow based budding yeast without malignant cells. Carcinoembryonic antigen was normal, but the urinary antigen for Histoplasma came back as positive. Quantiferon TB gold assay, serum cryptococcal antigen, and AFB blood cultures were non-diagnostic. Liposomal Amphotericin B was initiated for 2 weeks and followed by oral itraconazole as consolidation treatment. HAART was eventually started, along with prophylactic trim-sulfa and azithromycin. This led to excellent virologic and decent immunologic response. Repeated complete blood counts and CT of patient's abdomen revealed improving cytopenias and resolution of sigmoid colitis.

DISCUSSION: Histoplasmosis is found in USA but also in the Central America. It usually manifests as progressive disseminated histoplasmosis in HIV patients. Most of cases of histoplasmosis have GI involvement and colonoscopy can show ulcerated or polypoid masses involving the colon or ileum, mimicking a malignant process. Histoplasma antigen, from urine, CSF, serum, and BAL fluid, is diagnostic test for disseminated disease. Duration of treatment is at least 1 year for PDH.

CV95

Septic Emboli Causing Acute ST-Elevation Myocardial Infarction

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INTRODUCTION: Systemic embolism is a well-known complication of infective endocarditis. The most frequent sites include the central nervous system, spleen, kidney, liver, and iliac or mesenteric arteries. In rare cases, these vegetations may embolize to the coronary arteries and cause potentially fatal acute myocardial infarction. In patients having signs of acute myocardial infarction and also appear to be septic, the possibility embolic myocardial infarction should always be in the working differential diagnosis. We present a case of a 43 year old male who presented to the Emergency Department with complaints of fevers, chills, and pressure-like feeling in his chest who was found to have an acute ST-elevation myocardial infarction as a result of septic emboli from aortic valve endocarditis.

CASE REPORT: Our patient is a 43 year old male with multiple medical problems including Hypertension, End-stage Renal Disease on Hemodialysis, Hepatitis B and C, HIV, and history of intravenous drug use who presented to the Emergency department with complaints a pressure like feeling in his chest for a few hours. He admitted that during the prior 3 days he was also having progressive fevers, chills, lethargy, and fatigue. Electrocardiogram revealed Normal sinus rhythm with 1st degree AV block, 1mm ST segment elevations in leads II, III, and AVF, and 1mm ST segment depressions in leads V1, V2 consistent with acute infero-posterior ST-elevation myocardial infarction. The patient was emergently taken to the cardiac catheterization lab for coronary angiography and possible revascularization. The procedure revealed a distal filling defect with 99% stenosis of a type III ("wrap-around") left anterior descending (LAD)

coronary artery. All other coronary arteries were angiographically normal. Contrast ventriculogram of the left ventricle showed an ejection fraction of 50-55% with no wall motion abnormalities. The decision was made to treat the patient with medical therapy rather than intervention given that the patient was hemodynamically stable, his comorbidities and history of noncompliance put him at high risk of stent related complications, and his ejection fraction was normal. Serial cardiac markers later revealed troponin levels reached a maximum of 19 on day 2 of hospitalization before returning towards baseline. Transesophageal echocardiogram was also done which showed a large, highly mobile echodensity attached to the aortic valve as well as severe aortic regurgitation. Despite intravenous antibiotics, the patient had persistent fever, elevated white blood cell count, and multiple blood cultures positive for Rothia Mucilaginosa; a gram-positive cocco-bacilli normally found in the human upper respiratory tract and known to cause infections in immunocompromised individuals. Ultimately, the patient required surgical aortic valve replacement during the hospitalization. Intraoperatively, the large vegetation and the aortic valve were removed and successfully replaced with a bioprosthetic valve. The patients postoperative course was uncomplicated and he was discharged to a subacute facility after recovery.

DISCUSSION: Early transesophageal echocardiogram and cardiac catheterization play an important role in diagnosis and management of this condition. Treatment options include percutaneous coronary intervention, surgery, or embolectomy. PCI should be noted to carry the risk of creating mycotic aneurysms at the site of coronary embolism. Surgical embolectomy is very high risk, and typically only done if the patient is unstable.

CV96

Infective Endocarditis Associated C3 Glomerulonephritis: A Case Report

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INTRODUCTION: Cases of infective endocarditis are associated with various renal complications including acute tubular necrosis, acute interstitial nephritis, and variants of membranoproliferative glomerulonephritis. Most cases of infective endocarditis associated renal disease resemble post-infectious glomerulonephritis, in which there is glomerular deposition of immune complexes on the renal biopsy. Treatment with immunosuppressants and antibiotics is followed by renal recovery. Complement C3 glomerulonephritis is associated with congential or acquired activation of the alternative complement pathway, leading to excess deposition of complement C3. We will present a case of acute infective endocarditis associated c3 glomerulonephritis which persisted to renal replacement therapy.

CASE REPORT: Our patient is a 36 yo hispanic female with past medical history of untreated Hepatitis C, polysubstance abuse, intravenous drug abuse presented with 2 week history of exertional dyspnea, palpitations and non-productive cough. Approximately four months prior to presentation, the patient was hospitalized for staphylococcus aureus infective endocarditis; at which point, the kidney function was normal. Upon current presentation, patient was hypotensive at 101/57, with a pulse of 97 and normal temperature, respirations and oxygenation. Chest radiograph showed multiple predominantly cavitary bilateral pulmonary nodules compatible with septic emboli. Further diagnostics revealed a tricuspid valve vegetation, while blood cultures revealed a methicillin sensitive staphylococcus aureus and enterobacter. Initial laboratory data revealed acute kidney failure, with creatinine of approximately 10; urine analysis was initially bland and fractional excretion of sodium at 0.65%. She was treated as prerenal azotemia, hydrated appropriately and received antibiotics for MSSA. The creatinine improved to 4.59, however did not resolve. Further studies revealed 3+ proteinuria, hematuria, and clinical oliguria despite hydration. Clinically, patient required hemodialysis as there was no improvement in renal status. After beginning inpatient dialysis, renal biopsy was performed revealed membranoproliferative glomerulonephritis. The biopsy described 13 of 20 glomeruli with crescentic glomerulonephritis with dominant C3 staining and acute interstitial nephritis, severe and aggressive necrotizing and crescentic glomerulonephritis, with endocapillary proliferation. Upon immunofluorescence, there was C3 staining in mesangium and capillary walls; however glomeruli were negative for IgA, IgG, IgM, C1q, albumin, kappa, lambda light chains or immune deposits.Throughout the hospital course, patient's serum complement measurement revealed a persistently low complement C3; however she had a normal complement C4. Autoimmune and monoclonal gammopathy diagnostics were negative. Patient was started on high dose corticosteroids for renal recovery, however 24 hour urine collection revealed three gram proteinuria. Despite improving clinical status, she continued dialysis upon discharge from the hospital. Outpatient evaluation of renal function will prompt further continuation of hemodialysis.

DISCUSSION: Clinically, our case appeared to be an

endocarditis associated postinfectious glomerulonephritis; such cases included immune complex mediated glomerulonephritis. In contrast, our patient had only C3 mesangial staining, decreased serum complement C3 levels, persistent proteinuria and hematuria and rapidly progressive crescentic glomerulonephritis. The biopsy and laboratory evaluation are characteristic of activation of the alternative complement pathway and of C3 glomerulonephritis.

CV97

Arrythmogenic Right Ventricular Dysplasia/Cardiomyopathy (ARVD/C) and Cathecholaminergic Polymorphic Ventricular Tachycardia (CPVT): A Phenotypic Spectrum Seen in Same Patient

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INTRODUCTION: ARVD/C and CPVT are rare inheritable sudden cardiac death syndromes predominantly expressed in young. ARVD/C is characterized by progressive fibrofatty replacement of the myocardium that predisposes to ventricular tachycardia while CPVT is characterized by exercise-induced bidirectional / polymorphic ventricular tachycardia (VT) and structurally normal heart. A mutation in different genes causes these syndromes but recently, mutation in a common gene RYR2 has been associated with both disorder and it has been suggested that CPVT and ARVD/C represent a phenotypic spectrum. We present a case unique in expressing both these phenotypes.

CASE REPORT: 30-year-old Caucasian female, who is a teacher; with no PMHx was admitted for evaluation of aborted sudden cardiac arrest while walking to her work. No prior history of syncope, palpitations, or any family history of unexplained early or sudden death. Physical examination was benign and toxicology screen was negative. Initial EKG showed ventricular bigeminy and subsequent EKG's showed non-specific TWI in antero-lateral leads with normal QTc interval. 2D echocardiography showed transiently reduced LV systolic function sec. to stunning with no obvious structural abnormality. Cardiac catheterization showed normal coronaries. Electrophysiologic study showed no evidence of overt preexcitation and no inducible ventricular tachycardia. Patient got single chamber ICD placed for possible inherited sudden cardiac death syndrome. Subsequent cardiac CT scan showed classic right ventricle (RV) dysplasia with thinned RV and reduced RV ejection fraction of 20%. We diagnosed our patient with ARVD/C but to our surprise, outpatient exercise stress testing showed classic bi-directional and polymorphic ventricular tachycardia with graded exercise suggestive of CPVT, though genetic testing for ARVD/C and CPVT Panel was negative. (Note: 40% of patients with both, ARVD/C and CPVT, do not have disease specific mutations) Phenotypic mimicry of bidirectional VT can also be seen in patients with Anderson Tawil Syndrome (a form of long QT syndrome) but our patient tested negative for KCNJ2 mutation. We managed our patient as CPVT because it's highly lethal with mortality rates of 30-50% by age 35yrs. Also, our patient is at high risk for adverse outcome as she presented with cardiac arrest before the diagnosis. She was counseled about the lifestyle changes and beta blocker dose was up titrated (Class I recommendation in CPVT).

DISCUSSION: Our patient is unique in expressing both the phenotypes of ARVD/C and CPVT in absence of RYR2 gene mutation; maybe our patient has disease causing mutation that has yet been unidentified. Hence, due to overlapping clinical features &/ evolution of clinical phenotype, it's important to actively monitor the phenotype in patients with inheritable sudden cardiac death syndromes as it has an implication on their management and also in screening their relatives.

CV98

Takotsubo Cardiomyopathy Presenting as Acute Stroke: Case Report and Literature Review

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INTRODUCTION: Takotsubo cardiomyopathy (CMP), also known as stress-induced cardiomyopathy or transient left ventricular apical ballooning syndrome or broken heart syndrome, is a clinical entity mimicking an acute coronary syndrome (ACS) and is characterized by reversible left ventricular dysfunction that is frequently precipitated by a stressful event either emotional or physical stress. LV thrombus is a known complication of stress-induced cardiomyopathy but its clinical significance and management remains unclear. We report a case of 59-year-old woman who had embolic cerebral infarction following LV thrombus with stress-induced cardiomyopathy and its literature review.

CASE REPORT: 59 year old female with PMHx of HTN and NIDDM came in with complaint of left arm weakness since 1day. Family noticed left side facial droop that started 2-3 days ago. Patient also reported intermittent, left sided chest pain, radiating to arm, associated with diaphoresis and vomiting for last 3 days but didn't seek any medical attention. Notably she recently lost her husband and was binge drinking in

last few weeks. Admission vitals were normal with left facial droop but normal motor function in left arm and leg. EKG showed normal sinus rhythm and T-wave inversions in V2-V6, I and II. Troponin-I was elevated at 6.5ng/ml. Initial transthoracic echocardiography (TTE) showed apical and anteroapical hypokinesis with left ventricular ejection fraction (LVEF) of 40% and no LV thrombus. Patient was treated for NSTEMI. MRI of brain showed multiple infarcts with largest in right parietal lobe and left thalamus. Transesophageal echocardiography also showed apical hypokinesis with LVEF 40% but no left atrial appendage or patent foramen ovale. Cardiac catheterization done after 5days showed non obstructive CAD and LV gram showed basal hyperkinesis and akinteic apex with LV apical thrombus. Contrast echocardiography confirmed multiple LV thrombi in LV apex which was still akinetic. Patient was discharged on Coumadin and a follow up TTE after 6 weeks showed near normal LVEF (55%) and complete resolution of LV thrombus.

DISCUSSION: Takotsubo CMP can present with LV thrombus (8%) and risk of accompanying embolic events is about 33%. LV thrombus can occur at the initial presentation or any time during the disease. Although no specific data exist regarding the role of anticoagulation in stress induced cardiomyopathy, short term anticoagulation therapy should be considered in all patients with or without LV thrombus especially if LVEF is <30% and until akinesia or dyskinesia has resolved.

CV99

Small Bowel Obstruction Mimicking Acute ST-Elevation Myocardial Infarction

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INTRODUCTION: Acute ST-elevation myocardial infarction is a medical emergency and is typically associated with high cardiac mortality if brisk intervention is not undertaken. It is important however to understand that there are several conditions that may mimic acute ST-elevation myocardial infarction and they should be considered as a differential diagnosis especially in the correct clinical scenario. This case highlights the importance of understanding the different pathologies, namely gastrointestinal, that can potentially present very similar to patients with acute myocardial infarction.

CASE REPORT: A 42 year old female with history of endometriosis, status post hysterectomy a number of years prior presented to our institution complaining of 3 day history of nausea and vomiting. Computed tomography of the abdomen showed bowel obstruction of the distal ileum. The patient was taken for emergent exploratory laparotomy for adhesiolysis and decompression. Postoperatively during her recovery, the patient started having watery diarrhea and was being monitored on telemetry for persistent sinus tachycardia. Despite intravenous fluids and electrolyte repletion her condition deteriorated. On day thirteen, ST-elevation MI code was called after an electrocardiogram (Figure 1) suggested the possibility of acute inferolateral myocardial infarction. The patient described epigastric discomfort and shortness of breath but denied chest pain. An immediate bedside Transthoracic Echocardiogram showed predominantly normal left ventricular systolic function however inferior wall hypokinesis was noted. Subsequent cardiac catheterization showed normal coronary arteries (Figure 2, Figure 3) and normal left ventricular contractility by ventriculogram. Serial cardiac enzymes were normal. Alternate causes for the ECG changes were entertained at this point. Thereafter, the patient had a repeat CT scan of the abdomen, which showed severe distention of the stomach and proximal small bowel and recurrent obstruction at the level of distal ileum (Figure 4, Figure 5). The patient was again taken for emergent exploratory laparotomy and decompression, and this time, with resection and anastomosis. A total of 2800cc of fecal material was drained from the small bowel at the time of decompression. Repeat postoperative electrocardiogram (Figure 6) showed normalization of ST segments.

DISCUSSION: Few cases of intra-abdominal pathology causing ST-elevation on ECG have been reported. These conditions have been related to pancreatic, gallbladder, and esophageal disease, splenic rupture, and hiatal hernia. Our case may be the first reported case of small bowel obstruction as a cause for significant ST-elevation on ECG mimicking acute MI. It is believed that the intra-abdominal distension resulted in the compression of the diaphragmatic surface of the heart and the led to the ECG changes.

CV100

DTAP-Vaccine induced Myopericarditis Mimicking ST-Elevation Myocardial Infarction in an Adult

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INTRODUCTION: Myocarditis can be produced by a variety of different etiologies, namely viral being the most common presumed cause. Vaccine related myocarditis is one of the rarer causes. Smallpox vac-

cination-induced myocarditis has been well-reported in literature however a thorough review of literature shows that only two cases of myocarditis related to DTaP vaccination have been reported. Both of these cases were documented in the pediatric population. We present the first case of a DTaP-vaccine induced myopericarditis in an adult.

CASE REPORT: Our patient is a 37 year old Portuguese male with past medical history only significant for drug abuse in the past that came to the emergency room with complaints of pressure like chest pains, pleuritic in nature associated with fevers and chills for five days. The patient had a DTAP vaccine placed five days prior to the admission after which his symptoms began. Upon arrival to the emergency room an electrocardiogram was performed which showed ST elevations in leads II, III , AVF , v4 and v5. An emergency echocardiogram done at bedside showed an ejection fraction 40% with moderate global hypokinesis but no evidence of pericardial fluid. Immediate cardiac catheterization revealed normal coronary arteries. First Troponin I level was elevated at 30. The patient was transferred to CCU with a presumed differential diagnosis of Myocarditis vs Coronary Vasospasm. Rheumatologic screening and serum viral antibody titers for suspected acute infectious causes were all negative. This included Coxsackie virus group B, Human immunodeficiency virus (HIV), Cytomegalovirus, Ebstein-Barr virus, Hepatitis virus family, and Influenza viruses. In addition, urine and hair samples were sent for drug screen; they were negative for recent cocaine or amphetamine use. Cardiac MRI with and without gadolinium was performed for definitive diagnosis and showed delayed myocardial enhancement involving the myocardium of the mid-inferior and mid-inferolateral wall of the left ventricle. These findings were consistent with edema, inflammation, and myocarditis. Troponin I values were trended to monitor extent of myocardial damage and serial values reached 30, 46.4, 17.8, 0.19, respectively. The patient was treated with Colchicine and NSAIDs and his symptoms improved significantly over the following 3 days.

DISCUSSION: Myocarditis has multiple etiologies however vaccine related causes are rare. Small pox vaccination induced myocarditis has been reported on multiple occasions. In a thorough review of literature, we found only two cases of myocarditis induced by tetanus vaccine. Both were reported in the juvenile population: one in a 3 month old after a DTAP vaccine and the other in a 13 year old male after tetanus vaccination. Our case may well be the first one seen in an adult.

CV101

Renal Artery Stenosis in Young Female without Fibromuscular Dysplasia

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INTRODUCTION: Renal artery stenosis (RAS) is rare in a young patient without fibromuscular dysplasia (FMD). RAS is characterized by a heterogeneous group of entities being atherosclerotic RAS (ARAS) and fibromuscular dysplasia (FMD), 90% and 10% respectively, the most common. We report a case of a 25-year-old female who developed uncontrolled hypertension due to renal artery stenosis and no evidence of fibromuscular dysplasia or underlying renal dysfunction that underwent successful angioplasty and stenting.

CASE REPORT: We present a 25 year old African American female, smoker with history of uncontrolled hypertension that presented with abdominal pain intermittently for three years. The patient had no significant past medical history except for hypertension and depression, and no family history of premature coronary artery disease. The patient smokes 3 cigarettes a day for the past 4 years and social alcohol use. The patient was on Norvasc 10 mg daily. Patient was sent from primary medical doctor office after Renal US showed a hemodynamically significant left renal artery stenosis in the mid aspect of the renal artery with a left resistive index of 0.3, left renal/aortic ratio 3.91 and left mid renal artery velocity Sys/Dias 313/213. Patient's vital signs on admission showed a blood pressure 166/105, heart rate 75, respiratory rate 16, and body temperature 98.7. Physical exam was within normal limits and no abdominal bruits were appreciated. She had a 2D Echocardiography showing mildly increased left ventricular wall thickness with an EF of 65%. The electrocardiogram (EKG) showed a normal sinus rhythm with sinus arrhythmia. Thereafter, the patient underwent cardiac catheterization the subsequent day (Figure 1A). Based on catheterization, a severe 99% mid left renal stenosis with significant post stenotic dilation was appreciated after which ,the interventionist decided to perform a balloon angioplasty initially however as the patient was noted to have a >24mmHg gradient post angioplasty a stent was then successfully placed. Following intervention there was an excellent angiographic appearance with a 0% residual stenosis. This shows a case of secondary hypertension secondary to renal artery stenosis not caused by fibromuscular dysplasia as expected in this age group. This case is unique as it describes a case of a young female with resistant hypertension without any evidence of fibromuscular dysplasia on

angiography that completely resolved after balloon angioplasty with stent placement.

DISCUSSION: Atherosclerotic renal artery stenosis is not common in young females. It is a medical condition with complex pathophysiology that involves early recognition and effective medical therapy to prevent future cardiovascular events.

CV102

Leuconostoc Induced Endocarditis in a Patient with No Risk Factors: A Case Presentation

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INTRODUCTION: Infective endocarditis is an infection of the endocardial surface of the heart, which may include heart valves, mural endocardium, or a septal defect. Its complications include severe valvular insufficiency, intractable congestive heart failure and myocardial abscesses. Leuconostoc species are members of the Streptococcaceae family, thought to be non-pathogenic but only recently were recognized as potential pathogens after few cases in the literature reported as a cause of endocarditis. We are presenting a case of a 65 year old male with no risk factors that developed Leuconostoc endocarditis with severe aortic valve insufficiency.

