ACP Michigan Chapter, Residents Day 2019

Oral #1 Category: Clinical Vignette

Institution: Ascension St. John Hospital – Grosse Pointe
Program Director: Raymond Hilu, MD, FACP
Presenter: Abdulrahman Alwagdani
Additional Authors: Dima Youssef, MD, Ashish Bhargava, MD

Rare Case of Necrotizing Fasciitis Caused by Actinomyces europaeus

Actinomyces europaeus is a nonmotile, facultative anaerobic rod first described in 1997. It causes urinary tract infections and perianal abscess but not known to cause necrotizing infections.

59 years old female with poorly controlled diabetes, presented with 3 days of right lower abdominal pain and localized swelling. She denied fever but reported chills. She denied any trauma. On presentation, she was febrile (99.4□C) with tachycardia (120 bpm). On exam 15x10cm erythematous, indurated area was noted on her right lower abdominal quadrant.

She had leucocytosis (20 K/mcL) with elevated blood glucose (343 mg/dL). She was started on IV vancomycin forcellulitis. Next day,

a CT of the abdomen and pelvis was done for persistent pain. It showed extensive air collections and edema within the subcutaneous fat of the right abdominal wall concerning for necrotizing infection. She went for surgery emergently. Intraoperative findings revealed extensive soft-tissue necrosis involving fascia with purulence. Postoperatively, she had uneventful recovery.

Wound culture grew Actinomyces species. 16 s RNA revealed A europaeus. She completed four weeks of oral amoxicillin/clavulanate with no recurrence at 3 month follow up.

Discussion: The risk factors for infection included the possible use of insulin syringes, causing breach in the skin in poorly controlled diabetic patient. To our knowledge, this is the first case of necrotizing fasciitis caused by A. europaeus.

Conclusion: Our case shows the potential of A. europaeus to cause serious infection as necrotizing fasciitis, especially in light of immunosuppression. This could represent a new era of actinomyces infections.

ACP Michigan Chapter, Residents Day 2019

Oral #2 Category: Research

Institution: Beaumont Hospital – Royal Oak
Program Director: Sandor Shoichet, MD, FACP
Presenter: Jordan Bushman
Additional Authors: Alexandra Halalau, MD, FACP

Effect of Long-Term Proton Pump Inhibitor Use on Glycemic Control in Patients With Type Two Diabetes

Introduction
Proton pump inhibitors (PPI) are widely used to treat a variety of gastrointestinal conditions. The long-term use of PPIs is becoming more common, but the consequences are not well understood. Previous studies that investigated the effects of PPI on glycemic control in patients with type-two diabetes mellitus showed conflicting results. We aim to investigate the time dependent relationship between PPI exposure and improvement in glycemic control in patients with diabetes.
Methods
This is a retrospective cohort study preformed at Beaumont Hospital during 2007-2016. Inclusion criteria were adults >18 years old with a diagnosis of type-two diabetes, >1 HbA1c measurement and taking >1 oral antidiabetic medication (OAM). Patients using insulin, corticosteroids or H2-blockers were excluded. The primary outcome was difference in HbA1c in patients taking PPIs + OAM compared to those taking OAM alone. Secondary outcomes included incidence of chronic kidney disease, dementia, major cardiovascular events and death.
Results
Our search revealed 38,430 patients to be included in the analysis. 6,626 patients were found to be using PPIs for at least one year. Primary and secondary outcomes will be evaluated for both groups, adjusted analysis will be performed to balance the baseline characteristics between the groups.
Discussion
If a relationship between PPI use and glycemic control in patients with type-two diabetes is confirmed, we will not only have a better understanding of the long-term effects of these medications, but they may also become a mainstay in the management of type-two diabetes. Final data analysis will be presented at the conference.

ACP Michigan Chapter, Residents Day 2019

Oral #3 Category: Clinical Vignette

Institution: Ascension Providence Hospital – Southfield
Program Director: Robert Bloom, MD, FACP
Presenter: Alina Guseynova
Additional Authors: Lauren Weiner MD; Cynthia Vakhariya DO

An Unexpected Cause of Splenomegaly and B Symptoms

Introduction: Primary humoral immunodeficiency comprises of mostly inherited disorders characterized by low antibody production. The diseases in this group have an incidence range of 1 out 700 to 1 out 379,000. This is a case of an adult who is diagnosed with an unspecified hypogammaglobulinemia.
Case Study: A 23-year-old female presents 10 days after a lymph node excisional biopsy for pain at the right axillary biopsy site. She had been experiencing symptoms of fever, chills, and night sweats for a year prior to seeing the oncologist and also had episodes of severe abdominal pain. In the hospital, the patient had a CT scan of the abdomen and pelvis that showed splenomegaly, enlarged retroperitoneal lymphadenopathy and an innumerable amount of pulmonary nodules in the lung bases. The lymph node biopsy showed reactive lymphoid hyperplasia associated with primary hypogammaglobulinemia. There was no evidence of lymphoma. Serum immunoglobulins results showed low total levels of immunoglobulin G (IgG), immunoglobulin M (IgM), and immunoglobulin A (IgA). The patient was treated for cellulitis of the right underarm with intravenous antibiotics and referred to the hematoimmunology clinic on discharge from the hospital.
Conclusions: Primary hypogammaglobulinemia, a type of primary humoral immunodeficiency, is characterized by impaired B cell production. Most primary hypogammaglobulinemias rarely present past an age of 2.5 years. Anyone with unexplained hepatosplenomegaly should ideally have immunoglobulin levels tested. This adult patient has no reported history of childhood infections. She has a lymph node excision biopsy negative for lymphoma but positive for an unspecificied hypogammaglobulinemia.

ACP Michigan Chapter, Residents Day 2019

Oral #4 Category: Clinical Vignette

Institution: Ascension St. John Hospital – Grosse Pointe
Program Director: Raymond Hilu, MD, FACP
Presenter: Nouf Turki
Additional Authors: Philip Vendittelli, DO, Hussein Othman, MD

A Case of Coronary Artery Milking

Introduction: Myocardial bridging (MB) is a congenital anomaly where segments of the coronary arteries have an intramyocardial course and are compressed during systole. Although it is usually a benign disease, MB can be associated with arrhythmias, myocardial infarctions (MI) and syncope. We present a case of MB-induced supraventricular tachycardia (SVT) leading to syncope.

Case Presentation:51-year-old healthy male presented with chest pressure and syncope while playing soccer. Vitals on presentation showed a heart rate of 168 and blood pressure of 86/55. On exam he was diaphoretic and tachycardic but otherwise unremarkable. EKG showed an SVT and ST-segment depression in inferior leads. Lab work was remarkable for an elevated troponin. Echocardiogram showed a normal left ventricle and valve function. Table tilt testing was negative. Cardiac catheterization revealed patent vessels however there was evidence of MB in the left anterior descending artery confirmed by intravascular ultrasound. This was believed to be the trigger of the SVT and cause of his syncope. The patient was started on beta-blocker therapy and remained asymptomatic during follow-up.

Conclusion: Myocardial bridging occurs when the coronary arteries are intertwined in the myocardium and can become compressed with ventricular contraction. It most often affects young healthy patients and is typically asymptomatic but rarely can be associated with myocardial infarctions, arrhythmias and syncope. Diagnosis is made by angiography and can be aided with intravascular ultrasound which shows compression of artery segments during systole and artery expansion during diastole. Treatment is with beta-blocker or rarely surgical interventions.

ACP Michigan Chapter, Residents Day 2019

Oral #5 Category: Research

Institution: Beaumont Hospital – Royal Oak
Program Director: Sandor Shoichet, MD, FACP
Presenter: Ramy Mando
Additional Authors: Priscilla F. Sigua-Arce M.D., Lisa Spencer B.S., Alexandra Halalau M.D.