CASE REPORT: This is a 65 year old male with past medical history of chronic obstructive pulmonary disease and atherosclerotic peripheral vascular disease, who was admitted to the hospital for evaluation after a syncopal episode at home with prodrome of abdominal pain, gas sensation and intermittent fevers for 2 months prior to admission. Upon evaluation in the emergency room, electrocardiography showed ST segment depressions in lateral leads and T wave inversions with initial troponins of 0.5.Transthoracic echocardiography revealed a calcified mobile echo density attached to the ventricular surface of the aortic valve consistent with vegetations which was corroborated with a trans esophageal echocardiography that revealed two vegetations on the right and left leaflet respectively with severe aortic insufficiency. Three different blood cultures grew Leuconostoc SP resistant to vancomycin for which the treatment was switched from the empiric ceftriaxone and vancomycin to intravenous ampicillin. Para nasal computed tomography (CT) failed to show any evidence of dental infection, abscess or other abnormality. His course was complicated with ventilator dependent respiratory failure secondary to acute congestive heart failure with further extubation within 36 hours and clinically improvement of patients' condition after which was transferred to a rehabilitation center for completion of antibiotics. Cardiac spect scan showed a reversible defect in distal anterior wall and cardiac catheterization was planned. After completion of antibiotics, he was transferred to another hospital for coronary artery bypass graft (CABG) and valve replacement. Unfortunately, the patient died with post-surgical complications.

DISCUSSION: Leuconostoc species had always been thought to not clearly play a role in human infections but associated with gastrointestinal symptomatology. To our knowledge this is the first case of endocarditis reported in a patient with no previous valve disease and no risk factors for endocarditis. This will be an important entity to consider as new cases arise, especially because of its detrimental effects, inherent vancomycin resistance and consideration of different antibiotic coverage.

CV103

Transient ST Elevation with Persantine Nuclear Stress Test: A Good Indicator for Emergent Cardiac Laboratory Activation

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INTRODUCTION: Pharmacological nuclear stress testing is performed routinely during the early phase of the acute coronary syndrome spectrum to further risk stratify patient for the development of adverse cardiovascular events. Persantine is considered to have good safety profile with a mortality rate of 0.05% in all patients with suspected acute coronary syndrome and 0.001 % in patients with unstable angina. However rarely adverse events such as ST-elevation myocardial infarction are can occur which require prompt identification and treatment.

CASE REPORT: A 70 year old Hispanic male presented to the Emergency department with chief complain of multiple episodes of new onset pressure like, retrosternal chest pain, 7/10 in intensity, occurring at rest, relived by nitroglycerin administration since last two days associated with new onset shortness of breath with exertion. Initial EKG did not reveal any ischemic changes, three sets of cardiac biomarkers were negative and Echocardiogram revealed normal ejection fraction with no wall motion abnormalities. Patient remained chest pain free for 48 hours and underwent risk stratification for coronary artery disease with Persantine nuclear stress testing. During the pharmacological stress test the patient developed 3 mm of ST elevation after 7 min of Persantine infusion associated with typical chest pain. Prompt reversal of Persantine with administration of aminophylline and nitroglycerin resulted in resolution of patient's chest

pain and ST segment elevation. Patients stress nuclear images done immediately afterwards sh"

DISCUSSION: Transient ST elevation is a rare complication of vasodiltory pharmacological stress testing resulting from the "coronary steal phenomena". This finding signifies a large area of trans-mural ischemia on SPECT nuclear imaging and high-grade obstructive coronary lesion, which requires prompt activation of cardiac catherisation laboratory and angioplasty of the culprit lesion.

CV104

Iatrogenic Inferior Vena Cava Syndrome Secondary to Delayed Partial Embolization of an Atrial Septal Defect Occluder Device: Challenging Clinical Scenario

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INTRODUCTION: Inferior vena cava (IVC) syndrome is caused by either partial or complete occlusion of the IVC. Iatrogenic IVC syndrome is a rare entity that can complicate percutaneous closure of an atrial septal defect (ASD) with catheter-implanted occluder devices.

CASE REPORT: A 9-year-old child was evaluated for progressive abdominal discomfort that started 3 months prior to her presentation. According to her parents, she also had easy fatigability gradually worsening over the last year. She has a past history of a hemodynamically significant ASD, which was closed 2 years ago using a percutaneous occluder device with subsequent improvement in her symptomatology. Physical examination was significant for heart rate of 112 bpm, few distended abdominal wall veins, trace edema of the legs and mild tenderness of the right upper quadrant with unremarkable heart and lung examination. Electrocardiogram showed sinus tachycardia. Transthoracic echocardiography revealed embolization of the ASD occluder device between the interatrial septum (IAS) and IVC, causing partial obstruction of the IVC but with no affection of the pulmonary artery. Minimal residual shunting across the IAS as well as dilated proximal IVC was noted. Given her presentation, physical signs and echocardiography findings, the decision to retrieve this occluder device to relief the IVC obstruction was made. Our patient had an uneventful cardiac surgery with retrieval of partially endothelialized occluder device and surgical closure of the defect. Three months later, the patient had complete resolution of her symptoms with disappearance of the dilated abdominal wall veins and leg edema.

DISCUSSION: IVC syndrome is a rare complication of ASD occluder devices and can have a subtle clinical course. High index of suspicion, delicate physical examination and proper evaluation with echocardiography are important to establish the diagnosis. Surgical retrieval of the occluder device two years after its deployment was feasible and led to complete resolution of the IVC syndrome complicating this ASD closure.

CV105

Anterior Wall Transmural Myocardial Infarction Complicating CREST Syndrome: A Case Report

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INTRODUCTION: Systemic sclerosis also known as Scleroderma is a systemic inflammatory disease characterized by extensive deposition of fibrous tissue in the skin and internal organs. Vasculopathy secondary to endothelial dysfunction and microvascular obliteration is a main feature of the disease. Recently, some studies showed an increase risk of atherosclerosis in patients with scleroderma.

CASE REPORT: A 45-year-old Caucasian female was evaluated at our emergency department for substernal compressing chest pain, shortness of breath associated with nausea and vomiting that started 2 hours prior to her presentation. Her past medical history is significant for CREST syndrome, asthma and migraine headaches. She denied smoking, alcohol or illicit drug use. No family history of premature coronary artery disease and her only medication is Topamax 50mg bid. Vital signs showed blood pressure of 180/95 mmHg, heart rate of 105 beats per min, respiratory rate of 20 breaths per min, and temperature of 98.5Â°F. Physical examination was significant for thickened tight skin changes on the fingers bilaterally with mild bluish discoloration at the tips. Besides tachycardia, heart and lung examination was normal. Electrocardiogram (EKG) showed ST-segment elevation in lead V3 e.g., 6, I and aVL. Laboratory investigations were only significant for elevated troponin-I (Tn-I). Chest radiography (CXR) was normal. Primary coronary angiogram showed mid segment total occlusion of the left anterior descending coronary (LAD) as well as total occlusion of the second diagonal branch (D2). Successful percutaneous transluminal coronary angioplasty (PTCA) and drug eluting stent placement in the LAD was done, whereas PTCA alone was enough to restore thrombolysis in myocardial infarction (TIMI) III flow in D2. The post-primary PCI course of the patient was uneventful and was discharged on full anti-ischemic medical therapy including dual antiplatelet therapy, statin, Beta-blocker

and angiotensin-converting enzyme inhibitor. Follow up echocardiography after 3 months showed ejection fraction of 45-50% with hypokinesis of the mid anterior, mid anteroseptal and apical anterior walls.

DISCUSSION: Systemic sclerosis, also known as Scleroderma, is an immune-mediated disorder characterized by deposition of fibrous tissue in the skin and internal organs as well as vasculopathy. In literature, many cases of myocardial infarction with patent coronary arteries were reported in scleroderma patients, and were attributed to coronary spasm and impaired microcirculation; however, cases of ST-segment elevation myocardial infarction secondary to scleroderma are scarce in literature.

CV106

Significant Improvement of the Timed 25 Foot Walk (T25FW) after Administration of Dalfampridine in Secondary Progressive Multiple Sclerosis

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INTRODUCTION: Patients with Multiple Sclerosis (MS) commonly suffer disabling symptoms during the course of their illness, preventing their ability to walk and otherwise limiting their mobility. Disease modifying agents, rehabilitation, and other forms of symptom control has proven beneficial at improving the quality of life and delaying progression of symptoms. Dalfampridine is a recent FDA-approved organic compound that works by blocking the potassium channels, thereby prolonging action potentials. It has shown promise in improving the walking speed of patients afflicted with Multiple Sclerosis. We hereby present the case of an MS patient who showed significant improvement in walking speed after administration of dalfampridine.

CASE REPORT: The patient is a 62 year old female with a past medical history of secondary progressive Multiple sclerosis who suffered multiple relapses during the course of her 10 year affliction. On a previous visit, the patient had begun to express difficulties with her gait. A Timed 25 Foot Walk (T25FW) was performed, which revealed a walking time of 35 seconds. On examination, the patient was awake, alert, and oriented to person, place and time. Her appendicular examination revealed moderate spasticity of bilateral upper and lower extremities with hyperreflexia noted in all four limbs. Her sensation was intact. On that visit, Dalfampridine was initiated and T25FW was measured on separate follow-up occasions, with improving times of 31, 25, 22, and 19 seconds noted.

DISCUSSION: Multiple Sclerosis is a disabling autoimmune condition which can significantly affect a patient's quality of life. Medications like Dalfampridine can help to delay progression and enhance a patient's motor skills, improving their functional status.

CV107

A Bedside Test to Distinguish a Myasthenic from a Vascular Cause of Bilateral Ino

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INTRODUCTION: Bilateral slowness of adducting saccades is typically thought to be diagnostic of a bilateral medial longitudinal fasciculus (MLF) lesions. This clinical presentation is however not pathognomonic and perhaps is more commonly seen from myasthenia. We present a little known clinical test that can distinguish these conditions at the bedside. Vertical vestibule-ocular reflex projections from the anterior canals are via the brachium conjunctivum while the projects from the posterior canals are transmitted vis the medial longitudinal fascicule. Thus patients with bilateral MLF lesions consistently have an abnormal VOR to backward head thrusts whereas VOR for forward head thrusts remain normal.

CASE REPORT: 81 year-old woman presented with acute onset of binocular horizontal diplopia and lightheadedness. The lightheadedness feeling remained throughout the day but the diplopia resolved spontaneously in about 10-15 minutes. The next day, the diplopia returned and it has not changed since then. She has been on a baby ASA since a TIA 10-15 years ago manifested as the acute onset of garbled speech lasting about 10-15 minutes. A full work-up was unremarkable. Her exam was normal with the exception of total loss of adduction of the right eye and a mild loss of adduction of the left eye. Saccades were of normal accuracy and velocity for vertical saccades. The VOR gain by rapid head thrust testing was normal in the horizontal.

DISCUSSION: Vertical vestibule-ocular reflex project from the anterior canals via the brachium conjunctivum while the projections from the posterior canals are transmitted via the MLF. Thus patients with bilateral MLF lesions consistently have an abnormal VOR to backward head thrusts whereas VOR for forward head thrusts remain normal allowing for a rapid accurate clinical diagnosis.

CV108

Adult Onset Langerhans Cell Histiocytosis Misdiagnosed as Toxoplasmosis

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INTRODUCTION: Langerhans cell histiocytosis (LCH) is a rare disorder that comprises a spectrum of diseases ranging from a localized indolent to an aggressive systemic form. It is described mostly among children and has rare occurrence in adults. Involvement of the skin may represent the earliest sign while lymphadenopathy is seen only in approximately 20 percent of patients. Systemic lesions may involve bones, lungs, liver and spleen. Due to the rarity of the disease, no consensus in treatment exists yet.

CASE REPORT: We present a 58 year old Hispanic male from Dominican Republic, without significant past medical history, who presented with complaints of pruritis and a diffuse rash, worsening over four months duration. Due to constant pruritis, excoriations progressed to fluid filled blisters and chronic leg ulcers over time. He also reported a 20 pound weight loss, night sweats and increased fatigue. He denied fever, diarrhea, cough, bone pain, and use of immunosuppressive medications. He was diagnosed and treated for cutaneous toxoplasmosis after testing positive for IgG titer in the Dominican Republic. Despite treatment, his skin lesions progressively worsened. On examination, diffuse but modest cervical, axillary, and inguinal lymphadenopathy was palpated. His skin was remarkably thick, leathery, and scaly. Laboratory studies revealed leukocytosis with predominant eosinophilia and elevated alkaline phosphatase. HIV, hepatitis B, C, toxoplasmosis, syphilis, histoplasmosis antigen, cryptococcus antigen, HTLV 1/2, ANA, and complement levels were negative. CT of neck, chest, abdomen and pelvis confirmed diffuse lymphadenopathy without lymph node station measuring greater than two centimeters. Excisional biopsies of the right groin lymph node and skin were performed. Histology revealed effacement of lymph node architecture by nodular histiocytic cell proliferation. Immunohistochemical stains of the lymph node were positive for CD1a, S100+, with predominant CD3+ lymphocytes and also presence of CD4, CD8 and CD7 T cells. The diagnosis of systemic LCH was made. Treatment will be initiated with vinblastine and prednisone for systemic LCH.

DISCUSSION: Though histiocytes in LCH resemble the langerhans cells of skin, they are myeloid dendritic cells that express the same antigens as the skin langerhans cell. Isolated skin lesions may resolve spontaneously or may respond to topical steroids. Disseminated disease may respond to chemotherapeutic agents.

CV109

Telescoping Technique to Engage Left Main in a Massively Dilated Aortic Root and Ascending Aorta

Shah, P.; Bikkina, M.; Virk, H.; St. Joseph's Regional Medical Center

INTRODUCTION: It can be difficult to engage the coronary arteries when aortic root and ascending aorta are dilated. In case where they are massively dilated (>10 cm), it is not possible to engage the coronaries using regular catheters. We present a case where telescoping technique was used to engage left main in a patient with ascending aortic aneurysm of 10.2 cm.

CASE REPORT: 78 y/o male with past history of hypertension, dyslipidemia, prosthetic aortic valve replacement (10 years ago in Ecuador) presented to ED with complaints of exertional shortness of breath for few days.Chest x ray showed widened mediastinum. Subsequently, CT angiogram of the chest showed massively dilated ascending aorta with maximum diameter of 10.2 cm. The patient was then transferred to our hospital for surgical management. Transthoracic echocardiogram revealed normal ejection fraction with mild aortic insufficiency, well functioning prosthetic aortic valve and no aortic stenosis. His creatinine was 1.4 mg/dl and he had received 100 ml of contrast for CT angiogram. It was necessary to evaluate hiscoronary arteries prior to surgery for ascending aortic aneurysm. There were two options in his case:coronary CT angiography or conventional coronary angiography. Coronary CT angiography would require about 100 ml of contrast. A diagnostic coronary angiogram can be done using < 50 ml of contrast. Given his renal insufficiency, we decided to do conventional coronary angiography. Since the ascending aorta and the root were extremely dilated, we knew it would not have been possible to engage the coronaries using regular catheters and standard technique. Hence telescopic technique was used. AL3 (Amplatz Left) 7F (French) guide catheter (100 cm) was initially used and non-selective injection of contrast was done to see the coronary ositum. After that a 5F MP (multipurpose) catheter (110 cm) was telescoped through 7F AL3 guide catheter to engage the ostium of the left main coronary artery. Using this technique, images of coronaries were obtained and it showed minimal luminal irregularities in all three major epicardial coronary arteries. Total of 50 ml contrast was used. Patient underwent successful surgery with aor-

tic valve replacement and excision of aneurysm with graft placement.

DISCUSSION: In cases where aortic root and/or ascending aorta are massively dilated, coronary angiography can be performed relatively easily with the use of telescopic technique.

CV110

Thrombus Formation in Left Atrium on Dabigatran Therapy

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INTRODUCTION: Dabigatran is a direct thrombin inhibitor binding to thrombin in competitive and reversible manner. Binding of dabigatran to thrombin prevents catalytic conversion of fibrinogen to fibrin by thrombin. It also inhibits thrombin-mediated activation of platelets and amplification of coagulation cascade. Dabigatran was approved in the United States in 2010 for non-valvular atrial fibrillation based on the results of the RE-LY trial. We report one such rare case of left atrial thrombus formation in a patient with chronic atrial fibrillation on dabigatran therapy.

CASE REPORT: A 60 year old male with past medical history of hypertension, coronary artery disease, chronic atrialfibrillation, and stroke (in 2011) presented to the hospital with complaints of slurred speech, dizziness and gait imbalance in October 2014. He denied any other complaints. His blood pressure on admission was 180/102 mm Hg and heart rate was 77/minute. Physical examination was significant for left facial droop and irregularly irregular heart sounds. Rest of the physical examination was normal. Electrocardiogram showed atrial fibrillation with ventricular rate of 80 beats per minute. A non-contrastCT scan of the brain showed new lacunar infarct in right corona radiata and old right frontal lobe infarct. Subsequent MRI of the brain showed acute infarcts in right insular cortex, subinsular region, and right corona radiata along with an old right frontal lobe infarct. His laboratory tests were within normal limits. The patient was continued on dabigatran 150 mg twice daily, which he was taking at home. His other home medications included aspirin 81 mg, metoprolol succinate 100 mg, diltiazem sustained release 120 mg, and atorvastatin 40 mg daily. The patient had a regular follow up with his cardiologist and was compliant with all his medications. He had a transesophageal echocardiogram done in August 2011, which did not reveal any smoke or clot in left atrium or left atrial appendage. He subsequently underwent electrical cardioversion for atrial fibrillation at that time but reverted back to atrial fibrillation shortly thereafter. He has been on dabigatran since then. A transesophageal echocardgiogram was done on this admission to evaluate a likely embolic source of acute stroke. Surprisingly, it revealed significant smoke and a mobile thrombus in the left atrium measuring about 0.6cm x 0.3 cm (Figure 1). The left atrial appendage was free of thrombus. The patient was switched to warfarin anticoagulation for presumed dabigatran failure. Rest of his hospital course wasunremarkable and he was discharged to acute rehabilitation after 3 days on warfarin anticoagulation along with low molecular weight heparin bridging.

DISCUSSION: Some of the proposed mechanisms for thrombus formation on dabigatran are as follows. First, single level downstream inhibition of thrombin can lead to compensatory increase in upstream clotting factors. Second, all the available thrombin might not beinhibited. The best strategy of anticoagulation in patients who develop thrombus on dabigatran therapy is also not known. However, a tried and tested therapy with warfarin should beused in such patients.

CV111

ST Elevation Myocardial Infarction with Acute Limb Ischemia

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INTRODUCTION: Large anterior wall myocardial infarction (MI) can lead to thrombus formation, which can embolize to systemic circulation. This complication usually leads to stroke however it can rarely cause acute limb ischemia. If recognized in timely fashion, thrombolysis can salvage the limb.

CASE REPORT: A 42 year-old female with past medical history of uncontrolled diabetes and hypertension presented with pressure like chest pain for 1 week. Pain was initially intermittent, but then continuous for past 2 days. She denied any other symptoms. Vitals were stable. Heart and lung exam was within normal limits. However, the left lower extremity 5 cm below the knee joint was cold to touch. Dorsalis pedis, anterior tibial and posterior tibial pulses were not palpable on the left side. Power and sensations in the left lower extremity below the knee joint were significantly diminished. Upon further questioning, patient complained of numbness in the left foot for one day. Electrocardiogram showed sinus rhythmwith ST elevation in anterior leads. A presumed diagnosis of ST elevation MI (STEMI) with distal embolization from left ventricular (LV) thrombus was made. The patient was taken immediately to catheterization lab and vascular surgeon was consulted. Left heart catheterization showed 100% occlusion of mid left anterior

descending (LAD) artery. After aspiration thrombectomy, LAD lesion was dilated with Maverick balloon and drug-eluting stent was deployed. We decided to defer left ventriculography and proceed with angiogram of lower extremities. It showed thrombus at left tibioperoneal trunk. Femoral sheath was left in place, via which EkoSonic catheter was inserted such that the distal tip was at the tibioperoneal trunk. Local thrombolysis using tissue plasminogen activator bolus 5 mg followed by infusion 1 mg/h for 12 hours was performed. Patient improved dramatically with resolution of weakeness and numbness in left leg next day. Echocardiogram showed ejection fraction of 30% with thrombus in LV. She is doing well 5 months later on anticoagulation. Repeat echocardiography showed imporved systolic function and resolution of thrombus.

DISCUSSION: This case demonstrates importance of high index of suspicion for complications of STEMI and prompt intervention.

CV112

Unusual Case of Idiopathic Pulmonary Arterial Hypertension in a Young Male: A Report of a Case

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INTRODUCTION: Pulmonary arterial hypertension (PAH) is characterized by elevated pulmonary arterial pressure, which is confirmed when mean pulmonary artery pressure is >25 mmHg at rest. PAH can be idiopathic. Idiopathic PAH has an annual incidence of 1-2 cases per million in US and Europe. It is 2-4 times more common in women than in men. Mean age of diagnosis of which is around 45 years. The presenting symptoms of pulmonary hypertension, being nonspecific, often results in delayed diagnosis.

CASE REPORT: We present a 24 year old Guatemalan male who was admitted for worsening shortness of breath of two weeks duration. He mentioned decrease in exercise capacity for one year, and denies use of anorexigens. Physical examination revealed palpable, accentuated second heart sound (S2) with splitting of S2 at the apex. Screening serology for HIV, antinuclear antibody, anti-Scleroderma 70, and rheumatoid factor was negative; liver function tests and thyroid stimulating hormone were non-diagnostic. Electrocardiogram showed features consistent with right atrial enlargement, right axis deviation, incomplete right bundle branch block, and right ventricular hypertrophy. A chest radiograph revealed large main pulmonary artery, confirmed by computed tomographic angiogram without signs of pulmonary embolism and definite parenchymal abnormalities. Transesophageal echocardiogram disclosed right ventricular volume and pressure overload with moderately enlarged right ventricle, patent foramen ovale, and mild right to left shunt. Cardiac catheterization did not show response up to 500mcg\kg\min of adenosine. Sildenafil, along with anticoagulation using warfarin, was initiated with overall clinical improvement.

DISCUSSION: Pulmonary arterial hypertension (PAH) is a vasculopathy, characterized by vasoconstriction, cell proliferation, fibrosis, and thrombosis. PAH is diagnosed by right heart catheterization, with pulmonary vasoreactivity. Mortality was most closely associated with male gender, right ventricular hemodynamic function, and exercise limitation in idiopathic PAH. What makes our case unusual is idiopathic pulmonary hypertension typically presents in women with mean age of diagnosis of 45 years of age.

CV113

Neurosyphilis Mimicking Symptoms of Recurrent TIA

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INTRODUCTION: Neurosyphilis an infection of brain or spinal cord by Treponema pallidum. It occurs in chronic untreated syphilis. The most common forms of neurosyphilis involve the CSF, meninges, and vasculature. Late in disease it involves the brain and spinal cord parenchyma (general paresis and tabes dorsalis). Syphilitic meningitis can result in infectious arteritis and can cause thrombosis, ischemia, and stroke involving the brain or spinal cord making it difficult to diagnose. We wish to report a case of Neurosyphilis who presented with TIA and Abnormal brain MRI.

CASE REPORT: A 55 y/o portuguese male with past medical history of dyslipidemia, coronary artery disease s/p CABG (2005) presented with 2 week history of recurrent episodes of slurring of speech lasting few hours and resolving spontaneously. The family had noticed cognitive dysfunction, change in personality, gaps in memory, confabulation and unsteady gait for 2 months. He denied history of fevers, headaches, seizures, head trauma, loss of consciousness, or other focal deficits. He was an ex smoker and ex alcoholic (quit 1 year ago) but denied drug abuse. He had multiple sexual partners in the past but monogamous for past 6 years. Physical exam was positive for bilateral intentional hand tremors, left sided hyperreflexia, positive romberg's sign and difficulty performing complex task. Our initial differential diagnoses included TIA, neurosyphilis, Wernicke's encephalopathy, B12 deficiency and HIV encepahlo-

pathy. CT head and B12 levels were normal. HIV status was negative. ANA, ESR and CRP were normal. RPR was positive at 1:64 titers with positive FTA-ABS. MRI brain showed increased signal intensity in bilateral temporal and frontal lobes suggestive of herpes or limbic encephalitis. Cerebrospinal fluid analysis showed elevated protein, lymphocyte predominant cell count, VDRL positive, negative for Cyptococcus and HSV. A diagnosis of neurosyphilis was made and patient started on Crystalline penicillin 4 million units IV every 4 hrs for the next 10 days. Patient was discharged with improvement in his neurological symptoms and on follow up was noted to have a RPR titer of 1:32.

DISCUSSION: Syphilis testing should always be considered a part of the dignostic workup of TIA and stroke. Patients with TIA and stroke with positive syphilis serology, it is appropriate to further pursue diagnosis and treatment. In patients unable to undergo LP, empiric treatment for neurosyphilis should be considered.

CV114

A Case of Spontaneous Coronary Artery Dissection in Young Healthy Women

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INTRODUCTION: Spontaneous coronary artery dissection (SCAD) is a rare cause of myocardial infarction seen in young women with no coronary artery disease. It is also seen during third trimester of pregnancy and postpartum period. Hormonal changes and hemodynamic stress are implicated in its pathology. The spectrum of clinical presentation ranges from mild symptoms to cardiac arrest. We present a case of young healthy female with SCAD of proximal to mid left anterior descending artery, who had to undergo emergent bypass surgery.

CASE REPORT: A 49 year old female with no significant cardiac history presented to emergency room with complaints of chest pain which was substernal heaviness with no radiation. Patient stated that she developed chest pain during pre-marathon training. There was no associated dyspnea, palpitations or diaphoresis. She denied any prior episodes of similar chest pain or any family history of coronary artery disease and Myocardial Infarction (MI). She also denied history of smoking, alcohol or illicit drug abuse. On exam, patient appeared to be in no acute distress. Vitals showed Blood Pressure 137/88, Heart Rate 64/min, Respiratory Rate 20/min, Temperature 97.2oF and saturation 99% on 2L of Oxygen. Cardiovascular exam Â¬revealed regular rate and rhythm with no murmur, rubs or gallop. First and second heart sounds were heard. Point of maximal impulse was not displaced. Neck exam showed no jugular venous distension. Lungs were clear to auscultation bilaterally. Peripheral pulses were intact bilaterally. On further workup, electrocardiogram (EKG) showed non-specific ST-T segment changes in the inferior leads. Her first Troponin was normal but the subsequent was elevated at 1.08. CKMB was also elevated at 36.5. CT angiogram ruled out aortic dissection. Patient was admitted for non-ST segment elevation MI. Patient underwent cardiac catheterization which revealed large spontaneous spiral dissection of proximal to mid left anterior descending artery extending into first major diagonal branch. Patient was emergently taken for bypass surgery. Post-operative course was uneventful. She was discharged home 4 days later.

DISCUSSION: The overall mortality of SCAD is in excess of 60%. Thus, possibility of dissection should be considered in any young women who presents with chest pain. Currently, there are no established guidelines regarding management strategy for such patients. This case illustrates the importance of medical therapy vs early surgical management.

CV115

Ventricular Septal Rupture: A Rare Complication of Right Ventricular Myocardial Infarction: A Case Report

Siddiqui, W.; Iyer, P.; Amba, S.; Aung, M.; Khan, M.; Ejidike, M.; Muddassir, S.; Saint Francis Medical Center

INTRODUCTION: Right ventricular (RV) infarction is seen in 50% of acute inferior wall myocardial infarctions. Ventricular septal rupture (VSR) is a rare complication of right ventricular infarction. It is associated with significant mortality (91%) secondary to cardiogenic shock. With surgical repair, in-hospital mortality is substantially reduced from 90% to 33-45%. We present a case of right ventricular Infarct complicated by VSR and cardiogenic shock. Diagnosis was confirmed by transesopahgeal echocardiogram (TEE). Patient was treated with percutaneous insertion of VSD occluder device.

CASE REPORT: A 69 year old Caucasian female with past medical history of hypertension, hyperlipidemia and obesity presented to the hospital with chest pain and shortness of breath. Chest pain lasted for about 5 days but then subsided on its own. 24 hours prior to presentation patient again had continuous chest tightness. Patient denied any h/o of smoking cigarettes or using illicit drugs. On arrival to the ED; patient was tachycardic, tachypneic and normotensive. Within the next few minutes, patient became significantly hy-

potensive. Vitals at that time were BP 78/52, HR 109/min, RR 22/min and O2 saturation of 96% on 3L of oxygen via nasal cannula. On physical exam, patient appeared to be dyspneic and in acute distress. Rest of physical exam revealed audible S1 S2 with no added murmur or gallop, bilateral pitting lower extremity edema, bilateral rhonchi and increased respiratory effort. EKG showed ST Segment elevations in leads III and aVF. First set of troponin levels were found to be elevated at 1.60 and CK was 118. Patient was started on vasopressors and emergently transferred to our facility to undergo cardiac catheterization. It showed 99% stenosis at mid right coronary artery for which angioplasty was performed. Two days later, patient again became hypotensive. Urgent 2D echocardiogram was done which showed a ventricular septal defect (VSD). Patient was urgently transferred to tertiary facility; where a percutaneous amplatzer occluder device was placed. Ultimately, patient died secondary to septic shock and ischemic colitis.

DISCUSSION: VSR is a potentially life threatening complication of AMI. It usually occurs within the first 10 to 14 days after MI. In patients with cardiogenic shock, death is inevitable in the absence of urgent surgical intervention. Delayed elective surgical repair is feasible option only in patients with heart failure without shock.

CV116

Rare Case of Gastric Antral Vascular Ectasia in a Cirrhotic Patient

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INTRODUCTION: GAVE syndrome is a rare cause of non-variceal upper GI bleeding not typically associated with cirrhosis. However, it increases mortality significantly when accompanying underlying cirrhosis, because often it is confused with Portal Hypertensive Gastropathy. Differentiating between the two is imperative as the treatments are different. Here, we present a rare case of a middle-aged female who underwent surgical intervention for vascular ectasias and was found to have advanced liver cirrhosis of unclear etiology.

CASE REPORT: 58 Year old Hispanic female, with a history significant for multiple AVM's of the stomach, IDDM, HTN, Collagen Vascular Disease, Chronic Pancytopenia, and a variant of SLE versus RA, who presented with complaints of lightheadedness and palpitations, and was noted to have a hemoglobin of 7.6. Patient has had multiple admissions in the past for anemia secondary to bleeding from the AVM's, with multiple endoscopies in past. In 2012 Endoscopy showed multiple AVM's, fresh bleeding, underwent cauterization. Notably on endoscopy in the antrum, were linear-shaped thickened folds with red spots, consistent with "Watermelon Gastropathy". Patient was most recently scoped for argon-laser ablation, but the procedure needed to be aborted secondary to bleeding.At the time of presentation to the hospital, patient acknowledged some weakness and shortness of breath. Initially patient was treated conservatively with blood transfusion to stabilize hemoglobin, and then decision was made to do surgery on patient in the view that she had failed multiple therapies in past. Subsequently patient was to undergo Subtotal Gastrectomy, but intraoperatively was found to have advanced cirrhosis. Post operatively patient had a complicated course .She went into hepatic encephalopathy and was intubated for airway protection, LFTS and ammonia were trending up. She also had Anterior wall MI, became septic and went into Multiorgan Dysfunction Syndrome. Her MELD score was calculated to be 17 and Child PUGH B-C which imposes a high risk of mortality. Eventually patient went into Ventricular fibrillation and family made the decision to make her DNR.

DISCUSSION: GAVE Syndrome presents 4% of UGI non-variceal bleeding and is not typically associated with cirrhosis. Diagnosis is based on endoscopic appearance of "watermelon stomach" and histopathology. Presentation can range from being asymptomatic, to acute or chronic hemorrhages with iron deficiency anemia. Mainstay of therapy is endoscopic ablation. Surgery with Bilroth-1 Anastomosis is curative and efficacious, but is associated with high mortality in cirrhosis.

CV117

The Significant Role of Consultation Psychiatrist in Preventing, Identifying and Treating Wernicke's Encephalopathy

Spariosu, M.; Coira, D.; Hackensack UMC, Rutgers NJMS; St. George's University Medical School

INTRODUCTION: Wernicke's encephalopathy is an acute neuropsychiatric disorder which occurs as a direct result of a thiamine deficiency. Prevalence of Wernicke's encephalopathy is 1.4-2.2 % in the general population with an increased rate in known alcoholics of 12.5 %, and 35% in alcoholics with cerebellar damage. Wernicke's encephalopathy is missed on clinical examination in up to 75-80% of cases and only verified on autopsy. Thiamine deficiency can occur due to either alcoholic or nonalcoholic causes.

CASE REPORT: Early and adequate intervention may prevent the development of Wernicke's encephalopathy.

DISCUSSION: The role of psychiatry in preventing, identifying, treating Wernicke's encephalopathy and educating the primary team had significant impact on improving patient's care and prognosis.

CV118

Acute Thrombus Formation within a Coronary Artery Aneurysmal Segment During Coronary Angiogram

Suleiman, A.; Saad, M.; Shamoon, F.; Saint Michael's Medical Center

INTRODUCTION: Coronary aneurysms represent anomalies identified in 0.15-4.9% of patients undergoing coronary angiography. According to current definitions, the term "aneurysm" refers to both diffuse over 150% dilation of the largest diameter of a coronary artery, and limited spherical or saccular dilation"

CASE REPORT: in this case we present a 59 years old man with history of chest pain and abnormal nuclear stress test who was referred for cardiac catheterization. The initial angiographic images revealed an aneurysmal mid circumflex artery which was seen to be patent, but later on during the procedure a well visualized thrombus was seen within this segment, without causing luminal obstruction. Afterward the thrombus disappeared without any interventional.

DISCUSSION: Aneurysms are observed most commonly in the right coronary artery, and least frequently in the left main coronary artery.Â There is consensus that the majority (50%-52%) of coronary artery aneurysms are arteriosclerotic in origin. Several case reports have described the presence of a thrombus inside the aneurysm.

CV119

Unusual Presentation of a Femoral Artery Pseudoaneurysm After Left Cardiac Catheterization

Suleiman, A.; Saad, M.; Shamoon, F.; Saint Michael's Medical Center/Cardiology

INTRODUCTION: Femoral pseudoaneurysm (FPA) is one of the most common complications of percutaneous cardiac catheterization performed through the femoral artery. It develops from a defect in the arterial wall post puncture with an extravasation of blood into surrounding tissue forming a pulsatile hematoma

CASE REPORT: This case illustrate a 62 years old female who underwent emergency cardiac catheterization for acute inferior wall MI. her post cath. 2 days after that she was noted to have a diffuse swelling and tenderness of the whole right leg(Rt. Femoral artery was accessed during cath.) down to the ankle. Subsequent arterial and venous Doppler studies confirmed the diagnosis of common femoral artery pseudoaneurysm without any evidence of venous thrombosis.

DISCUSSION: The incidence of PSA after diagnostic catheterization ranges from 0.05% to 2%. The presence of pain or swelling in the groin after catheterization is the most common presentation of a PSA. Swelling from a large PSA or hematoma may also lead to compression of nerves and vessels with associated neuropathy, venous thrombosis, claudication, or, rarely, critical limb ischemia.

CV120

Elevated Cardiac Enzymes with Normal Coronary Angiography After IVIG Infusion

Suleiman, A.; Saad, M.; Shamoon, F.; Saint Michael's medical Center/Cardiology

INTRODUCTION: Intravenous immunoglobulins (IVIgs) are used for several indications, including autoimmune and neurological conditions. IVIg treatment is associated with several possible adverse reactions including induction of a hypercoagulable state.

CASE REPORT: We report a 68-year-old woman treated with IVIg for Chronic Inflammatory Demyelinating polyneuropathy, which developed shortness of breath and weakness following IVIg infusion session. The symptoms were associated with elevated troponin levels in the absence of ischemic ECG changes. The patient was diagnosed with non-ST elevation myocardial infarction (NSTEMI) and received the guideline directed medical therapy. The patient had undergone cardiac catheterization which revealed non obstructive CAD.

DISCUSSION: This case is compatible with IVIg-induced hypercoagulability resulting in NSTEMI likely on the microvascular level. Cardiac evaluation should therefore be considered prior to initiation of IVIg treatment especially in patients with multiple cardiovascular risks.

CV121

Kikuchi-Fujimoto Disease a.k.a Histiocytic Necrotizing Lymphadenitis in an African-American Male

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INTRODUCTION: Kikuchi-Fujimoto disease, also known as histiocytic necrotizing lymphadenitis, is an illness characterized by self-limited inflammation of the lymph nodes. It was first described in 1972 as a lymphadenitis with focal proliferation of reticular cells surrounded by histiocytes and nuclear debris. This is a case of an African American male who pre-

sented with fever, chills, back pain and found to have abdominal and retroperitoneal lymphadenopathy. Biopsy revealed histiocytes, and lymphocytes with a predominance of CD8+ T cells, suggestive of Kikuchi-Fujimoto disease.

CASE REPORT: The patient is a 49 year old African American male smoker with no significant past medical history, who presented with fever, chills, and intermittent back pain for several weeks. Initially, he visited the emergency room and sent home on Levaquin and Tamiflu. He subsequently returned with no improvement in his symptoms. He denied any respiratory symptoms, chest pain, abdominal pain, joint pain, diarrhea, and urinary symptoms. His sick contacts included a mother-in-law with tuberculosis. Upon presentation to the hospital, the patient was found to have fever of 101.7Â°F and tachycardia, with poor dentition. The remainder of the physical exam was within normal limits. Laboratory results revealed a mild leukopenia with a differential within normal range and the patient was started on antibiotics for presumptive community acquired pneumonia. He then underwent an abdominal/pelvic CT which showed multiple enlarged lymph nodes greater than 1 cm, anterior to the pancreas with mesenteric stranding. A biopsy of a left groin lymph node revealed extensive fibrosis and smooth muscle metaplasia with no evidence of lymphoma. Omental lymph node biopsy was also performed which showed dense infiltration by histiocytes, lymphocytes, large areas of necrosis, expression of CD68, with B immunoblasts positive for CD30, with no evidence of lymphoma, consistent with histiocytic necrotizing lymphadenitis. Over the course of hospitalization, the patient was given supportive care and symptoms improved.

DISCUSSION: Kikuchi-Fujimoto disease usually affects persons of Japanese and Asian origin under the age of 40. It is a self-limited disease of the lymph nodes that must be differentiated from lymphoma and improves with symptomatic therapy. In this case, we have an unusual presentation with a person of African American ethnicity.

CV122

Late Presentation of Infantile Laryngeal Agenesis

Szczech, E.; Parikh, S.P.; Burjonrappa, S.; St. Joseph's Regional Medical Center

INTRODUCTION: We present a case of a six-month-old female with delayed diagnosis laryngomalacia and laryngeal agenesis. She was hospitalized for failure to thrive and was found to have intermittent stridor. At the time, she did not meet the weight threshold to be evaluated by bronchoscopy. After failed intubation attempts, an urgent tracheostomy was performed to allow the surgical treatment for failure to thrive and gastroesophageal reflux. After sufficient weight gain, bronchoscopy revealed laryngomalacia and agenesis of the larynx, which is an entity seldom encountered.

CASE REPORT: A six-month-old female presented with a history of severe failure to thrive, stridor, and gastroesophageal reflux disease (GERD). At birth she was 34 weeks gestation and diagnosed with apnea, stridor, failure to thrive, GERD, chromosomal duplication 7q11.23 and hyperglycemia secondary to hyperinsulinism. Ear, nose, throat (ENT) specialist evaluation for her intermittent stridor indicated that her weight was insufficient for bronchoscopy exam. To alleviate the GERD which was causing worsening respiratory symptoms and to facilitate weight gain, the surgical service was consulted for Nissen fundoplication and feeding gastrostomy tube placement. At the time of surgery, multiple intubation attempts by specialized pediatric anesthesiologists were not successful and an urgent tracheostomy was placed prior to the planned procedures. After subsequent stabilization, laryngoscopy and bronchoscopy were performed which demonstrated pinhole airway through the arytenoids, lack of true vocal cords, agenesis of larynx, large anterior epiglottic web and severe subglottic stenosis preventing intubation.

DISCUSSION: Infants with congenital laryngeal malformations may have a delayed diagnosis depending on their severity of airway obstruction. In order to successfully manage these patients with a definitive airway, surgical tracheostomy must be considered early in their care. Once stabilized and medically optimized, multi- or single-stage laryngotracheal reconstruction with cartilage grafting is indicated for definitive management of severe laryngomalacia or agenesis.

CV123

Duodenal Atresia with a Normal Abdominal Radiograph

Szczech, E; Parikh, S; Bhattacharyya, N; St. Joseph's Regional Medical Center

INTRODUCTION: Abdominal radiographs associated with duodenal atresia typically demonstrate paucity of distal intraluminal intestinal gas. We present a case of duodenal atresia with air throughout the intestine. This unexpected imaging presentation complicated the diagnosis and eventual treatment.

CASE REPORT: We present the case of a 2 day old infant with duodenal atresia and concomitant pancreatic ductal anomalies. On day 1 of life this 35 week gesta-

tion male infant was noted to have feeding intolerance. On neonatal echo an atrial-ventricular canal was noted, and at birth he was noted to have facial features associated with Downs' Syndrome. Given the feeding intolerance, gastrointestinal abnormalities were suspected. Abdominal radiograph demonstrated proximal dilated duodenum and stomach with an orogastric tube in place. Of note, the radiograph demonstrated air throughout the bowel to the rectum. Due to this gas pattern, malrotation of the foregut was suspected. Upper GI Series contrast radiographs were obtained which showed duodenal atresia. Given this diagnosis, operative intervention was undertaken. A retrospective review of the initial radiograph lead to the understanding that air was entering the pancreas and given the presence of pancreatic ductal anomalies, such as pancreatic divisum, was entering the distal duodenum and passing through the length of the bowel to the rectum. This phenomenon created imaging inconsistent with the diagnosis of complete duodenal atresia.