A Retrospective Analysis of the Treatment and Complications Related to May-Thurner Syndrome

A retrospective chart review of 47 patients with May-Thurner Syndrome (MTS), across eight hospitals was completed. Baseline characteristics and outcomes of interest included: choice of management, treatment duration, treatment-related complications, frequency of post-thrombotic syndrome, major bleed, 30-day readmission and mortality. Of the 47 patients identified as having “MTS”, 32 (70%) were diagnosed formally with either magnetic resonance venography, computed tomography or ultrasound. Two patients were excluded for insufficient availability of follow-up. Mean age of the population included (n=30) was 50.24 +15.33 years and 83% (n=25) had female gender. The majority (30%) of patients were treated with anticoagulation, thrombolysis and stent placement. 23.3% received a combination of anticoagulation, antiplatelet agent, thrombolysis and stent placement. Overall, we found 28 patients (93%) underwent endovascular stenting. However, the 36.7% (11/28) stent related complication rate included stent thrombosis, stenosis and migration. One patient underwent open heart surgery for stent retrieval. Duration of therapy ranged from 6 months to lifelong treatment. Two patients (6.7%) suffered major bleed requiring transfusion. Nine patients (30%) developed post-thrombotic syndrome. Seven (23.3%) patients required MTS related readmission within 30 days. No mortality was noted at 3 year follow up.

Although our study only included 30 patients, it was evident to us that there is no consensus in practice of managing MTS. Furthermore, endovascular stenting, may pose more harm than benefit with stent related complication rates hovering close to 40%. Further research is needed to help develop a standardized evidence-based approach in the management of MTS that ensures patient safety.

ACP Michigan Chapter, Residents Day 2019

Oral #6 Category: CQI/EBM

Institution: Beaumont Hospital – Dearborn
Program Director: Ruaa Elteriefi, MD, FACP
Presenter: Asadullah Mahmood
Additional Authors: Saeed, N., Saeidifard, F., Seyedtabaei, R., Bani Saad, A., Niaz, A., McConachie, S.M., Rajiv, J.

Targetting Inappropriate Stress Ulcer Prophylaxis; A Multidisciplinary Approach

Introduction: Stress ulcer prophylaxis (SUP), administration of acid suppressive therapies (AST) to prevent nosocomial gastrointestinal bleeding, is widespread outside of intensive care units despite a lack of data supporting its efficacy, reportedly happening 40-90% nationally. Potential side effects include vitamin B12 deficiency, osteoporosis, Clostridium difficile infection, and CKD. A multidisciplinary educational approach has been used to improve prescribing patterns in other disease states and will be used as a method to curb inappropriate SUP.
AIM Statement: To decrease inappropriate stress ulcer prophylaxis using a multidisciplinary academic detailing team on an inpatient internal medicine teaching service (IIMTS).
Methods: Using the quality improvement model plan-do-study-act (PDSA), we retrospectively collected baseline data on inappropriate SUP use on IIMTS over one month. We then implemented PDSA 1: academic detailing. A multidisciplinary team (clinical pharmacist plus internist), gave teaching sessions on appropriate SUP indications to IM residents. We then collected prospective post-intervention data.
Results: Prior to the intervention, 94 patients received AST, of which 66 (70%) were receiving AST prior to admission and 28 were prescribed AST upon admission. 12 (43%) of new AST therapies were considered inappropriate, whereas 16 (57%) were prescribed for appropriate indications. Post-intervention data is being collected to prepare for PDSA 2.
Conclusion: Academic detailing has proven to be an agent of change in other disease states, and was utilized for SUP in the inpatient setting. PDSA 2 will entail a hard stop in the chart requiring the health care provider to select a valid indication for SUP.

ACP Michigan Chapter, Residents Day 2019

Oral #7 Category: Research

Institution: Ascension Providence Hospital – Southfield
Program Director: Robert Bloom, MD, FACP
Presenter: Max Zlaptopolsky
Additional Authors: Alexandra Brdak, Alessandra Rader, Jose Larios, Jordan Ciuro, Michael A. Marshall, Michael Williams, Susan Steigerwalt

Unobserved Ambulatory Blood Pressure Measurement in a Predominantly African-American Cohort: More Effort but Less Pressure

Hypertension is the most common reason for a clinic visit in the United States and is more prevalent in African-Americans than Caucasians. The ability of clinicians to accurately assess and treat hypertension with the goals of minimizing end-organ damage and proceeding morbidity/mortality remains difficult. This is further complicated by the discrepancy in measured ambulatory and at-home blood pressures. Office blood pressure measurement has recently undergone a paradigm shift. Automated blood pressure measurement (ABPM) with a period of rest prior to repeat readings has been shown to better reflect true blood pressure. The research that originally shed light on this topic was performed in a predominantly Caucasian population. We therefore chose to investigate the role of unobserved ABPM (uABPM) in a predominantly African-American cohort in an outpatient internal medicine clinic. We performed a prospective non-blinded non-randomized trial in which patients underwent traditional operator-present (Omron) automated BPM and operator-absent (Welch Allyn) BPM on three subsequent measurements, 5 minutes apart. Preliminary data analysis of 148 patients using a two-tailed T-test reveals a statistically significant difference between unobserved and traditional blood-pressure measurements (systolic average $p<0.001$ and diastolic average $p<0.05$). Average uABPM systolic blood pressure readings were ~7 mmHg lower than the initial operator-present reading and add credence to recent trial data that supports the use of uABPM over traditional measurement to avoid misdiagnosis.

ACP Michigan Chapter, Residents Day 2019

Oral #8 Category: Research

Institution: Ascension St. John Hospital – Grosse Pointe
Program Director: Raymond Hilu, MD, FACP
Presenter: Photios Vassilyadi
Additional Authors: Sharma A, MD; Szpunar S, PhD; Alton K, MD

Young Adults in Medical Limbo – Analyzing Trends in Patients Without a Medical Home

Background: National data reports high use of the emergency department (ED) in young adults, with 24.5% reporting no other source of care. The purpose of this study was to determine what proportion of patients used the ED for common outpatient complaints and how many endorsed a primary care physician (PCP).
Methods: We conducted a retrospective chart review of all patients 18-24 years who were admitted to Ascension St. John Hospital ED in January 2018. Patients were classified in “medical limbo” if previously endorsing a pediatrician but not following with an adult-world physician.
Results: Among the 904 young adults studied, 68% were female and 91% were Black. Overall, 47% endorsed a PCP, 26% were in medical limbo and 27% had no care at all. There were 733 patients (81%) who presented for common outpatient complaints. The proportion of patients in medical limbo decreased with increasing age while the proportion of patients with continued care increased with increased age ($p<0.0001$). Patients with no insurance were less likely to have a PCP than patients with private or public insurance (62.4% vs. 49.6%, $p=0.001$).

Conclusion: Our community-based hospital serves thousands of young adults per year. Over 50% of the patients studied lacked a medical home (either in medical limbo or with no care at all) forcing them to present to the ED. Barriers to transitional medical care need to be identified and addressed so that young adults can have the continual care they deserve.

ACP Michigan Chapter, Residents Day 2019

Oral #9 Category: CQI/EBM

Institution: Authority Health – Detroit – Internal Medicine
Program Director: Joel Appel, DO
Presenter: Zohair Ahmed
Additional Authors: MyTrang Dang DO, Jason Betcher DO, Saloni Kadakia DO

Do Not Let It Be the Last: End-of-Life Care Decisions in the Primary Care Clinic

Introduction: End-of-life care (EOLC) wishes for many patients are not known and are usually bought up in an emergency setting. In many instances, patient's wishes are not known and family are hesitant in making decisions due to feeling guilty. These topics are easier to discuss in a non-emergent setting (like a primary care clinic). The aim of our study was to determine how prepared patients were for EOLC decisions.
Methods: This was a prospective data collection across three Internal Medicine clinics in the Metro-Detroit area. A survey written at a reading level of 6-7th grade was given to patients who were interested in volunteering for this project. Inclusion criteria included being at least 18 years old and a patient at one of the three participating clinics. Descriptive analysis was used to analyze the data from 177 participants.
Results: 66.9% of our patients have thought about EOLC decisions but only 43.3% have had a discussion about it. 12.9% of the discussions were with a Physician. 11.8% wanted to have further discussion regarding their EOLC decisions with us. 76.3% preferred to live a short and comfortable life over a long and uncomfortable life. Similarly, 85.9% preferred quality over quantity of life. There was a 9% discrepancy in these similar questions.
Conclusion: Only 12.9% of our participants have had EOLC discussions with Physicians. EOLC discussions are a part of Advance Care Planning that should be initiated by every Primary Care Physician. In fact, these discussions are a billable service (99497 and 99498).