DISCUSSION: Our case of duodenal atresia and anomalous pancreatic ducts is of important consideration in the neonatal population as it may have an atypical clinical and radiographic presentation. In this patient's future, pain may occur as a result of pancreatic divisum. This could easily be misdiagnosed due to the prior duodenoduodenostomy. Understanding the rare abnormalities associated with duodenal atresia allows the clinician the best possible treatment options, whether they may be medical or surgical.

CV124

Goodpasture's Syndrome

Tahir, M.H.; Bukhari, S.; Bulos, S.; Siddiqui, W.; Ramanujam, S.; Datla, A.; Seelagy, M.; Seton Hall Univeristy: St Francis Medical Center

INTRODUCTION: Diffuse alveolar hemorrhage coupled with acute glomeruli nephritis due to anti Glomerular Basement Membrane antibody (anti GBM Ab) is a rare disease. It occurs in less than one case per million population and is one of the unique Pulmonary-Renal Syndromes. (1) Hemoptysis is usually the presenting symptom. Early diagnosis with initiation of treatment determines the prognosis. This autoimmune disease is diagnosed by identifying anti-GBM Ab and presence of crescentic glomerulonephritis with linear immunofluoresent staining of IgG on basement membrane. More rare is the presentation of both antineutrophil cytoplasmic antibodies (ANCA) positive and anti GBM antibody positive. We present a case of a 74 yr old male with such a presentation.

CASE REPORT: A 74-year-old Caucasian male presented with one month history of productive cough with whitish-yellow sputum. It was associated with shortness of breath, 30 pounds weight loss in two months, fever and night sweats. He received antibiotics and prednisone as part of his outpatient therapy without any improvement. His symptoms continued to progress, and prior to his admission, he developed hemoptysis with one episode of hematemesis. His past medical history was significant for hypothyroidism, hypertension, hyperlipidemia, and bladder cancer status post treatment. In addition, he had a significant history of smoking, alcohol abuse and drug abuse including cocaine, heroin and marijuana.

DISCUSSION: Anti-GBM antibody disease requires early diagnosis with prompt initiation of treatment. These patients may have an atypical presentation, which may delay diagnosis and treatment. Treatment of choice in such patients is plasmapheresis in combination with prednisone and cyclophosphamide. Pulmonary complication may require mechanical ventilation. Early diagnosis is critical for achieving the best response to therapy.

CV125

Cryptococcal Antigenemia in an Asymptomatic HIV Positive Patient

Tahir, M.H.; Iyer, P.; Amba, S.; Krathen, J.; Siddiqui, W.; Amodu, A.; Smith, M.J.; Seton Hall; St. Francis Medical Center

INTRODUCTION: Previous studies have shown that serum cryptococcal antigenemia may precede the development of cryptococcal meningitis. It is associated with at least 10% attributable burden of death in patients with advanced HIV. However, a stratified approach starting with cryptococcal antigen testing for patients with CD4 count below 100 cells/mL may be more cost-effective than universal prophylaxis for patients with low CD4 cell counts. We present a case of 40 year old male with HIV infection who presented with asymptomatic cryptococcal antigenemia.

CASE REPORT: 40 year old African-American male with past medical history of HIV was sent to our facility for having positive cryptococcal antigen in blood serum. The patient was totally asymptomatic. He denied any chest pain, shortness of breath, headaches, weakness, fatigue, next stiffness, abdominal pain, loss of consciousness and lymphedema. Patient had a good appetite and denied any vision loss. He denies any tingling or numbness in the extremities. He underwent routine blood work on which he was found to have a positive cryptococcal antigen. Patient was diagnosed with HIV six months back and had undetectable viral load with a CD-4 count of 24. In the emergency

department patient's vitals were: Temperature 36.8 F, respiratory rate 18/min, Pulse 89/min, blood pressure 117/78, and saturation 97% on room air. On physical examination, the patient was lying in bed in no acute distress. Neurological exam showed intact with no acute deficit. Rest of the physical exam was noncontributory. Lab work showed low hemoglobin and hematocrit of 13 and 39.9, white blood cell count of 2100. Chest X-ray and computerized tomography scan of head revealed no acute abnormality. Lumbar puncture was negative for any infection. The patient was admitted for systemic cryptococcal infection and was started on amphotericin B along with tele-monitoring as induction therapy for cryptococcal meningoencephalitis as per Infectious Disease. This treatment was continued for 14 days after which the patient was discharged on fluconazole for 12 weeks. His HIV medications were to be continued.

DISCUSSION: Targeted approach of screening for cryptococcal antigen in patients with low CD4 cell count is necessary to reduce the high mortality in such patients. This step followed by diagnostic testing like lumbar puncture and pre-emptive antifungal treatment for those who are positive; may help in reducing early mortality.

CV126

Brachial Artery Septic Emboli Causing Complete Occlusion

Tatari, A.; Bukhari, S.; Awan, M.; Siddiqui, W.; Muddassir, S.; Wallach, S.; St. Francis Medical Centerl

INTRODUCTION: Septic embolization from endocarditis (IE) occurs in 22-50% of patients; most frequently affecting the brain. The lungs, coronary arteries, spleen, liver, bowel and peripheral vasculature can be affected too. Highest rates of embolic complications are seen with left-sided IE. Staphylococcus aureus, Candida, HACEK and Abiotrophia are usually implicated. In this case report, a rare presentation of Pseudomonas causing complete occlusion of brachial artery is described. Literature search hasn't revealed a case of embolic occlusion of Brachial Artery due to Pseudomonas.

CASE REPORT: 52 year old African American female with a past medial history of IV Drug Abuse, Hepatitis C and spinal stenosis along with recently diagnosed Mitral Valve infection (Pseudomonas A) endocarditis, was transferred from another facility with complaints of high grade fevers, fatigue & generalized weakness for 3 weeks. She also presented with worsening left arm weakness and numbness for the past few days. Upon presentation, the patient was afebrile with respiratory rate 16, pulse 105, blood pressure 105/72, and pulse oximetry 97% on room air. Physical Examination revealed tachycardia along with a grade-3 holosystolic murmur loudest at the apex. Extremity exam revealed 4/5 strength in the left upper extremity. The left extremity was cold to touch distally from the wrist and there was a feeble radial pulse. Laboratory data showed WBCs-17, Hb-10.2 with MCV of 81.6 and platelet count of 550. Patient was continued on antibiotics and was evaluated for the new LUE findings. A CT angiogram demonstrated complete occlusion of the left brachial artery at the level of the elbow with reconstitution of the left radial artery distally with occlusion of the left radial artery at the wrist along with mid left ulnar occlusion. Cardiothoracic surgery was consulted, was started on heparin, and continued on antibiotics. The patient's symptoms improved with non-invasive treatment and subsequently underwent successful mitral valve replacement. With physical therapy; the patient was able to recover complete sensation and some strength in her dominant (left) hand.

DISCUSSION: Embolization from endocarditis can affect many different areas of the body. This is a case that highlights a septic emboli causing hand numbness and weakness due to complete brachial artery occlusion along with occlusion distal to the wrist. The patient improved with conservative treatment and underwent successful valve replacement.

CV127

A Purple Foot, a Unique Presentation of Microembolism

Tatari, A.; Bhatti, H.; Khan, M. Y.; Pantelick, J.; Wallach, S.; St. Francis Medical Center; Seton Hall

INTRODUCTION: Vascular disease typically presents with localized pain, discoloration and loss of flow in the arteries and or veins of peripheral extremities. Typically it manifests as either chronic or acute limb ischemia. We present a case of a 57 year old patient who presents with a purple colored foot, supratherapeutic INR with palpable pulses and negative imagines studies upon admission.

CASE REPORT: A 57 year old Hispanic female with a past medial history of Coronary artery disease, chronic obstructive pulmonary disease, Hypertension, diabetes mellitus type 2, history of pulmonary embolism due to hyperhomocysteinemia on warfarin therapy presented with a new onset left purple painful foot of unknown duration and altered mental status. On examination the patient had a well demarcated purple discoloration 2 cm above the left medial malleolus extending up to the distal phalanges. There was no palpable purura, livedo reticularis, evidence of necrosis or crepitus. Pulses were 1+ in the left lower extremity and 2+ in all other extremities. Initial laboratory results showed BUN 18, Creatinine 1.01, INR >7.4, PT >64.0, PTT>66.2, D-Dimer >20, WBC 16.4,

Hemoglobin 9.3. The patient was found to have aspiration pneumonia and was started on IV antibiotics and her mental status improved with treatment. A CTA of bilateral lower extremities demonstrated, no evidence of stenosis or occlusions. Other diagnoses were entertained including warfarin skin necrosis, vasculitis and hypercoagulable states for which all workup was negative. The discoloration distribution remained unchanged except for bullae formation three days later. After her supratherapeutic INR was corrected on admission she developed DVT's in all 4 extremities one week afterwards and was started on heparin drip. The patient was reevaluated and it was deemed her foot was non-salvageable with the presence of palpable pulses. The foot was amputated and biopsy revealed thrombi in large and small vessels.

DISCUSSION: A purple discoloration of peripheral extremities typically occurs from an acute arterial thrombus. Alternative diagnoses such as vasculitis, hypercoagulable states, purple foot syndrome, warfarin skin necrosis are a few that need to be considered. If a definitive diagnosis can't be made, biopsy may be necessary.

CV128

B-Cell Lymphoma of the Thoracic Spine Presenting with Spinal Cord Pressure Syndrome

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INTRODUCTION: Diffuse large B cell lymphoma (DLBCL) is the most common histological subtype of non-Hodgkin lymphoma (NHL) accounting for approximately 25 percent of NHL cases. Non-Hodgkin's lymphomas arising in the spinal cord are extremely rare. DLBCL arises from a mature B cell, and is usually comprised of cells resembling centroblasts or immunoblasts, two distinct types of activated B cells. The molecular pathogenesis of DLBCL is complex and includes both genetic lesions that are relatively specific for this disease and molecular alterations that are shared with other NHL variants.

CASE REPORT: 64-year-old Hispanic Female with a past medical history of hypertension, presents with parasthesia and lower extremity weakness progressively worsening over one month. Patient was unable to bear weight on her legs. Patient denied any back pain or trauma, weakness or numbness in the upper extremities. The patient denied chest pain, shortness of breath, fever, chills, urinary symptoms, and gastrointestinal symptoms. On neurological exam patient has 3/5 muscle strength in the lower extremities and 5/5 in the upper extremities. Sensation was intact in all extremities and reflexes were normal bilaterally. Patient underwent thoracic MRI which detected osseous metastatic disease status from T2 to T4 levels along with a dorsal epidural tumor, mild/moderate cord compression at the level of the greatest thickness at the T3 and T4 levels. The patient was transferred to UMDNJ Hospital where she underwent T2-T5 laminectomy and decompression of the thoracic spine as well as excision of tumor from epidural space. Microscopic examination revealed Diffuse Large B-cell Lymphoma involving dense fibrous connective tissue and adipose tissue, with partial replacement of bone marrow elements. Immunohistochemistry revealed lymphoma cells positive for B-cell markers CD20, CD10, bcl-2 with more than 25 percent of the cells positive for bcl-6, with lymphoma cell nuclei positive for PAX-5. The lymphoma cells are negative for CD30, CD23, and MUM1, while the nuclei are negative for cyclin D1. Antibodies to CD3 and CD5 stain some T lymphocytes that are admixed with the lymphoma cells. The patient had a Port-a-cath placed in anticipation of chemotherapy treatment.

DISCUSSION: Epidural lymphoma accounts for 4% of all cases of lymphoma. It is almost invariably of the B-cell type. Presentation includes bone involvement with back pain and epidural spread with cord compression with motor and sensory deficits and bowel and bladder incontinence. Patients will undergo laminectomy, decompression, and biopsy followed by field radiation therapy and CHOP chemotherapy. Functional independence with disease remission is not uncommon in these patients.

CV129

A Rare Case of Moyamoya Disease in a 40 Year Old Caucasian Female

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INTRODUCTION: Moyamoya disease is a unique cerebrovascular disease characterized by bilateral occlusion of the arteries around the circle of Willis with prominent arterial collateral circulation. "Moyamoya" is a Japanese word meaning puffy, obscure, or hazy like a puff of smoke in the air. Patient's usually present with multiple episodes of stroke at young age. The prevalence is 3-10 per ten thousand, but the majority of patients are of Asian descent. We present a rare case of a Caucasian female who was newly diagnosed with moyamoya disease.

CASE REPORT: A 40 year-old Caucasian female with a past medical history of IV drug abuse, hypertension and hyperlipidemia presented with complaints of nausea, vomiting, and diarrhea for the past three days. She was admitted to the medicine floor for

heroin withdrawal. The next morning; she was found to have right facial palsy, dysarthria and slurred speech. The patient was found within 10 minutes of onset of symptoms. Her NIH stroke score was 4 at the time. An urgent computerized tomography scan of head showed no hemorrhage or acute intracranial process. The scan did show an old right frontal lobe infarct but the patient denied any knowledge of stroke symptoms in the past. After evaluation by a neurologist, the patient was treated with tissue plasminogen activator. Four hours later, the patient's neurological symptoms improved. A subsequent MRI of the brain showed bilateral frontal infarcts. MRA of the head and neck showed evidence of a right cervical internal carotid artery (ICA) occlusion suspicious for vasculitis v/s Moyamoya disease. The transesophageal echocardiogram showed no patent foramen ovale or valvular vegetation. Patient also had a TSH and ANA levels done which were normal. The patient was transferred to a tertiary facility for further evaluation. The patient underwent a four vessel cerebral angiography that showed bilateral occlusion at the ophthalmic segment of the Internal Carotid Arteries. These findings were consistent with a diagnosis of Moyamoya disease. She was subsequently taken to the operating room to have superficial temporal artery to middle cerebral artery bypass (encephaloduroarteriosynangiosis). Postoperatively, the patient was stable and later discharged from the hospital with regular follow-up instructions.

DISCUSSION: As per our literature search, moyamoya disease is a rare occurrence in the Caucasian population. Only ten cases have been reported in the United States. Moyamoya is associated with lupus, hyperthyroidism and neurofibromatosis but the presence of moyamoya disease in a patient with no such risk factors is unheard of.

CV130

Adult Patent Ductus Arteriosis in Two Siblings: Case Report and Investigation

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INTRODUCTION: The ductus arteriosus (DA) is a fetal vascular connection between the main pulmonary artery and the aorta which usually obliterates upon the birth of the fetus. A patent ductus arteriosus (PDA) occurs when the DA fails to completely close within one week after birth. PDA is common in neonates, but is a rare finding in the adult population. In addition, having a genetic association adds an even more unique angle to this pathology.

CASE REPORT: A 44 year old female with no medical history was referred to the cardiology clinic with palpitations and exertional dyspnea. She stated that she has been dsypneic since child-hood with poor exercise tolerance. Her symptoms have worsened in the past 6 months. Her initial electrocardiogram shows normal sinus rhythm with right axis deviation and an ischemic pattern in the anterior leads. A TTE showed increased right ventricular volume and diastolic pressure. A TEE confirmed pulmonary hypertension with a communication between the right and left pulmonary artery and descending aorta consistent with a patent ductus arteriosus.

DISCUSSION: There has been an increase in the incidence of PDA secondary to the survival rate of preterm infants. The un-repaired PDA in the adult is rare in developed countries. This case also displays a genetic component. Prior case reports have shown familial PDA associated with mutations in chromosome six.

CV131

Takotsubo Cardiomyopathy in a Patient Admitted with Acute Myasthenic Crisis

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INTRODUCTION: Takotsubo cardiomyopathy mimics acute coronary syndrome and is accompanied by reversible left ventricular apical ballooning in the absence of angiographically significant coronary artery stenosis. This type of cardiomyopathy usually relates to an event of physical or emotional stress. Patients usually present clinical signs and symptoms of myocardial infarction. The cardiomyopathy recovers spontaneously in a short period of time. We present a rare case of a patient who presented with acute myasthenia crisis simultaneously developed Takotsubo Cardiomyopathy.

CASE REPORT: A 50 year-old male with history of myasthenia gravis, asthma, glucose intolerance and hypertension presented with one week history of progressive worsening shortness of breath along with double vision and dysphagia. On Evaluation he was found to have acute myasthenic crisis and was admitted to ICU. His EKG showed lateral wall ischemia, with T wave inversion in V4 and V5. He was found to have positive troponin 0.9 initially and later on increased to 2.2. A diagnosis of acute coronary syndrome was made and an emergent cardiac catheterization was performed. However, coronary angiography did not find any significant coronary stenosis. The result also reveals severe hypokinesia and akinesia in several segment of

his left ventricle. Echocardiography showed left ventricular ejection fraction of 15%. He was subsequently treated with IVIG and plasmapharesis for myathenia crisis. With the plasmaphersis patient showed marked improvement in his symptoms. Echocardiography was repeated after resolution of symptoms, revealed normal systolic ejection fraction of 55-60%. Repeat Troponin was within normal range without cardiac intervention. Repeat EKG also revealed resolution of T wave inversion. From cardiology stand point, the patient spontaneously recovered within one week. The patient did not have any signs of myocarditis or pheochromocytoma. This patient met the three out of the four criteria of diagnosis of takotsubo cardiomopathy.

DISCUSSION: Our case represents a rare presentation of takotsubo cardiomyopathy with acute myasthenia crisis. There is hypothesis that the physical stress induced Myasthenia Crisis triggers the pathological change in myocardium. Further research is needed to evaluate the association of myasthenia crisis with takotsubo cardiomyopathy

CV132

Vagus Nerve Stimulator: A Hidden Culprit for Sleep-Disorder Breathing

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INTRODUCTION: VNS is an effective adjuvant therapy for intractable seizures, but is known to precipitate sleep-disordered breathing (SDB). Often, Obstructive Sleep Apnea (OSA) and VNS-induced SDB may occur in the same patient. We report a patient in whom OSA improved after tonsillectomy, but coexistent VNS-induced SDB persisted and improved with VNS setting adjustments.

CASE REPORT: A 14 year-old female presented in 8/2013 with a 6-month history of snoring/choking and witnessed sleep apneas. She had history of perinatal stroke, intractable seizures since infancy, and VNS implantation at the age of 8 years. On exam, she had BMI of 37 kg/m2, right hemiparesis and bilateral grade 3+ tonsils. Her initial diagnostic polysomnogram (PSG) in 7/2013 showed moderate OSA (apnea+hypopnea index or AHI of 19/hr, O2 saturation nadir 90%) with predominantly clustered, obstructive-type apnea/hypopnea. In addition, there were airflow-limitation events correlating with VNS stimulations. She subsequently underwent tonsillectomy/adenoidectomy and also lost 20 lbs weight. Repeat diagnostic PSG was done in 7/2014 due to residual symptoms. It showed interval improvement of OSA to mild range (AHI 12/hr). However, now the obstructive respiratory events occurred in a periodic pattern synchronized with VNS stimulations, suggestive of VNS-induced SDB. VNS settings were: amplitude 2.25 mAmps, frequency 30 Hz, pulse width 250 microsec, on-time 30 seconds, off-time 3 minutes. Patient underwent another PSG in 10/2014 during which we serially decreased VNS amplitudes, only, (from baseline to 1.75 mAmp and then to 1.25 mAmp). The frequency of flow limitation events improved with each reduction in amplitude. Eventually VNS was switched off and all respiratory events resolved. The patient's VNS was then restarted at reduced amplitude of 1.75 mAmp at discharge.

DISCUSSION: The mechanism of VNS-induced SDB is uncertain. Vagal nerve activation can lead to constriction of both upper and lower airways musculature which could in term increase airway resistance leading to compromise ventilaton. The management of VNS-induced SDB is yet to be standardized. The improvement in the breathing during sleep in this case is with VNS adjustment which is reported in the literature.

CV133

Obstructive Sleep Apnea (OSA): Is Tracheostomy a Limiting Factor for Diagnosis and Treatment?

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INTRODUCTION: Positive airway pressure (PAP) is - first line treatment for - obstructive sleep apnea (OSA). Before PAP therapy, tracheostomy was the only treatment option available. However recurrence of apnea (mainly central) was often noted. We present - a 68 year-old male with OSA - with daytime sleepiness post-tracheostomy. His symptoms were attributed to ongoing sleep apnea post-tracheostomy. This was corrected with average volume assured pressure support (AVAP), a novel mode of bi-level pressure ventilation.

CASE REPORT: 68 year-old male - (BMI 32 kg/m2) presented with daytime sleepiness. He was diagnosed with OSA in 2004 and had been on CPAP therapy. In December 2013 he had respiratory failure from allergic reaction requiring emergent tracheostomy. Despite stable weight he had relapse of daytime sleepiness with Epworth sleepiness scale (ESS) of 12/24. He underwent a PSG for these symptoms in 2014. During the PSG, a transducer (p-flow) was connected to tracheostomy. The study revealed moderate-severe OSA AHI 19.3/hr in general and 44.8/hr in REM sleep with SPO2< 90% for 14% total sleep time. He underwent AVAP titration with the following settings: IPAP max 22 cm H2O, IPAP min 15 cm H2O, EPAP 5 cm of H2O and target tidal volume (Vt) 450 ml. On treatment PSG

-AHI improved to 2.7/hr in general. After 2 months of treatment, daytime sleepiness improved significantly (ESS of 4/24).

DISCUSSION: OSA is primarily treated with PAP. However, a subgroup of these patients, treated with tracheostomy, have continued residual symptoms of sleep apneas perhaps due to mechanical obstruction or concomitant respiratory control dysfunction. Hypoxemia may - be present.

CV134

Langerhans Cell Histiocytosis and Grave's Disease: A Case Report of An Unusual Association

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INTRODUCTION: Langerhans Cell Histiocytosis (LCH) is a rare histiocytic disorder involving clonal proliferation of langerhans cells. It is commonly characterized by osteolytic bone lesions demonstrating infiltration with histiocytes on biopsy. They can also manifest with or without extraskeletal lesions. This involves the skin, lymph nodes, lungs, thymus, liver, spleen, bone marrow, or central nervous system. Approximately 1,200 new cases per year are reported in the United States with a male-to-female ratio of 2:1 although it appears to be more common in children 0-15 years of age. It does not commonly involve the thyroid gland and very few cases have been reported as Grave's disease.

CASE REPORT: We are presenting the case of a 23 year old female who was diagnosed with LCH at the age of 4 months by lymph node biopsy, currently in remission after chemotherapy. She presented with complaints of excessive nausea and vomiting of 4 weeks duration associated with left sided chest pain which was moderate in intensity and palpitations. She noticed excessive diaphoresis especially at night time and bilateral hand tremors. She denied weight loss, alteration in bowel or bladder habits, dysphagia, dyspnea or hair loss. She denied any family history of thyroid disease.

DISCUSSION: Endocrinopathies associated with LCH include diabetes insipidus, hypogonadism, growth failure, abnormalities of glucose metabolism and an enlarged thyroid gland. LCH of the thyroid gland is misdiagnosed as benign goiters, undifferentiated carcinoma, lymphoma or lymphocytic thyroiditis. There have been many references to the occurrence of LCH and hypothyroidism but the association of LCH and Grave's disease is extremely rare with only two other cases reported in literature.

CV135

"Special K": A Rare Case of Cardio-Pulmonary Toxicity Masquerading as Pneumonia and Heart Failure

Yamini, S.; Manda, J.; St Joseph`s Regional Medical Center

INTRODUCTION: Ketamine is a popular club drug especially in the Asian population. It is abused primarily because of its dissociative effect, preferred for its rapid onset and short duration of action. Neuropsychiatric, neurologic, urinary, renal and hepatic are the usual reported toxicities. We present an interesting case of ketamine induced flash pulmonary edema.

CASE REPORT: A 41 year old Filipino male with history of bipolar disorder on Lamotrigine and possible drug abuse was found unresponsive at home with cyanotic extremities and chest compressions were initiated by wife. EMS found good pulses and cardiac arrest was ruled out. He initially responded to Naloxone given by EMS. In the ED he was initially agitated however quickly became unresponsive and hemodynamically unstable, got intubated, was started on pressors and antibiotics. There was a history of fever and nonproductive cough for 2 weeks. Patient was admitted to Intensive Care for septic shock and acute respiratory failure. Bilateral infiltrates on chest radiograph and severe hypoxia raised suspicion for Acute Respiratory Distress Syndrome. CT of the chest however showed bilateral consolidation. Toxicology screen was negative. Interestingly, within 24 hours chest x-ray improves and patient self extubates the next day. Septic work up returns negative and he becomes hemodynamically stable. However latest chest radiograph shows pulmonary edema and previously normal BNP is now elevated. EKG shows sinus tachycardia and troponins are as high as 1.985 but this trended down eventually. Patient responds to Lasix but cardiac work up, in the form of 2D ECHO, TEE and Nuclear Stress Test, is negative. Patient, a pharmacist, later reveals he baked Ketamine pills in a microwave oven and inhaled the powder. At the time of discharge he was symptom-free and chest radiograph was completely normal.

DISCUSSION: We believe this is the first reported case of cardiopulmonary toxicity from ketamine. The sudden onset of respiratory symptoms shortly after inhaling Ketamine, rapid clearing of consolidation, negative septic work-up and then appearance of pulmonary edema responsive to diuretic despite a negative cardiac workup is suggestive of Ketamine toxicity.

CV136

Adult Hemophagocytic Lymphohistiocytosis: A Single Center Experience with a Rare Disease

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INTRODUCTION: Hemophagocytic Lymphohistiocytosis (HLH) is a syndrome of immune hyperactivity in which the cytokine excess often causes multi-organ failure. Generally a disease of the pediatric population, this disease has been reported in adults both as primary as well as secondary disorder. Infections, malignancies, immune disorders and rheumatologic diseases are common triggers both for primary and secondary HLH. Diagnosis is paramount since mortality is high. Here we discuss 6 cases of adult HLH diagnosed at our hospital from 2008 to 2014.

CASE REPORT: Out of a total of 6 patients, 4 were males and 2 females. The mean age was 32.67 . Four were Hispanic, 1 was African-American and 1 was Caucasian. 4 of them had fever, 2 patients had a rash, 2 had jaundice and one had splenomegaly. The mean ANC was 1,883.33, mean hemoglobin was 6.58, mean Platelet count was 47,000 and fibrinogen was low in 3 patients ranging from 90-143. Mean Triglyceride was 653. Ferritin ranged from a mean of 2995.5 to >43,207.5 Soluble IL-2 receptor ranged from 7,049 to 19,487. All were treated with steroids and chemotherapy. Associations with HLH were Still`s disease in 2 patients, ALL in one, disseminated EBV in one, West Nile Encephalitis in one and rheumatologic disease of unknown etiology in one. 3 patients died during hospitalization and 3 were alive at the end of observation period. The patients who died were as follows: 28 year old Hispanic Male admitted for multi-lobar Pneumonia, found to have disseminated EBV with titres as high as 1,800,000, died at day 55 ; a 32 year old African-American Female with Still`s disease came in for septic shock from Hidradenitis suppurativa, developed dry gangrene of extremities, died at day 21; and a 33 year old male, just returned from Dominican Republic was admitted for sepsis from possible Dengue Hemorrhagic Fever, went into fulminant hepatic failure, finally found to have West Nile Encephalitis, developed MODS and died on 9th day.

DISCUSSION: Adult HLH is a rare disease with high mortality. Fever and multi-organ involvement are the presenting features. Labs show pancytopenia, high ferritin, high Triglyceride, low Fibrinogen and elevated inflammatory pathway proteins on flow cytometry. Hemophagocytosis is not required for diagnosis. Treat with steroids and chemotherapy. HSCT is for refractory cases.

CV137

A Rare New Onset Junctional Bradycardia with Retrograde Conduction and Ataxia Resulting from Oral Phenytoin Toxicity: The Eclectic Side Effect Profile for Which Clinicians Should Look

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INTRODUCTION: Phenytoin has a very narrow therapeutic index and a hepatic metabolism implies numerous drug-drug interactions. It`s side effects involve almost all the organ systems making it a diagnostic dilemma. We present a rare case of an elderly patient who had neurologic and cardiac symptomatology resulting from oral Phenytoin toxicity.

CASE REPORT: 85 y/o Caucasian female with hypertension, hypothyroidism, seizure disorder, left frontal meningioma post resection, previously independent, was brought from home with complaints of progressive bilateral lower extremity weakness, multiple falls and decline in mentation for 6 weeks. Prior to presentation, a friend noted her to be staring into space for several seconds. At baseline she remained aphasic after meningioma resection. Home medications included Phenytoin 100 mg twice daily, Levothyroxine150 mcg and Irbesartan150 mg. On physical examination reflexes were diminished to absent with a narrow based gait, however she was alert and oriented. Also blood pressure was elevated at 200/99 mm of Hg but she was bradycardic in 40s. Patient was admitted to telemetry with suspected complex partial seizures versus neuro-cardiogenic cause of her falls given the bradycardia. She was started on Hydralazine and Irbesartan which brought the BP down to normal range but asymptomatic bradycardia persisted in 40s. Neurology and Electrophysiology services were consulted. MRI of brain, CT of head and thyroid function tests were all within normal limits. EEG showed possible partial focal seizures. EKG showed junctional bradycardia with retrograde conduction at 42bpm. Troponins were negative and 2D Echo showed no wall motion abnormality. Free and total Phenytoin levels were elevated at 3.45 and 27.2 respectively, so it was switched to Lacosamide. With free levels finally down to <0.3, patient`s ataxia and bradycardia resolved completely as verified by repeat EKG. All the consultants concurred with our diagnosis of dilantin toxicity and patient was discharged to subacute rehab in stable condition.

DISCUSSION: Multiple studies have shown the involvement of almost all organ systems in IV Phenytoin toxicity but only three case reports have been published with bradycardia as the cardiac side effects of oral Phenytoin. Recognizing its harmful side effects

involving multiple organ systems, prompt discontinuation and substitution with other anti-epileptic drug if needed is critical as rarely death has been known to occur and there is no antidote.

CV138

A Case Of Granulomatosis With Polyangitis

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INTRODUCTION: Antineutrophil cytoplasmic antibody (ANCA) associated vasculitides are rare diseases, with 30 new cases per million per year. Their main characteristic is systemic involvement with necrosis of media and inflammation of adventitia and intima. Granulomatosis with polyangitis is a heterogeneous disease with respect to severity and clinical manifestation. It could be a rapidly progressive disease with a fatal ending or it could be limited to one organ. Diagnosis is supported by ANCA positivity and the presence of typical histological findings.

CASE REPORT: We report a case of 55 year old African American female with past medical history of diabetes, hypertension and hyperlipidemia, who was admitted with complaints of malaise, paresthesias and hemoptysis for the past one month. Two weeks prior to admission she was treated with oral antibiotics for sinusitis without improvement. On evaluation she was found to have severe anemia with a hemoglobin level of 5 g/dL and acute renal failure with a creatinine of 5.5 mg/dL. A chest x-ray showed bilateral infiltrates. Blood transfusions and intravenous fluids were given but kidney function did not improve. The patient was started on dialysis with a presumptive diagnosis of pulmonary-renal syndrome. Rheumatologic work up revealed an elevated erythrocyte sedimentation rate, but normal antinuclear antibody, (ANA), antidoublestranded DNA (Anti DsDNA), anti-glomerular basement membrane (Anti-GBM) antibody and antimyeloperoxidase (anti MPO). Anti-proteinase 3 antibody, however, was positive. Our patient was started on high dose corticosteroids. A kidney biopsy showed pauci-immune necrotizing glomerulonephritis with crescent formation thus a diagnosis of granulomatous polyangitis (Wegener's granulomatosis) was made. Treatment included seven sessions of plasmapheresis, 1 dose of cyclophosphamide and a continuation of high dose steroids. Patient showed marked improvement. Because of the patient's compromised immune status, she was started on Bactrim as prophylaxis for Pneumocystis jirovecii pneumonia (PJP). She was transferred to rehabilitation with the plan of dialysis and Cytoxan administration every two weeks.

DISCUSSION: Initial immunosuppressive therapy in granulomatosis with polyangiitis (GPA) typically consists of glucocorticoids combined with cyclophosphamide. Plasma exchange has no overall mortality benefit except in severe active and rapidly progressive renal disease, concurrent anti-GBM antibody disease and severe pulmonary hemorrhage. In these conditions plasma exchange is the initial treatment of choice.

CV139

A Case of Stage IV Non Small Cell Lung Carcinoma with Siadh and Superior Vena Cava Syndrome

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INTRODUCTION: Non-small cell lung cancer (NSCLC) is a rare cause of Syndrome of inappropriate secretion of ADH (SIADH), with three published cases over past two decades. SIADH is characterized by hyponatremia caused by retention of free water secondary to dysregulated release of anti-diuretic hormone. Superior vena cava syndrome (SVCS) is caused by extracaval compression of the SVC by a bronchogenic tumor. Long-term survival for malignancy-related SVCS is very low. We present a case of NSCLC presenting with SIADH and SVC syndrome.

CASE REPORT: This is a 70 year old Caucasian male with past medical history of hypertension, BPH and anxiety. He was admitted for c/o dizziness, palpitation, anorexia and weight loss. He has a smoking history of 40 pack years and no family history of malignancy. On admission; he had orthostatic hypotension that was treated with IV fluids. Workup showed right middle lobe lung mass, pleural effusion and hyponatremia. His dizziness did not resolve after adequate hydration so MRI brain was done which showed multiple supra and infra tentorial metastatic lesions. Patient was started on IV decadron and palliative whole brain radiation after which he displayed some symptomatic improvement. Patient subsequently developed bilateral arm swelling, facial swelling and plethora. There was a high clinical suspicion of superior vena cava syndrome that was confirmed by CT chest which showed a central lung mass encasing SVC with bilateral pleural effusion. Bronchoscopy guided lung biopsy showed poorly differentiated, necrotic non-small cell cancer (NSCLC). As prognosis for stage IV NSCLC is very poor, patient was offered palliative radiation to lungs for symptomatic relief as he was not a candidate for chemotherapy secondary to his advanced cancer. Workup for hyponatremia revealed urine sodium of 126, urine osmolality of 626, and plas-

ma osmolality of 268 with normal TSH and morning cortisol levels. Diagnosis of SIADH was made and patient responded to salt tabs and fluid restriction. He was transferred to nursing home with instructions to follow up for radiation.

DISCUSSION: This case report portrays a male smoker who presented with metastatic NSCLC with poor long term prognosis. Due to worse outcomes in SVC syndrome associated with end stage NSCLC, new treatment modalities like palliative stent placement might be of value in imparting long-standing improvement in functionality and quality of life.

CV140

Isolated Cryptococcal Pneumonia in Idiopathic CD4+ Lymphocytopenia

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INTRODUCTION: Idiopathic CD4+ T cell Lymphocytopenia (ICL), is an heterogeneous syndrome which is defined by a CD4+ cell count <300 cells/microL ,or less than 20 % of total lymphocytes on two or more occasions separated by two to three months . There must be no evidence of Human Immunodeficiency Syndrome or any other explanation for the lymphocytopenia. Typically, ICL presents as an opportunistic infection or triggers an autoimmune disorder. Hereby, we present a case of ICL with Cryptococcal Pneumonia.

CASE REPORT: A 65 year old Caucasian female with history of Hypertension, Hyperlipidemia, severe Mitral and Tricuspid Regurgitation, Tonsillar MALT lymphoma s/p radiotherapy, presented to another hospital facility with dyspnea on exertion. She was transferred to our hospital for mitral valve replacement and tricuspid annuloplasty. On the 6th post- operative day the patient developed fever with respiratory distress. Our clinical suspicion was a Health Care Associated Pneumonia as the work up showed a neutrophil predominant leukocytosis and a right lower lobe consolidation/infiltrate. However, the bacterial sputum culture, Legionella, Pneumococcal antigen and blood cultures were all negative. Subsequent fungal sputum gram stain, culture and cytology were all positive for Cryptococcus neoformans. The Serum Cryptococcal antigen was 1:256 and the CSF was negative for cryptococcal antigen. HIV 1 and 2 by ELISA were negative. The absolute CD4 count was 64 and the CD4 count was 18% of total lymphocytes. A CT of the neck, chest, abdomen and pelvis was negative for malignancy. A tagged white blood cell scan ruled out any other site of infection or malignancy. Interestingly without any obvious clinical findings, autoimmune workup revealed positive ANA, negative dsDNA and positive anti-SSA/SSB; our final diagnosis was Idiopathic Lymphocytopenia with cryptococcal pneumonia and Sjogren's syndrome. Based on her worsening renal function she was treated with fluconazole instead of amphotericin B. Atovaquone was started for Pneumocystis jirovecii pneumonia prophylaxis. The patient was transferred to a long term acute care facility on fluconazole. Two months later at a follow-up appointment, she had subjective improvement, with a new CD4 count of 181.

DISCUSSION: Multiple cases of ICL have been described during the last twenty years. Isolated cryptococcal pneumonia with ICL is rare. Though there were some case reports of ICL and Sjogren's syndrome however, the etiology and pathophysiology of having both Cryptococcal pneumonia and Sjogren's Syndrome with ICL is unclear warranting further research. ICL should be included in the differential diagnosis of lymphopenia.

CV141

Plasmapharesis for Treatment of Transverse Myelitis Secondary to Multiple Sclerosis

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INTRODUCTION: Multiple sclerosis (MS) is a demyelinating autoimmune disease of unclear etiology and pathogenesis, leading to destruction of myelin and axons to a variable degree. Transverse myelitis is an inflammatory disorder of a segment of the spinal cord leading to neurological deficits with an evident sensory level. Transverse myelitis may be the first symptom of MS. Steroid therapy leads to recovery however response may decrease over time. Therapeutic plasma exchange (TPE) and immunoadsorption (IA) has shown benefit in those patients.

CASE REPORT: A 55 year old African American female came into the hospital for worsening Right leg weakness for 2 weeks. Patient also mentions decreased sensation in the right leg. She denied any urinary disturbances, weakness or numbness in the left leg or upper extremities. She denied headache, blurring of vision, trouble speaking or swallowing. She states that she has had such episodes every 3 months. On physical examination the vital signs were temperature 36.5 C, Pulse 83, Blood pressure 115/79, respiratory rate 18. The patient was alert, awake, oriented to time place and person. Cardiac and pulmonary examination was noncontributory. Neurological examination demonstrated lower extremity motor weakness on the right side 3/5, with 5/5 strength in all other extremities. Deep tendon reflexes intact 1+ in all extremities with down going planter reflexes bilaterally. A senso-

ry level of T6, impaired vibration and proprioception sense in the right lower extremity, normal on the left. Impaired pin prick sensation on left lower extremity, which was intact on the right. The patient obtained MRI Brain and Spine, demonstrating an ill defined increased signal in the thoracic spinal cord at about the T7-T9 segment. There appears to be slight thinning of the cord in this region suggesting chronicity. The patient was previously treated with plasmapharesis and responded well but was only on steroids currently. In this admission she was newly classified as a variant of MS. She was started on long term plasmapharesis and showed immense improvement.

DISCUSSION: TPE and IA have shown benefit in treatment of MS. TPE benefits by removing autoantibodies. TPE can be used in treatment of acute MS exacerbation, when unresponsive to high dose steroids. It is also recommended for therapy of chronic progressive MS.

CV142

Immune Thrombocytopenic Purpura Secondary to Antibiotics

Zijoo, R.; Tatari, A.; Pantelick, J.; Wallach, S.; St. Francis Medical Center

INTRODUCTION: Thrombocytopenia leads to defects in primary hemostasis. Inherited hemostatic disorders are rare, however acquired disorders are common. The most common acquired disorder is Immune thrombocytopenic purpura (ITP). Presenting signs and symptoms include petechiae, purpura, ecchymosis, epistaxis and gum bleeding. Hemoptysis, hematemesis, hematuria, hematochezia, and melena are rarely the initial manifestations. ITP may be acute; a self-limited form is more common in children, or chronic which is more common in adults. Diagnosis is established by exclusion of other causes of thrombocythemia.

CASE REPORT: A 79 year old Caucasian male, from a rehabilitation center was transferred to our hospital for an abnormal lab value of five thousand platelets. The patient had a past medical history of deep venous thrombosis of the left lower extremity after hip surgery which he was receiving warfarin. The patient was previously admitted two weeks earlier for left lower extremity cellulitis which was treated with vancomycin and cefepime. He was discharged to a rehab facility where he received oral cephalexin for 3 days. The patient complained of easy bruising of the skin due to a high INR. He denied any blood in the stool or urine, bleeding gums, nose bleeds or joint pains. The patient had a temperature of 36.4 C, respiratory rate of 16, blood pressure 135/62, pulse 98 and pulse oximetry of 97% on room air. Physical examination was remarkable for S1, S2 and 3/6 systolic murmurs in the aortic and mitral region, bilateral left lower extremity 2+ pitting edema with a macular erythematous rash on the left lower extremity located in the mid tibia. No hepatosplenomegaly, petechiae or purpura were noted. Laboratory tests demonstrated a WBC 9900/ml, Hematocrit 39.8%, Hemoglobin 13.1 g/dl, Platelets 7000/ml, PT 31 seconds, INR 3.0 and PTT 31.3 seconds. It was believed that the patient developed ITP secondary to cephalexin, which was held during the hospital stay. Patient received four doses of intravenous immunoglobulin with no complications which led to significant increase in platelets up to 138,000/ml.

DISCUSSION: Many drugs have been known to cause ITP, due to the development of drug induced antibodies which destroy platelets. Cephalexin is a commonly prescribed antibiotic, which has an uncommon side effect of thrombocytopenia. More caution needs to be taken when prescribing the antibiotic, especially in predisposed individuals.