ACP Michigan Chapter, Residents Day 2019

Oral #10 Category: Clinical Vignette

Institution: Beaumont Hospital – Royal Oak
Program Director: Sandor Shoichet, MD, FACP
Presenter: Syed Mustafa
Additional Authors: Zahra Nur Khaled, Alexandra Halalau

Rosuvastatin Can Cause DRESS

Drug reaction with eosinophilia and systemic symptoms (DRESS) has mostly been attributed to antibiotics or antiepileptics with rare case reports on atorvastatin and pravastatin. We describe a case of DRESS in a patient secondary to repeated exposure to rosuvastatin.

A 54 year old male with hyperlipidemia presented after a holiday cruise in Europe with acute onset of fever and a generalized pruritic rash following a prodrome of upper respiratory symptoms. His temperature was 102F and he had blanching maculopapular lesions on the whole body including palms and soles with generalized lymphadenopathy. Labs showed leukocytosis 41.4 bil/L with neutrophilia 29.4 bil/L and eosinophilia 6.2 bil/L, and IgE elevation 623, with myelocytes on peripheral smear. Extensive workup including cultures, typical and atypical viral and bacterial panels, and serology panel returned negative. CT scans showed generalized lymphadenopathy. Over the next week he deteriorated clinically with worsening transaminitis and acute renal failure requiring hemodialysis. His fevers continued, and the rash evolved into a discrete, painful, vasculitic-like lesions. Skin and inguinal node biopsies returned consistent with DRESS syndrome. He then recalled having restarted rosuvastatin during his travels after taking it inconsistently for a year. This was discontinued and he was treated with systemic steroids with a taper leading to a gradual improvement in symptoms.

The similarity of symptoms between DRESS and infection or vasculitides make it a challenging diagnosis particularly in this case where the travel history was an immense distractor on presentation. With a mortality rate of 10%, DRESS syndrome must be promptly diagnosed and managed.

ACP Michigan Chapter, Residents Day 2019

Oral #11 Category: Clinical Vignette

Institution: Henry Ford Health System – Detroit
Program Director: Odaliz Abreu Lanfranco, MD, FACP
Presenter: Rawan Hammoudeh
Additional Authors: Aeman Hana DO, Sarah Gorgis MD, Joshua Collins MD.

An Unfortunate Case of Nonuremic Calciphylaxis

We present to you a 74-year-old woman who presents with intense painful ulcers of the left arm and bilateral legs. Patient has a 20 pack-year smoking history, DMII and PAD. She was hospitalized the year prior with similar symptoms and was diagnosed with thromboangiitis obliterans given her smoking history, with a biopsy of the ulcer showing inflammatory intraluminal thrombosis. Patient was treated with antibiotics and counseled on smoking cessation. She now presents with painful necrotic skin ulcers involving the proximal legs, feet and arms. Extensive rheumatological, hematological, endocrinological, vascular and genetic testing were all negative. Since patient had quit smoking for one year, a second punch biopsy of the ulcer and subcutaneous tissue was taken. The tissue was stained for calcium deposits, showed calcification and thrombosis of arterioles in the dermis and subcutaneous adipose tissue, confirming the diagnosis of calciphylaxis. Due to extensive necrosis, she required bilateral transmetacarpal amputations.

Calciphylaxis is a rare lethal disorder among patients with renal dysfunction, however there are documented case reports in the literature in patients without known kidney disease. A systematic review revealed 36 reported cases of nonuremic calciphylaxis. The exact incidence of this disease is unknown. The only current treatment for calciphylaxis in patient with kidney disease is sodium thiosulfate, however this is ineffective in patients with normal kidney function as it is rapidly renally cleared without benefit. Given the high mortality associated with calciphylaxis and lack of effective treatment, it is important to recognize the signs and symptoms. Further clinical research is needed to better understand the etiology and possible treatment.