CV143

A Male Patient with Breast Cancer, Prostate Cancer and Lymphoma

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INTRODUCTION: Breast cancer is rare in men and commonly presents as a retroareolar painless mass. Mammography is utilized in differentiating cancer from other benign conditions; however a biopsy is necessary to confirm diagnosis. Treatment modalities depend on stage. BRCA1 and BRCA2 testing is recommended in all male breast cancer patients. Male BRCA1 and BRCA2 mutation carriers have increased risk of breast cancer and prostate cancer. Men and women with Hereditary Breast and Ovarian Cancer Syndrome have increased risks for other cancers.

CASE REPORT: A 61 year old African American male patient presenting with left sided breast mass which has been increasing in size over the past 1.5 years. Patient complained of itching on the mass but denied any pain, discharge or change in color of overlying skin. In addition to the above findings, the patient had an enlarged prostate on physical exam with an elevated prostate specific antigen of 143.6 ng/ml (normal<4ng/ml). Labs demonstrated a WBC of 442,000/ml, hemoglobin 12.1 g/dl, hematocrit 36.8% with normocytosis, platelets 184,000/ml, neutrophil 7.4% and lymphocyte 89.9%. A multidisciplinary team was involved in the care of the patient, including Urology, Hematology/Oncology and General Surgery. The patient initially underwent an inconclusive fine needle aspiration biopsy. Subsequently, a percutaneous core biopsy

of the mass was performed which revealed carcinoma. Diagnosis and alternate treatment options were presented to the patient. A left modified radical mastectomy with left axillary dissection was performed. Pathologic examination of the breast mass revealed invasive ductal carcinoma Grade 2; Estrogen receptor positive, Progesterone receptor positive and HER2 receptor positive. Lymph node biopsy showed small lymphocytic lymphoma, confirmed by immunohistochemical stains. Prior to discharge patient underwent transrectal ultrasound guided biopsy of the prostate demonstrating prostatic adenocarcinoma. Inadequate insurance prevented the patient from receiving recommended BRCA1 and BRCA2 testing and genetic counselling.

DISCUSSION: All men with breast cancer need BRCA testing, positive test increases likelihood of other cancers. Awareness is needed on importance of genetic counseling. Significant research in being conducted in the field of tumor markers, but more is needed to make these commercially available and affordable.

CV144

Occult Primary Breast Carcinoma

Zijoo, R.; Rosvold, E.; Kish, K.; Mechanic, L.; Pantelick, J.; St. Francis Medical Center

INTRODUCTION: Breast cancer, the leading cause of cancer death in women, has many presentations. Occult primary breast carcinoma is an uncommon form of cancer, and is defined as the presence of carcinoma in the axillary lymph nodes without evidence of a primary breast lesion. In the absence of distant metastasis, it is classified as Stage IIa; with distant metastasis, it is classified as Stage IV. Both are associated with a poor prognosis, but potentially curable when treated according to established guidelines.

CASE REPORT: A 60 year old female patient was evaluated for a progressively enlarging right axillary mass. The mass, as measured by ultrasound in February 2014, was found to be 4.7 cm in size. An ultrasound performed on the patient two years prior showed only large, typical appearing lymph nodes measuring 8mm, 35mm, and 6mm. Our examination of the patient for a primary lesion included mammography, repeat breast ultrasound and bilateral breast MRI. A Cat scan of the chest, abdomen, and pelvis proved negative for a primary source, as did an upper endoscopy. A percutaneous core biopsy of the right axillary mass confirmed our suspicion of invasive carcinoma of the breast. The patient declined chemotherapy, however accepted treatment with Anastrazole. After discussions with the oncologist and the surgeon, the patient also agreed to a surgical intervention. Right axillary dissection was performed and the axillary mass and lymph nodes were removed. The patient tolerated the surgery well. Immunohistochemical staining on the mass demonstrated weak estrogen receptor positivity and intermediate progesterone receptor positivity. Stains of mammary origin such as GCPDF-15 and mammoglobin were negative. Negative results, however, do not exclude primary mammary carcinoma. The patient continued her therapy with anastrazole and follows up with her oncologist.

DISCUSSION: In spite of increased breast cancer awareness, rarer presentations of breast cancer are not well recognized. We believe patients need increase awareness and education. Additionally, continued research is necessary to produce commercially accessible tests enabling accurate immunohistochemical determination of tumor origin.

CV145

Kikuchi-Fujimoto Disease, a.k.a. Histiocytic Necrotizing Lymphadenitis in an African-American Male

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INTRODUCTION: Kikuchi-Fujimoto disease, also known as histiocytic necrotizing lymphadenitis, is an illness characterized by self-limited inflammation of the lymph nodes. It was first described in 1972 as a lymphadenitis with focal proliferation of reticular cells surrounded by histiocytes and nuclear debris. This is a case of an African American male who presented with fever, chills, back pain and found to have abdominal and retroperitoneal lymphadenopathy. Biopsy revealed histiocytes, and lymphocytes with a predominance of CD8+ T cells, suggestive of Kikuchi-Fujimoto disease.

CASE REPORT: The patient is a 49 year old African American male smoker with no significant past medical history, who presented with fever, chills, and intermittent back pain for several weeks. Initially, he visited the emergency room and sent home on Levaquin and Tamiflu. He subsequently returned with no improvement in his symptoms. He denied any respiratory symptoms, chest pain, abdominal pain, joint pain, diarrhea, and urinary symptoms. His sick contacts included a mother-in-law with tuberculosis. Upon presentation to the hospital, the patient was found to have fever of 101.7Â°F and tachycardia, with poor dentition. The remainder of the physical exam was within normal limits. Laboratory results revealed a mild leukopenia with a differential within normal range and the patient was started on antibiotics for presumptive community acquired pneumonia. He then underwent an abdominal/pelvic CT which showed multiple enlarged lymph

nodes greater than 1 cm, anterior to the pancreas with mesenteric stranding. A biopsy of a left groin lymph node revealed extensive fibrosis and smooth muscle metaplasia with no evidence of lymphoma. Omental lymph node biopsy was also performed which showed dense infiltration by histiocytes, lymphocytes, large areas of necrosis, expression of CD68, with B immunoblasts positive for CD30, with no evidence of lymphoma, consistent with histiocytic necrotizing lymphadenitis. Over the course of hospitalization, the patient was given supportive care and symptoms improved.

DISCUSSION: Kikuchi-Fujimoto disease usually affects persons of Japanese and Asian origin under the age of 40. It is a self-limited disease of the lymph nodes that must be differentiated from lymphoma and improves with symptomatic therapy. In this case, we have an unusual presentation with a person of African American ethnicity.

Health Sciences Research

HSR01

Balance Across the Menstrual Cycle

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INTRODUCTION: Previous studies have demonstrated a prevalence of balance deficits in women as well as balance related injuries. The purpose of this study was to identify the three phases of the menstrual cycle and their influence on postural sway, balance and limits of stability responses during static and dynamic activities.

METHODS: Repeated measures design conducted in the Human Performance Lab. 3 subjects, mean age=41.33(Â±2.30),mean BMI=25.5(Â±1.6), mean cycle length=27.8 days(Â±5.2). IV was menstrual cycle, three levels:1) follicular, 2) ovulatory and 3) luteal phase, determined via saliva and urine ovulation testing. The DVs included Sensory Organization Test (SOT), Limits of Stability Test (LOS), Functional Limitation Tests (WA, SUO, TW, SQT, FL) using Balance MasterÂ® . Repeated measures ANOVAs determined significant differences between phases, with post-hoc paired t-tests. All analyses used $p<0.05$, SPSS V.22.

RESULTS: Significant differences Limits of Stability (LOS): MVL4 F=7.055 (p=0.049) MVL6 F=10.966(p=0.024), EPE1 F=9.689(p=0.029). Walk Across (WA): SP F=528.197(p=0.0). In LOS MVL4 and MVL6, Ovulatory was greater than Luteal t=12.095(p=0.007), t=6.351(p=.024) respectively. Luteal error percentage was greater than follicular in Tr1, (t=-7.201, p=.019). In WA, Luteal step speed was greater than both follicular and ovulatory (t=-23.476, p=.002) (t=-85.183, p<.001) respectively. Ovulatory step speed was greater than follicular (t=-4.990, p=.038).

CONCLUSION: There was a significant increase during ovulatory phase in movement velocity while leaning backwards both to the left and right. The luteal phase had the fastest step speed in all phases, with ovulatory phase significantly higher than follicular phase. Potentially, these differences could be attributed to the hormone surges associated with the phases. Overall, these findings conflict with existing research that suggests that the phase of menstrual cycle has no significant effect on balance.

HSR02

The Effect of Saddle Positioning on Joint Kinematics and Muscle Recruitment for Triathlon Cycling in the Aero Position.

Boergers, R.J.; London, L.H.; McDonald, B.M.; Teller, M.E.; Seton Hall University

INTRODUCTION: Assessment of muscle recruitment and joint kinematics on a triathlon bike can facilitate recognition of mechanical efficiencies in triathlon cycling. The purpose of this study was to determine the effects of fore/aft saddle positioning on muscle recruitment and joint kinematics while cycling in the aero position.

METHODS: In a repeated measures within-subject design, five subjects rode triathlon bikes with their saddles in 3 positions: their typical neutral, 2cm aft, and 2 cm fore. Subjects performed a 5min warm up followed by a maximal effort while maintaining a cadence of 90 RPM. Next, subjects rode at their functional threshold power at a cadence of 90 RPM for 5-10min in all 3 positions. Data was sampled for 5 seconds during each trial.

RESULTS: There were no significant main effects of seat position on any of the outcome variables. Trends in the data showed that there was increased knee flexion angle in the forward position compared to the aft position in all positions through the pedal stroke. Trends in the EMG data showed improved muscle activity of the vastus lateralis and rectus femoris in the forward position compared to the aft position in all positions of the pedal stroke, while muscle activity of the biceps femoris and semimembranosus seemed to increase in the aft position compared to the forward position.

CONCLUSION: Placing the seat in the forward position increases knee flexion and seems to increase muscle activity, which may not be beneficial for a triathlete who will be running upon completion of the bike segment.

HSR03

Ergonomic Risk of Development of Upper Quadrant Work Related Musculoskeletal Disorders in Forklift Operators and its Relationship to Posture, Operator Stance / Cab Design, and Task

Brush, L.M.; Cruz, A.B.; Schopperth, C.L.; Duff, J.M.; Seton Hall University School of Health & Medical Sciences

INTRODUCTION: Work related musculoskeletal disorders (WMSDs) account for 34% of reported injuries and illness, averaging 12 lost work days per injury. In forklift operators the most prevalent causes of lost

work days due to WMSDs are injuries to the trunk and upper extremity (US Bureau of Labor Statistics, 2012). The purpose of this study was to determine ergonomic risk for development of upper quadrant WMSDS in forklift operators and to investigate the relationship between risk, operator stance/cab design and task.

METHODS: Video/photographic images of 39 forklift operators performing customary work tasks were retrospectively analyzed by a certified associate ergonomist (CAE) expert using both the Rapid Entire Body Assessment (REBA) and the Rapid Upper Body Assessment (RULA). Descriptive statistics were used to analyze the risk score data and the Fisher's Exact Probability Test (p = .05) was used to determine whether category of risk differed significantly in relation to 1) operator stance / cab design, and 2) task type.

RESULTS: The sample mean risk scores obtained were REBA 5.82 Â± 1.604 and RULA 5.95 Â± 0.724 which categorized the sample as medium risk - further investigation and change recommended soon. Stratification by category of risk was Low risk; REBA 10.26%, RULA 2.56%, Medium risk; REBA 74.35%, RULA 76.93% and High risk; REBA 15.40%, RULA 20.1%. Analysis of the relationship between risk category and operator stance /cab design, produced statistically significant Fisher scores for the REBA (pa: 0.0063, pb: 0.0063) but not for the RULA (pa: 0.4812, pb: 0.4812). The analysis of the relationship between risk category and task type showed no significant difference for the REBA (pa: 0.4316, pb: 0.4113) or the RULA (pa: 0.1846, pb: 0.1643).

CONCLUSION: Results showed that forklift operators are at moderate risk of developing WMSDs and require timely investigation and intervention. Data trends suggest an association between increased ergonomic risk and task type but these findings were not statistically significant. Increased risk, however, was significantly associated with the use of dock stance versus universal stance. The relationship between ergonomic risk, task, operator stance and other potential risk factors needs further investigation before effective interventions can be developed.

HSR04

Autism Spectrum Disorder (ASD) and Immunizations: College Students' Beliefs

Desmarais, B.M.; Viereck, A.M.; Berfet, S.K.; Newby, D.S.; Jurgensen, L.M.; Goonetilleke, J.A.; Seton Hall University

INTRODUCTION: In 1998 Wakefield proclaimed there to be a link between vaccinations and autism; while the results have since been disproven, some still hold that belief. The purpose of this study is to evaluate college students' beliefs regarding whether there is an association between immunizations and Autism Spectrum Disorder (ASD).

METHODS: This study is a non-experimental, quantitative analysis using volunteer college age students. A 13 question survey on beliefs of immunizations and ASD that was validated by practicing professionals was handed out in the college student center. Analysis was done using SPSS to calculate frequency counts and descriptive statistics.

RESULTS: Two hundred thirty-four college students completed the survey and the average age was 19. 77 (32.9%) believed there to be a link between vaccinations and ASD. Of the students surveyed, 38 students (16.2%) reported that they would not vaccinate any of their own future children. 28.6% of the students cited hearing of a link from media sources such as television and radio, with only 4.7% of students ever discussing the topic with a health care provider.

CONCLUSION: While the majority of college students do not believe in a link between vaccinations and ASD, a concerning percentage do. Most students plan on vaccinating their future children; however, 16.2% unvaccinated children can lead to a loss of herd immunity. It is important to confront these misconceptions so that the current vaccination rate improves instead of declines. There is a need for healthcare providers to assess their patients' knowledge on vaccinations and provide proper education so that individuals can make informed decisions without media bias.

HSR05

Considerations for Writing Instruction in Children with High Functioning Autism

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INTRODUCTION: Language is cataloged as one of the hallmark deficits of children with Autism, with written language being affected in addition to other modes of language. This meta-analysis reviews research for treatment considerations in written language skills of children with High Functioning Autism (HFA). The Hayes and Flower (1980) writing process model is used as a framework to report on writing skills in terms of planning, translating, and revising.

METHODS: Researchers used a set of search terms across appropriate data-bases to obtain studies within the last 20 years on the assessment or treatment of writing in children with HFA. Studies had to include either direct intervention of writing in children with HFA. Studies were organized into planning, translating, revising and cross-referenced by genre. Studies that accounted for meta-cognitive approaches includ-

ing theory of mind were also included in the review.

RESULTS: 17 studies met our inclusionary criteria. Data is reported as an aggregate across all studies and then as aggregates of the specific writing component discussed.

CONCLUSION: Findings from this review help identify high-need areas for future intervention research. There is a paucity of research on writing interventions for children with HFA which does not bode well for improving this skill. This is especially detrimental for two reasons. First, children with HFA are more frequently placed in general education environments without writing support and second, academic demands are increasing their emphasis in terms of writing requirements.

HSR06

Participation Instruments: A Systematic Review

George, K.W.; Monteleone, S.A.; Shevardnadze, A.; Seton Hall University

INTRODUCTION: Participation as defined by the International Classification of Functioning (ICF) is "involvement within a life situation in relation to health conditions, body functions and structure, activities and contextual factors." Tools exist that measure participation in various settings and in varied populations. It was not known if a tool exists to measure participation that is considered meaningful and useful for students enrolled in college. This systematic review was undertaken to find a tool to measure participation factors of students with and without disabilities who are enrolled in college.

METHODS: Four databases, including Ebscohost and its associated databases; ProQuest Health and Medical Complete; Seton Hall Library Search including ScienceDirect, Cinhal, and Medline; and Pubmed were reviewed; articles generated in the searches were inserted into Refworks. Articles were organized and eliminated based on title using pre-determined criteria, including "participation" defined by the ICF. The remaining references were reviewed based on abstract using agreed upon inclusion and exclusion criteria. A second abstract review, with more specific criteria, was completed to funnel more meaningful search results. Some abstracts lacked adequate information regarding existing outcome measures; therefore, they were analyzed for their intended purpose and population.

RESULTS: One-thousand and one different articles met the initial title search criteria. A total of twenty-eight articles contained existing outcome measures; no articles met all criteria of the search.

CONCLUSION: The American Physical Therapy Association (APTA) reports that major benefits of receiving physical therapy services include improving the quality of life, the ability to earn a living and enjoy leisure pursuits. Physical therapists are now using outcome measures to assure that these benefits have been garnered through treatment interventions. Unfortunately, objective measures of participation in life activities are few. After an initial review of 1,001 article titles and the reading of 28 articles containing existing outcome measures, this systematic review concluded that no tools met the criteria of this extensive search. Our next step is to evaluate and extract aspects from existing participation assessment tools in order to create a measure intended for college-aged individuals.

HSR07

The Most Cited Articles regarding Anterior Cruciate Ligament Injuries in the Past 20 Years

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INTRODUCTION: Anterior cruciate ligament (ACL) injuries continue to be a major focus within sports medicine research. With so many changes to our understanding of ACL anatomy and rapid advances in reconstruction techniques and rehabilitation protocols within the past 20 years, it is important to identify the landmark articles that make up the foundation of current ACL treatments. This study set out to identify and create a reading list of the most commonly cited articles related to ACL injuries within the last 20 years.

METHODS: A Web of Science Citation Index Search was performed using terms related to ACL research topics within the area subset of orthopedic and surgery. The search was limited to January 1994 to present day. The generated list was sorted from highest to lowest citation number. Clinical studies were subcategorized as therapeutic, prognostic, diagnostic, or economic/decision analysis and assigned a level of evidence. Basic science articles were designated as anatomic, animal, biomechanical or clinical. The number of citations per year (citation density) was calculated.

RESULTS: The search yielded 6,345 articles. The total number of citations among the top 30 ranged from 188 to 611. Citation density ranged from 10.1 to 66.2. Nineteen articles were clinical, 8 were basic science, and 3 were video analyses. Clinical articles were most commonly therapeutic (18 of 19; 95%). Basic science articles were most commonly biomechanical (7 of 8; 88%). The most common level of evidence was Level II (10 of 19; 53%). More than half (16 of 30; 53%) of the

articles in the top 30 were published in The American Journal of Sports Medicine.

CONCLUSION: Many of the articles in the present list have played a large role in shaping current clinical practice regarding ACL injuries. We hope that by compiling this list we can both identify potential deficiencies in recent ACL research, as well as create a reading list of high impact studies for easy reference by residents, fellows and practicing sports medicine surgeons.

HSR08

The Effect of Dynamic Warm-Up on Strength

Henze, M.; Rock, P.; Carroll, R.; Cunningham, M.; Phillips, H.J.; Hill-Lombardi, V.; School of Health and Medical Sciences

INTRODUCTION: For optimal performance, rotator cuff musculature should be prepared for activity via a warm-up routine in overhead athletes. However, controversy exists over which exercises are most effective. Traditional plyometrics have been widely accepted. However, the creation of the Bodyblade has initiated an argument that oscillatory warm-up is most effective. Our purpose is to determine whether a plyometric or oscillatory warm-up exercise routine will produce greater strength during internal rotation (IR) and external rotation (ER).

METHODS: Using a within-subjects, repeated measures design, 13 university students (6 females, 7 males); mean age=23.69 (Â±1.1094), mean BMI=25.32 (Â± 2.57) were tested. The IV was dynamic warm-up with three levels: a) plyometric, b) oscillatory, c) no warm-up. Pre- and post-strength measurements including peak torque (PT) (ft/lb), angle of peak torque (APT) (deg), mean of peak torque (MPT) (ft/lb), time to peak torque (TPT) (msec) during IR and ER. Repeated measures ANOVA were used to determine significant differences in change scores, paired t-tests to determine pre-to-posttest differences. All analyses were conducted using SPSS V22.0 ($p < 0.05$).

RESULTS: Significant results: MPT ER with BD $F = 3.5$ ($p = .046$), MPT ER with BD ($t = -2.618$, $p = 0.022$), PT IR with BB ($t = -2.773$, $p = 0.018$), PT ER with BD ($t = -2.360$, $p = 0.038$), MPT ER with BD ($t = -2.618$, $p = 0.022$).

CONCLUSION: MPT ER and PT ER increased followed plyometric exercise, which is necessary for the pre-stretch mechanism critical to plyometric exercises. This pre-stretch mechanism combined with elastic tissue recoil energy increases the motor unit stimulation and strength of contraction, which will help increase the strength of the preceding IR contraction. Therefore, the athlete will have more thoroughly activated rotator cuff musculature prior to overhead sports using a plyometric warm-up.

HSR09

The Impact of Cycling Exercise on Physiological, Functional and Psychosocial Outcomes in Persons with Multiple Sclerosis: A Systematic Review

Inirio, D.; Taylor, J.M.; Seton Hall University

INTRODUCTION: Multiple Sclerosis (MS) is an autoimmune disease which presents with a wide range of symptoms commonly including fatigue, sensitivity to heat, weakness, impaired balance, depression, spasticity, and reduced mobility. However, the health benefits of light to moderate exercise in this population have been well documented. Cycling is an intervention that can be utilized to decrease symptoms and maintain health and mobility in persons with MS while minimizing potential adverse effects. In other neurological populations such as spinal cord injury populations, cycling has shown to improve functional mobility. The purpose of this paper is to systematically review the studies examining the effects of cycling exercise on physiological, functional and psychosocial outcomes in individuals with MS.

METHODS: PubMed, PEDro, CINAHL, and Google Scholar were searched from 1994-2015. The search terms used were "Cycling multiple sclerosis", "Bicycling multiple sclerosis", "Cycle exercise multiple sclerosis", "Bicycle multiple sclerosis", and "Ergometer multiple sclerosis." 237 titles were identified through PubMed (105), PEDro (12), CINAHL (4), and Google Scholar (116). 146 titles were rejected because they did not contain the appropriate intervention. 65 titles were further excluded because they were duplicates. 26 articles were chosen for inclusion in the study.

RESULTS: Cycling exercises were executed using several different types of cycling interventions such as arm cycling, leg cycling, loaded cycling and/or unloaded cycling across the studies which resulted in varying outcomes. Most studies reported that cycling had significant beneficial effects on functional outcomes such as walking speed, distance, dynamic balance and psychosocial outcomes such as quality of life and depression ratings. The results for physiological outcomes were mixed; only half of the studies noted significant improvements in spasticity, pain and aerobic capacity. Several studies evaluated arm cycling versus leg cycling and reported that although both had significant beneficial effects, leg cycling was more effective. Most studies reviewed used unloaded leg cycling and reported significant improvements in aerobic capacity and reduction in fatigue. The few studies examining the effect of loaded leg cycling, reported significant improvements in functional mobility.

CONCLUSION: This review selected articles with varying styles of cycling interventions (arm/leg cycling, loaded/unloaded cycling) and study designs (cross-sectional and longitudinal). However the majority of the studies concluded that cycling has a positive impact on the physiological, functional and psychosocial outcomes in individuals with varying stages of multiple sclerosis.

HSR10

Factors and Attitudes that Impact the Completion of Advance Directives

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INTRODUCTION: The decision to complete an advance directive is influenced by a multitude of factors including race, cultural differences, family-centered decision-making, and level of trust in healthcare providers. While more than 60% of individuals in the general population aged 18 and older expect their end-of-life plans to dictate their care, less than one-third of this population has completed an advance directive. The purpose of this study is to identify factors that influence the completion or lack of completion of advance directive forms.

METHODS: This study is a non-experimental, quantitative analyses of the factors and attitudes that impact the completion of advance directives. The convenience sample was comprised of 55 faculty, staff and administrators at Seton Hall University. The survey instrument, the Advance Directive Attitude Survey (ADAS), has previously proven reliability and content validity, and was obtained and modified with permission by the original authors. The survey was administered via email using the Academic Survey System and Evaluation Tool (ASSET). Analysis of the data was performed using SPSS 19.0 and inferential statistics were applied using Chi Square, frequency of means and crosstab analysis with a p value of 0.05.

RESULTS: Eighty percent of participants were females and 83% were males. Participants varied in age, with 10.9% of participants aged 18-30, 23.6% aged 31-40, 20% aged 41-50, 32.7% aged 51-60 and 12.7% aged 60 and older. Participants also varied in religious affiliation, with 47.3% identifying as Catholic, 12.7% identifying as Christian, 3.6% identifying as Jewish, 20% identifying as other and 16.4% identifying as non-religious. The Pearson Chi-Square test demonstrated no significant association between presence of religion and individuals agreeing or strongly agreeing that family members would support the completion of an advance directive. However, this value trended towards significance $X2$ (4, $N = 53$) = 9.06, $p = .06$. No significant association was found between age and agreeing or disagreeing that having an AD would prevent costly medical expenses for family members $X2$ (12, $N=53$)=11.95, $p=.45$. No significant association was found between age and individuals agreeing or strongly agreeing that they are not sick enough to complete advance directive forms $X2$ (12, $N=55$)=13.23, $p=.35$.

CONCLUSION: No significant association was found between religion and perceived familial support of advance directive completion. Furthermore, no significant associations were found between age and perceived costly medical expenses for family members, nor between age and individuals perceiving that they are not sick enough to complete an advance directive. Low completion rates despite generally favorable attitudes towards ADs suggest additional factors influencing the decision not to complete advance directive forms. A replicate study with a higher n may demonstrate a significant association between presence of religion and likelihood of individuals agreeing or strongly agreeing that family would support the completion of an advance directive.

HSR11

Use of Arterial Pulse Wave Analysis Following Concussion: A Perspective on Post-Injury Cardiovascular Autonomic Function

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INTRODUCTION: The arterial pulse wave has a distinct morphology whose contour reflects dynamics in cardiac function and peripheral vascular tone as a result of sympathetic nervous system control. With a transition from rest to one of increased metabolic demand, the expected augmentation of SNS outflow will not only affect arterial blood pressure and heart rate, it will also induce changes to the contours of the APW. Following a sports concussion, previous evidence has suggested that a state of transient cardiovascular autonomic dysfunction is present. How this state affects the APW, has yet to be described. To evaluate changes in APW characteristics at rest and during an isometric handgrip test (IHGT) in recently concussed athletes and non-injured controls.

METHODS: Prospective, parallel-group, observational study design in University sports medicine laboratory. Eleven intercollegiate athletes with concussion and 7 non-injured athletes who served as controls completed the study procedures. Cardiovascular autonomic assessment was performed in the seated upright position at rest and during a 3 minute IHGT (30% maximum voluntary contraction) within 48 hours of concussion. Heart rate, systolic, diastolic and

pulse pressure were determined and APW contour analyses were performed on the beat-to-beat blood pressure signal to calculate the slope of the systolic and diastolic upstroke. To evaluate differences in the transition from rest to "work", group mean data were calculated for rest and the F60 seconds of the IHGT.

RESULTS: Separate univariate analyses of variance were performed and there were no group differences for HR, SBP, DBP or PP at rest or F60. Because the SysS is inherently related to SBP and DiaS to DBP, separate analyses of covariance were performed (with the respective BP serving as the covariate) to identify the presence of conditional group differences. The concussion group has a significantly reduced SysS compared to controls at rest [estimated marginal means (EMM): 403 vs. 448 mmHg/sec, respectively] and during F60 (EMM: 358 vs. 495 mmHg, respectively). DiaS was not conditionally different by group.

CONCLUSION: Use of APW contour analysis revealed that concussed athletes have a reduced SysS at rest, and a paradoxical transition to a state of increased metabolic demand within 48 hours of injury. Further work is needed to determine how and when this change resolves, and whether or not it may contribute to exercise intolerance seen during the progressive return-to-play.

HSR12

Antipsychotic Quality Reporting: Effects on Antipsychotic and Psychoactive Medication Use

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INTRODUCTION: With evidence of negative health outcomes for use of antipsychotic medications in nursing home residents with dementia, public policy initiatives have attempted to reduce the unnecessary use of these medications. However, unintended effects such as substitution of other medications with similar sedating properties, may occur. This study examines how nursing homes changed their use of antipsychotic and other psychoactive medications in response to Nursing Home Compare's initiation of publicly reporting a quality measure of antipsychotic use for long stay residents in July 2012.

METHODS: The study includes all state recertification surveys (n=40,415) for facilities six quarters prior and post the initiation of public reporting. Using a difference-in-difference framework, the change in use of antipsychotics and other psychoactive medications (hypnotics, anxiolytics, antidepressants, or any psychoactive medication) is compared for facilities subject to public reporting and facilities not subject to reporting.

RESULTS: The percentage of long stay residents using antipsychotics, hypnotics, or any psychoactive medication is found to decline after public reporting. Facilities subject to reporting experienced an additional decline in antipsychotic use (-1.94 v. -1.40 percentage points) but did not decline as much for hypnotics (-0.60 v. -1.21 percentage points). Any psychoactive medication use did not vary with reporting status, and the use of antidepressants and anxiolytics did not change over the study period. Reporting facilities saw declines about 40% larger than non-reporting in the short run. This is clinically meaningful, representing over 6,800 fewer residents receiving antipsychotics on a given day. By six quarters out, the non-reporting facilities saw similar declines in antipsychotics.

CONCLUSION: Quality reporting seems to be having the intended effect. Public reporting of an antipsychotic quality measure can be an effective policy tool for reducing the use of antipsychotic medications - though the effect many only exist in the short run.

HSR13

Barriers to CPR Training Among College Aged Students

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INTRODUCTION: According to the American Heart Association, about 70% of Americans feel helpless during a cardiac emergency situation since they do not know how to adequately administer CPR. CPR performed immediately after cardiac arrest can double, or even triple an individual's chance of survival. However, only 32% of these cases receive CPR by a bystander. The amount of people with heart disease is increasing, which is likely to increase the incidence of myocardial infarctions. It is important to have someone present who has knowledge about what to do in an emergency situation. Research mostly shows the reasons why the elderly population may not be interested in CPR training. The younger student population may have different reasons, such as cost, that could be helpful for the future of CPR classes.

METHODS: Students over 18 years old and currently not enrolled in a Medical/Allied Health profession program (Physical Therapy, Occupational Therapy, Athletic Training, Physician Assistant, Speech Pathology, Nursing) were asked to voluntarily complete a computer-based survey through Asset. The survey was developed by the authors and consisted of 15 questions that gathered demographic and training status information, reasons why they did not take training classes as well as willingness/confidence to perform CPR. Descriptive statistics and frequency

counts were used to analyze the demographic data. Chi Square and Phi coefficient were used for information regarding CPR training. The Statistical Package for the Social Sciences (SPSS) software was used for computations with a p value set a 0.05.

RESULTS: Of the 135 surveys collected, a majority of participants were non-Hispanic white (44.4%), females (58.5%) between the ages of 18-20 (80.1%), freshmen and sophomores (69.6%). The majority of respondents who did not take CPR classes were freshmen and sophomores (42.5%). The most common reasons found for not taking CPR classes were that students were unaware of courses (19.3%) and time (10.4%). Students stated they would take CPR classes if there were more advertisement of classes (50.8%) or if cost was decreased (21.3%). The most common reason for not being trained among unemployed students was because students were unaware of courses (37.9%) while the least concerning reason was cost (0.03%). A Chi-Square correlation performed showed a positive correlation between age and level of confidence in performing CPR in those who were CPR certified ($p < 0.05$). It demonstrated that younger students (ages 18 and 19) were more confident in administering CPR than older students (ages 20+). Exercising and smoking habits did not affect CPR training status. There were no other statistically significant relationships found with the data.

CONCLUSION: Lack of public advertisement is the leading cause of why college aged students are not CPR trained, even among unemployed students. Such results indicate that more public advertisement may increase the number of CPR trained students. The study also suggests that the younger aged students had more confidence in performing CPR than the older students. Although the results of our study cannot be generalized to the entire college population as a whole, the results demonstrate a need for further research to be conducted. Further research can be done on college students worldwide to find other relationships between CPR training status and the student population as well as evaluate why younger students are more confident in CPR performance than older students.

HSR14

Development of a Chemical, Radiological, Environmental Threat Warning System for a Disaster Response Mobile Hospital

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INTRODUCTION: Hackensack UMC hosts a fleet of disaster response mobile hospitals. The mobile hospitals have provided emergency medical care at multiple events including storms and the 2014 Super Bowl. A warning system for chemical,radiological, environmental threats was developed"

METHODS: HUMC teamed with CACI Technologies, Inc. and secured funding through the New Jersey Technology Solutions Center to develop a Concept of Operations and Proof of Concept System to provide the deployed MACH assets with sensors and an automated decision support capability to detect and respond to Chemical, Biological, Radiological and Weather (CBRW) threats in the area of the deployed assets. This CBRW monitoring and mitigation capability will be incorporated into MACH deployment scenarios to secure the safety of responders and facilities.

RESULTS: As a result of the grant from the NJ Technology Solutions Council (NJTSC), Phase I has been completed. This phase included the completion of Requirements Analysis, Threat Analysis, Concept of Operations Document and the Design and Development of a prototype system for Proof of Concept. The prototype system, named "CACI Thunderstorm", includes an array of networked sensors, communications and a network-enabled Decision Support System (DSS) Dashboard.

CONCLUSION: The results of this effort have provided a technical, operational and programmatic framework suitable for the engineering and deployment of CBRNEW/FP capabilities for the MACH and similar systems deployed across the nation and abroad in support of homeland defense/homeland security operation in the US and OCONUS expeditionary operations.

HSR15

Attitudes Regarding the Utilization of Ultraviolet Radiation in Healthcare Facilities for Infection Control

Morris, E.A.; McKeever, K.M.; Schilder, V.G.; Turner, J.A.; Seton Hall University

INTRODUCTION: UV-C radiation technology can be applied in a range of healthcare settings such as patient rooms, operating rooms, emergency rooms, intensive care units, shared staff areas, and public areas. The purpose of this study is to evaluate attitudes and opinions of coordinators of infection control or equivalents on the use of UV-C radiation for disinfection in their health care facilities in order to gain a better understanding of how UV-C radiation can be more effectively utilized in the future.

METHODS: This is a non-experimental, qualitative study that utilizes an interview-based type of questioning of persons holding the title of "Coordinator

of Infection Control" or equivalent job description in health care facilities in the Northeast region of the United States. They were asked a series of open-ended questions on their attitudes and opinions of the utilization of UV-C radiation for disinfection in their facilities. The interviews were transcribed and then analyzed using analytic induction in order to identify trends and formulate a working hypothesis. The identified patterns were assigned labels for coding, which were then placed into potential thematic categories. Finally, the data were summarized in order to gain a generalized understanding of all of the responses.

RESULTS: The individuals who participated in this study stated that UV-C radiation is to be used in addition to manual cleaning. They have observed reductions in infectious disease in their facilities, as well as peace of mind amongst their patients and staff. Depending on the number of machines they own or lease, they prioritize the rooms that they consider to be most important, namely isolation rooms and operating rooms. They support the use of this method in other health care facilities as well. However, all of the subjects identified cost and time as the primary deterrents to the use of this method of cleaning.

CONCLUSION: The common themes presented by the subjects of this study suggest that UV-C radiation technology is a useful supplement to manual cleaning in health care facilities that can be effectively used in order to reduce the rates of hospital-acquired infections. Although costly and time consuming, the responses also imply that UV-C radiation should be used as a standard cleaning technique in more hospitals nationwide.

HSR16

It's The Way You Said It! Evaluation of Emotional Tone in Aprosodia

Odejar, M.; Patel, S.M.; Seton Hall University

INTRODUCTION: Everyday interactions involves the exchange of emotional information. Vocal communication of one's emotions is particularly important for interpersonal interactions. In a variety of neurological diseases this ability is impaired or nearly absent. Methods to evaluate and rehabilitate individuals with emotion communication deficits are lacking. Hence, the purpose of this study was to learn about how people judge and evaluate deficits in emotional speech expressions.

METHODS: Ten individuals (18-26 years) participated in this study. Subjects judged 238 samples taken from a database of five patients with aprosodia. These samples were obtained using the Florida Emotional Expressive Battery (FEEB), in which the patients were asked to express sentences with one of five emotional tones (happy, sad, angry, fearful, neutral) while being recorded. These speech samples were played to subjects over headphones, one at a time, on a computer using Matlab software. Subjects were asked to judge whether the speaker correctly produced any of the five emotional tones based on ONLY the tone-of-voice. After selecting the emotion category, they were asked to rate the magnitude of the emotion from 1 (little emotion) to 7 (lot of emotion). Responses were saved into an Excel file.

RESULTS: Matlab software was used to aggregate responses from all subjects. Results show that naive raters tend to judge emotional expressions from patients with aprosodia as being less expressive compared to 1) the clinician's ratings at the time the test was administered "online", 2) the clinician's ratings performed on the recordings after meeting the patient ("offline") and similar to a group of expert listeners in the field of speech language pathology who never met the patient. Although individual listeners varied in their accuracy of judgments, the highest overall percentage correct was 65%, indicating that these patients do in fact have a difficult time expressing their emotions effectively enough for listeners to recognize. Differences between patients were also seen. For example, the emotions of Patient 5 were more difficult to identify than others (measured as percent correct), while the emotions of Patient 1 were the easiest to identify. Differences were observed in patients' ability to produce certain emotions over others and also in patients' ability to produce an emotional tone for a tone that matched the sentence content as opposed to mismatched or neutral content.

CASE REPORT: We conclude that patients with aprosodia vary in their degree of disabilityâ€"some have more difficulty expressing their emotions while others' intended emotion could be identified albeit with a low degree of expressivity. We conclude that using the FEEB in a clinical setting to assess emotion communication ability does not match how everyday listeners perceive the emotions of the speaker.

HSR17

Solo Flipped Learning Environment: Merging Ideas to Foster Critical Thinking

Pinto Zipp, G.; Maher, G.; School of Health and Medical Science

INTRODUCTION: Today's learning environments have transitioned from teacher-focused to student-focused environments. With this transition the introduction of various teaching strategies including webinars, videos, cases, and mind/concept mapping to mention a few

have been introduced into the classroom to support a student's knowledge acquisition and critical thinking skills. Recently, the notion of creating a "Flipped Classroom" has emerged as a means to address the needs of today's learning environments and students.

METHODS: In the flipped classroom model the placement of lectures on line is only one part of the learning environment. As Carpenter (2012) wrote, "If students are to become more than just multi choice test experts then teachers must help them to do more intellectual work in the classroom." In order for learning environments to truly engage students in developing as active critical thinkers, flipped classroom experiences must maximize active learning.

RESULTS: The authors are proposing a "flipped learning environment" based upon the SOLO (Structure of Observed Learning Outcomes) model of learning proposed by Biggs and Collis (1982) as a mechanism to develop student critical thinking skills. In the SOLO based Flipped learning environment lectures are placed on line and provided to students prior to class sessions. Students are expected to complete assigned readings and engage in the lectures prior to the onsite learning session. During the onsite learning session the professor acts as a mentor or coach and sets the stage for students active learning experiences by developing rich engaging thought provoking experiences which focus on applying what has been lectured on and read. The faculty can use diverse teaching and learning strategies to engage students in practicing and applying their skills under the mentorship and guidance of a faculty member.

CONCLUSION: Regardless of the strategy employed the authors suggest that the goal of this flipped learning environment is to increase complexity in a student's understanding of the subject matter by fostering the transition along five stages of development presented in the SOLO model, pre-structural, unistructural, mutlistructural, relational, and extended abstract level. Ultimately, this environment supports student-teacher interactions that foster feedback, engage students, and create opportunities for rich self-paced learning.

HSR18

Caffeine Consumption and its Side Effects: A Comparative Study of Healthcare Students in the Didactic versus Clinical Phase of Study

Pry, K.N.; Costa, C.; Sweeney, M.A.; Pellechio, S.; Walden, C.E.; Hanifin, C.; Seton Hall University

INTRODUCTION: Caffeine is the most widely used psychoactive stimulant with more than half of American adults drinking an average of three cups of coffee a day. While a positive correlation between caffeine intake and stress levels in students has been demonstrated in a previous study, the impacts of caffeine on physical and mental well-being were not specifically interrogated. The purpose of this study is to compare the use of caffeine in didactic versus clinical phase of study as well as analyze the negative side effects of caffeine consumption that could lead to poor focus and medical errors in the clinical field.

METHODS: The study employed a non-experimental, quantitative survey design utilizing a convenience sample of health science graduate students from a small university. The survey instrument used in this research study was created by the authors and validated. It consisted of 12 multiple choice questions addressing program affiliation, phase of schooling, average caffeine use, reasons for consumption and perceived effects of caffeine and stress levels. The survey was distributed via a blast email by each program's department chair or other delegated person. Descriptive statistics were used to analyze the responses pertaining to amount of caffeine consumption between clinical and didactic phase of schooling using SPSS software version 15.0. A p value of <0.05 was considered statistically significant.

RESULTS: A total of 60 students completed the survey, of which 26 students were in the didactic phase of schooling and 34 students were in their clinical phase. Of those in their clinical phase who drink caffeine, 48.4% answered that they drink less caffeine than in didactic phase while 48.4% of students stated that they drink the same amount of caffeine. 3.2% of students stated they drink more caffeine in their clinical phase vs. didactic. There is no statistical significance in caffeine consumption between clinical and didactic phases. We also investigated perceived negative side effects from caffeine and caffeine withdrawal, which was also found to be not statistically significant with p values of 0.602 and 0.854 respectively.

CONCLUSION: When comparing the use of caffeine in the didactic versus clinical phase of study, the data demonstrated equal or lesser amounts of caffeine consumption in the clinical phase of study. However, there was no statistically significant difference with nearly half of all responses, indicating no change in caffeine consumption. Also, there was no statistically significant data found when looking at the perceived negative side effects from caffeine and caffeine withdrawal. For our study to be statistically relevant and significant, we would need a larger sample size and preferably a longitudinal study design in order to control for individual variation and to be in conjunction with studies in the literature review.

HSR19

HPV Knowledge Among College-Aged Students

Roessler, L.; Logue, M.; Cangialosi, M.L.; Peluso, H.J.; Rizzolo, D.; Seton Hall University

INTRODUCTION: Human Papillomavirus is currently one of the most common sexually transmitted infections. Research demonstrates that there still remains a general lack of knowledge regarding HPV. Research also demonstrates that knowledge regarding HPV increases when populations are educated about HPV. Questionnaires given to participants months after receiving brief education regarding HPV demonstrated an increased level of knowledge. There are many modes of transmission of information regarding HPV including health care professionals, the Internet, magazines, television, etc. The purpose of this study is to determine where college students primarily obtain their information regarding HPV from as well as to determine their knowledge of HPV and its association with the development of oral cancer.

METHODS: The study employed a qualitative survey design. The survey instrument used in this research study was borrowed from a study done by Ricardo Lopez titled "College-aged Men's (18-24) Knowledge and Perceptions of Human Papillomavirus and Cervical Cancer". The survey consisted of 14 knowledge questions and 1 question regarding education methods. Undergraduate and graduate students belonging to a private college were asked to voluntarily complete the survey. The survey were distributed in the student center. Analysis of the data was performed using SPSS, inferential statistics were applied using descriptive statistics.

RESULTS: A total of 138 students completed our survey. In regards to the students' knowledge of HPV and oral cancer, 46% answered correctly and indicated that there was a link, while 53% indicated that there was not a link between HPV and oral cancer. The most common resource students obtained HPV information from was their Healthcare Provider at 29.7%. The least common source was the students' partners at 0.8%. Of the 138 students who took our survey, 7.8% indicated that they have never heard of HPV.

CONCLUSION: The results of this study suggest that while students do possess some knowledge about HPV and the manifestations, most do not have full knowledge of the disease and possible complications, specifically oral cancer. Many students reported receiving their information regarding HPV from a source other than a health care professional. Such results indicate that this population would benefit from educational interventions designed to increase awareness about HPV as well as more thorough discussions from primary care providers regarding HPV. Through open discussion between clinicians and patients providing factual information, the public can become more knowledgeable of HPV and the associated risks and complications.

HSR20

The Role of Shape Cues in Preschoolers' Word Learning

Saks, J.; Capone Singleton, N.; Seton Hall University

INTRODUCTION: Shape and function cues have been effective in eliciting the names of taught words (Capone & McGregor, 2005; Capone Singleton, 2012). However, shape cues provide the additional benefit of extending those names to untaught exemplars. Here, we compare shape and indicator cues (a new control), but test children repeatedly over time and task, to discern the effect of shape cues. We use error analysis, naming performance and word extension tasks. In particular, error analysis and word extension to ever-before-seen-exemplars help disambiguate what aspects of the semantic-, lexical- and linking of the two are strengthened by shape cues.

METHODS: Twenty preschoolers learned object words in a Shape condition (words paired with a gesture highlighting the shape of the object) and in a Control condition (indicating gestures paired with words). Naming was tested on days 1, 2, and 3 via iPAD. Word teaching occurred after the Naming test on days 1 and 2. On day 3 children named untaught exemplars using objects they had never seen (i.e., Extension). Word forms were controlled for syllable shape, phonotactic probability and neighborhood density.

RESULTS: Errors were subject to 2(condition)x2(day) repeated measures-ANOVA. Error results were that children's over-extension errors and semantically-related errors declined and increased, respectively, from day 2 to 3, but did not differ between conditions. There was a trend toward fewer indeterminate errors (i.e., missing representations) in the Shape condition by day 3. Children produced no phonological errors. On day 3, children named marginally more taught objects as a whole in the Shape condition ($p = .06$), but mapped more phonemes in their Shape condition responses (i.e., Phonological Make-up; $p = .02$). Children extended taught names to shape-similar and -dissimilar exemplars more often in the Shape condition ($p = .01$), and to shape-similar exemplars regardless of condition ($p = .01$).

CONCLUSION: This study examined the role of shape cues in word learning. A surprising absence of pho-

nological errors indicated weak/missing links to lexical representations of the word representations themselves. Only with shape cues did access to word forms emerge (i.e., Naming, Phonological make-up, Extension Naming). There was a trend toward fewer indeterminate errors on day 3 in the Shape condition, indicating fewer missing representations. Results suggest that shape cues move children toward mapping the word form sooner but also toward building a durable link between meaning and word form.

HSR21

The Association of a Long-Term Shoulder and Neck Strengthening Program and Injuries of the Head, Neck, and Shoulder: A Retrospective Study

Sivo, A.; DeCuffa, J.; Amicucci, J.; McCartney, J.; Hill-Lombardi, V.; Seton Hall University School of Health and Medical Sciences

INTRODUCTION: Neck and shoulder strength have been identified as potential factors in reducing the risk of head and neck injury in contact sports, with the potential of a strong neck/upper quadrant absorbing and redistributing concussive forces. The results of previous studies are inconclusive, therefore the purpose is to determine if there is a relationship between participation in an isotonic neck and shoulder strength training protocol and the occurrence of head, neck, and shoulder injuries over a five-year span. The neck strengthening protocol was implemented for the latter four of the five years.

METHODS: Data collected from 91 HS FB players from 2009 -2013 football seasons. Neck exercises: shrugs, chin tucks, flexion, extension, lateral bending; upper extremity exercises: bench press, chest press, seated row, shoulder press exercises. A "workout" was defined by completing 75% of the assigned exercise. The protocol began in the 2010-11 school year but data collection on workout frequency began in the 2012-13 school year. Frequency of football related injuries of the head, neck, and shoulder prior to and following implementation of the strength training protocol was documented in school years 2009-14. In addition, frequency of workouts was assessed and correlation was used to determine if that significantly impacted the number of injuries seen. All analyses were run in SPSS v22, $p<0.05$.

RESULTS: In 2012-13 athletes performed an average of 8.2 neck workouts, 5.4 shoulder workouts. In 2013-14 athletes performed an average of 13.7 neck workouts, 7.9 shoulder workouts. In 2010-2011, regimen changed and neck strengthening was first incorporated. During that year there were a total of 10 concussions. In 2011-12, when the main focal point of the intervention was neck strengthening, there were 4 concussions. In 2012-13 there were 2 concussions and in 2013-14 there were 3 concussions. No significant correlation was found between the number of workouts and the number of injuries.

CONCLUSION: Following the implementation of the workout protocol there was a decrease of injuries that occurred to individuals who were compliant in performing the neck and shoulder strengthening protocol. While there was a decrease in the number of injuries, further research needs to be done on this topic to determine if there is a significant impact of neck strengthening in reducing the risk of injury.

HSR22

Lacrosse Helmet Removal Versus Helmet Facemask Removal: A Comparison of Time and Head and Neck Movement

Smith, G.A.; Olini, K.J.; Bird, A.; Boergers, R.J.; Seton Hall University

INTRODUCTION: Cervical spine injuries are potentially life threatening events that may occur in collision sports, including lacrosse. Following a catastrophic injury, standard procedures to access the airway in a timely manner are essential to facilitate patient and spine stabilization. There are no established standards for accessing an airway during pre-hospital management of an acute cervical spine injury for a lacrosse athlete.

METHODS: Subjects were randomly assigned to 1 helmet and performed 3 trials each of FM removal and helmet removal. During HR, subjects placed their hands just outside the earholes of the helmet while a second rescuer assisted with head/neck stabilization. During FMR, subjects used an electric screwdriver to remove the screws that held the facemask in place while the second rescuer assisted with head/neck stabilization.

RESULTS: We found significant interactive effects for removal method and helmet type ($P=0.004$) as well as significant main effects for removal method ($P<0.001$, FMR=36.68sÂ±12.76s, HR=24.99sÂ±5.00s) and helmet type ($P=0.004$, Warrior=26.20sÂ±6.32s, Cascade=34.82sÂ±13.11s) on removal times. We also found significant main effect for removal method on movement in the sagittal plane ($P<.001$, FMR=4.03Â°Â±1.99Â°, HR=9.74Â°Â±3.72Â°). Lastly, we found a significant helmet effect for movement in the transverse plane ($P=0.012$, Warrior=4.63Â°Â±1.96Â°, Cascade=5.93Â°Â±0.93Â°).

CONCLUSION: HR was faster than FMR however created more movement in the sagittal plane. In order to limit motion at the cervical spine, FMR should be consid-

ered during pre-hospital management of catastrophic injuries. The Cascade R helmet took longer to remove via FMR and produced greater motion because of the complex helmet design. It is important to take functionality into consideration when designing a helmet, rather than adding features for aesthetics since it can cause complications in a medical emergency.

HSR23

Five Types of Knowledge for Spelling: A Developmental Study

Wilson, O.; Koutsoftas, A.; Seton Hall University

INTRODUCTION: Current research supports that spelling acquisition is a linguistically governed skill, which develops from growth in knowledge of phonology, morphology, and orthography. However, English orthography is full of irregularities and variations that require knowledge extending beyond Triple Word Theory (Bahr et al., 2012). This study investigates the presence of additional types of knowledge required for spelling development, specifically Semantic and Mental Orthographic Representations, also required for successful spelling. Additionally, the study examined spelling in the context of a naturalistic writing task.

METHODS: Eighty children from fourth and sixth grade participated in the study. Spelling errors were catalogued from rough drafts and finals copies as part of an extended writing process task. Errors were coded under five categories: phonological, orthographic, morphological, semantic, and mental orthographic representations. Proportions of spelling errors by category in relation to the total number of errors were the measures of interest.

RESULTS: Data analysis is ongoing. Initial coding of the samples revealed that errors have been noted across all five categories, including semantic and Mental Orthographic Representations. Early trends suggest that participants decreased the total number of misspellings from rough draft to final copy.

CONCLUSION: Findings indicate that school age students are detecting spelling errors when given time to revise their writing, with older students demonstrating higher rates of spelling correction. Differences in spelling ability by grade and type of errors produced provide insight into tangible assessment and intervention targets.

Research In Progress

IP01

The Relationship Between Menstrual Cycle Changes, Postural Control and Balance: A Systematic Review

Barthel, C.L.; Crowley, D.C.; Greenfield, A.C.; Maher, C.M.; Seton Hall University

INTRODUCTION: It has been observed that female athletes suffer more injuries than their male counterparts. Investigators have reported the different potential explanations for this observation: anatomical, biomechanical and neuromuscular differences and influence of hormones. It has been hypothesized that force generation, balance and postural control may be compromised during different phases of the menstrual cycle as a function of circulating hormones.

IP02

Biting and Chewing Development in Young Children: A Pilot Study

Capone-Singleton, N.C; Goodrich, E.A; Walter, E.J; Patel, N.V; Seton Hall University

INTRODUCTION: Speech-Language Pathologists (SLPs) evaluate feeding disorders in young children. SLPs use the Pre-Feeding Skills Checklist (Morris & Klein, 2000) as a gold-standard in the evaluation of feeding development. This checklist is based on longitudinal study of 6 children but has not gone through peer-review or publication in scientific journal. This pilot will provide the foundation for a larger data-base being collected toward that end. Our aim is to provide a peer-reviewed published data-base of age-milestones for SLPs to reference.

IP03

Cell Phone Use Changes Walking Strategies

Fina, M.J.; Perniola, R.P.; Wilson, D.O.; Stiskal, D.M.; Seton Hall University- Physical Therapy Department

INTRODUCTION: Technology continues to rapidly increase and we become dependent on it. The smartphone is a key device during activities of daily living (ADLs). Because of the numerous capabilities that can be performed with a smartphone, humans devote varying amounts of visual, physical, and cognitive attention to the applications rather than focusing on primary tasks, such as ambulation. There is limited research on safety risks that occur while walking and using a smartphone. Previous research suggests that gait changes do occur in adults while they simultaneously walk and participate in smartphone tasks. To date, no published studies have quantified the temporal-spatial parameters of gait during different walking conditions.

IP04

Correlation between Speech and Language Fluency in Normal Adult Speakers

Gardner, M.E; Dayalu, V.N; Koutsoftas, A.D.; Department of Speech-Language Pathology, School of Health and Medical Sciences

INTRODUCTION: Normal adult speakers manifest errors in speech fluency. The overall percentage of speech errors is less than 3% of the total output but it varies across speaking tasks and context. Further, individual variability in the percentage of fluency errors and type of errors have been recorded. Considering the intricate relationship between speech and language, it is likely that variations in fluency across context and the overall percentage and type of errors are correlated to measures of language fluency.

IP05

Concurrent Validity of the Shaw Gait Assessment Tool in Individuals with Incomplete Spinal Cord Injury

Haggan, J.H.; Esemplare, N.E.; Liesch, J.L.; Sutor, T.S.; Nair, P.N.; Seton Hall University

INTRODUCTION: Background: There is a need for assessing walking outcomes after a therapeutic intervention in people with incomplete spinal cord injury (ISCI). The Shaw Gait Assessment Tool (SGAT), a cost-effective and easily available tool would be of great value to the treating clinician. It is therefore important to establish the validity of the tool for the assessment of walking in people with spinal cord injury.

IP06

Insulin Resistance and Microvascular Function in Persons with SCI

LaFountaine, M.; Blankenship, S.; VanderGroef, K.; Najafi, J.

INTRODUCTION: Cutaneous microvascular blood flow is regulated by multiple mechanisms, including that by insulin and by the sympathetic nervous system (SNS). Insulin is the principal hormone responsible for the disposal and storage of glucose in skeletal muscle, in part by the re-direction of blood flow through the rhythmic dilatation or contraction of arterioles. In insulin-sensitive individuals, this

"vasomotion" is thought to involve the activation of the vascular smooth muscle, with vasodilatation occurring through nitric oxide. In persons with spinal cord injury (SCI), a disproportionately high prevalence of insulin resistance and diabetes mellitus has been reported. We postulate that insulin resistance, in combination with the added consequence of SNS impairment below the neurological level of injury, contribute to hemodynamic dysregulation and a variety of medical complications, including pressure ulcer formation and decreased wound healing.

PURPOSE: To determine the relationship between the homeostatic model assessment-derived measurement of insulin sensitivity and the magnitude of change in blood perfusion during insulin iontophoresis above and below the level of lesion in persons with SCI.

PROTOCOL: Persons with SCI and able-bodied controls will complete the study. Fasting blood samples will be obtained to determine insulin and glucose concentrations; HOMA calculation of insulin sensitivity will be determined for later comparison. All participants will undergo iontophoresis treatment with insulin and placebo that will deliver the respective agent trans-dermally. Iontophoresis requires that two electrodes be placed at the specified locations on the right arm and right leg. The cathode electrode will contain 0.2 ml of liquid insulin or 0.2 ml of placebo (normal saline) in separate procedures; the anode electrode will be adhered to the other location. Laser Doppler flowmetry (LDF) measurements to obtain cutaneous blood perfusion unit (BPU) responses will be taken at baseline for 3 minutes, after which the iontophoresis will begin and last for 14 minutes. After the area has been treated by iontophoresis, LDF measurements will be performed to obtain the peak blood perfusion unit (BPU) response; the percent change of BPU from baseline will be calculated for comparison to HOMA scores. The net difference in BPU between the Insulin and Placebo responses to treatment will be calculated and compared to HOMA scores.

IP07

The Application of Hyperspectral Imaging to Evaluate the Extent of Burn Injury

Morchel, H.; Sheby, D.; Hazelood, V.; Carlisle, A.; Kaul, S.; DeVinck, D.; Hasser, C.; Hackensack University Medical Center

INTRODUCTION: To determine whether Hyperspectral Imaging (HSI) can identify spectral parameters useful for classifying burn wounds in order to aid in the diagnosis of burn severity, especially differentiating between partial thickness and full thickness burns, which would help to guide treatment.

METHODS: Data was obtained from six porcine subjects with a total of two wounds each. Partial Thickness thermal wounds were created on the back of each subject using a 3cm x 5cm brass template. The brass template was heated in a 70C water bath, wiped dry, and placed on the skin with no pressure other than gravity for 15 seconds to create the thermal wound. An image was captured with a hyperspectral camera at each time point in addition to a 6mm punch biopsy at the edge of the wound as well as control biopsy from the center of the wound.

RESULTS: It is expected that the histology data will show a positive correlation with the parameters identified with the hyperspectral images. These correlations can possibly result in the quantitative measurement of burns to differentiate between partial thickness and full thickness burns.

CONCLUSION: The ability to quantitatively measure burn severity with a hyperspectral camera image has the potential to compliment the physician's qualitative assessment of patients with thermal injuries.

IP08

Writing Analysis in Children with Hearing Impairments: An Exploratory Study

Odiase, J.E; Koutsoftas, A.; Seton Hall University

INTRODUCTION: Language develops across the four modalities of language: speaking, listening, writing and reading. If there is an impairment in one modality, then it will negatively impact one or more of the other modalities. Children who are hearing impaired have obvious difficulties with the listening modality; however, it is unclear how this might affect other modalities, in particular writing. The aim of this study is to better understand the written modality in children with hearing impairments.

IP09

Inter-Rater Reliability of Novice Learners Using the Behaviorally-Anchored Lift Task Evaluation (BALTE)

Phillips, H.J.; Papaccio, M.; Kratch, A.; Antonios, M.; Seton Hall University

INTRODUCTION: Lift task evaluations are used in physical therapy to determine a person's ability to perform specific tasks related to their occupation and assess their readiness for return to work. The Behaviorally-Anchored Lift Task Evaluation (BALTE) can be used to determine safe lifting abilities and safe levels of exertion for patients who are trying to return to work. The BALTE has been proven to be reliable when used by experienced physical therapist evaluators, but has not been used by novice learners.

IP10

Gender Differences in Surface Electromyography and Postural Stability in Healthy Seton Hall University 3rd Year Doctor of Physical Therapy Students During a Step Down Task

Quevedo, D.; Tababa, B.; Tonon, A.; Seton Hall University

INTRODUCTION: Healthy males and females between 18-45 perform functional tasks, such as walking and stepping down from a curb or staircase, as part of everyday normal activities. There are known differences in basic walking patterns, center of mass (CoM), and muscle activity between genders during normal walking. During gait, males activate hip muscles more, display decreased hip flexion and greater knee extension, while females activate calf muscles more prior to heel contact. Considering these known differences, there is likely a gender difference in surface electromyography (sEMG) and ground reaction forces (GRF) during other functional tasks. However, literature related to differences between genders during a step down task is lacking. Thus, this project serves to investigate this gap in knowledge.

IP11

"It's All in Your Head" – The Psychiatrist's Role in the Diagnosis and Management of Conversion Disorder in Medical Settings: Case Series and Literature Review

Spariosu, M.; Coira, D.; Hackensack UMC, Rutgers NJMS, St George's University Medical School

INTRODUCTION: Conversion disorder is a diagnosis that can cause a lot of stigma in patients and their families as well as feelings of helplessness in medical care professionals. Patients with conversion disorder usually present to a hospital in despair, with acute motor or sensory deficits, with symptoms closely mimicking a cerebrovascular accident, seizures, or other frightening diagnosis. After a thorough noncontributory medical and neurological work up, when patients hear that "nothing is wrong with them and it's all in their head" they may further develop decompensation or lack of symptom resolution. More education needs to be provided to the primary medical team regarding a therapeutic approach towards a patient with suspected functional disorders. Rapid involvement of a well trained psychiatrist in working with patients with conversion disorder is crucial.

IP12

Writing Macrostructure in Children with and without Language-Learning Disabilities

Tinagero, K.L.; Koutsoftas, A.; Seton Hall University

INTRODUCTION: This paper reports on writing macrostructure in children with language learning disorders (LLD). Writing is an important academic skills and within the scope of practice for the speech-language pathologist. This study compares macrostructure analysis of narrative writing samples in children with LLD to children with typical development (TD) and will help us better understand how to account for writing macrostructure in children with and without LLD.

IP13

The Effect of Dual Tasking on Spatiotemporal Gait Parameters in Older Adults During Incline Walking Under Various Task Conditions: A Review of the Literature

Zipp, G.; Maher, C.; Sholander, P.; Lee, A.; Seton Hall University-Physical Therapy Department

INTRODUCTION: In daily life, older adults are often required to do more than one thing at a time, which has been defined as "dual tasking". Understanding the impact of dual tasking on spatiotemporal characteristics of gait across age groups is foundational to designing effective treatment interventions that address activity limitations and foster one's participation within their community.

AUTHOR INDEX BY ABSTRACT