ACP Michigan Chapter, Residents Day 2019

Oral #12 Category: Clinical Vignette

Institution: Sinai Grace Hospital – DMC – Detroit
Program Director: Mohamed Siddique, MD, FACP
Presenter: Anam Kamal
Additional Authors: Kennedy Iheanacho MD (Resident); Heba Mahmoud, DO; Rana Ismail, PhD, MSc; Marc Feldman, MD

A Deceiving Presentation of Pyogenic Meningitis with Resultant Stroke

Introduction

Meningitis classically presents with headache, fever and nuchal rigidity; however, headache with fever alone is often enough for a presumptive diagnosis. It is less likely to suspect meningitis when encephalopathy and unilateral deficits are the only presenting symptoms. In most cases, a work-up for cerebrovascular accident (CVA) would ensue.

Case Presentation

A 56-year-old female presented obtunded with right-sided hemiplegia and tachycardia. Her labs were significant for leukocytosis, lactic acidosis and UA positive for bacteria and nitrites. CT head was unremarkable. Treatment for CVA was initiated but there was also a concern for sepsis with possible urinary source. She was empirically started on Cefepime and Vancomycin with intravenous hydration. Despite these measures, her clinical status remained unchanged. She became febrile and suffered an episode of status-epilepticus. Subsequently, antibiotics were changed to include Ceftriaxone and Ampicillin for suspicion of meningitis. Cerebrospinal fluid analysis expressed neutrophilic-predominance and blood cultures grew S.pneumoniae. A brain MRI supported left pyogenic meningitis with resulting infarctions. Her treatment was switched to culture-directed antibiotics with supportive anti-epileptic therapy. She required a prolonged ICU stay with mechanical ventilation and was discharged to extended care facility with a tracheostomy and peg.

Discussion

Whenever a patient presents with clinical signs of CVA and septic features, pyogenic meningitis should be suspected and care initiated accordingly. Strokes that may arise as complications of bacterial meningitis can confuse clinicians away from the culprit. Upfront therapy with IV steroids followed by Ceftriaxone and Vancomycin immediately after CSF and blood cultures may avoid disastrous sequelae.

ACP Michigan Chapter, Residents Day 2019

Oral #13 Category: Clinical Vignette

Institution: Henry Ford Health System – Macomb
Program Director: Amitha Aravapally, MD, FACP
Presenter: Zachary Ciochetto
Additional Authors: Areej Mazhar, DO; Ali Imtiaz, DO; Omokayode Osobamiro, MD

Hydralazine Induced Alveolar Hemorrhage in Drug Induced Lupus

Hydralazine, commonly used to treat hypertension, is most notorious for its' several variable and debilitating side effects including drug induced lupus erythematosus (DILE). Not only is DILE associated with Hydralazine, but there have been some case reports linking Hydralazine to ANCA-associated glomerulonephritis and vasculitis. The concern is that this vasculitis can cause a serious complication known as Diffuse Alveolar Hemorrhage (DAH) which has a very high mortality rate. We report a case of Hydralazine induced vasculitis presenting as DAH in a patient with known systemic lupus erythematosus (SLE) and recent diagnosis of lupus nephritis. She was treated with hemodialysis (HD) and plasmapheresis as well as a course of pulse-dose steroids. Immunosuppressive therapy was not initiated during her hospital course due to pneumonia and herpes epiglottitis. She was found to be myeloperoxidase (MPO) antineutrophil cytoplasmic antibody (ANCA) and anti-histone antibody positive. We concluded that Hydralazine induced MPO-ANCA vasculitis can rarely present with DAH in a patient who had been taking Hydralazine for years and requires prompt cessation of the medication. Treatment modalities are variable and involve hemodialysis, plasmapheresis, and even immunosuppressive therapy which may be needed for complete resolution of symptoms.

ACP Michigan Chapter, Residents Day 2019

Oral #14 Category: Research

Institution: Henry Ford Health System – Detroit
Program Director: Odaliz Abreu Lanfranco, MD, FACP
Presenter: Laurel Mueller
Additional Authors: Hussna Abunafeesa, MBBS, Diego Cabrera Fernandez, MD, and Philip Kuriakose, MD

The Temporal Relationship Between Diagnosis of Autoimmune Hemolytic Anemia and Hematologic Malignancy

Autoimmune hemolytic anemia (AIHA) is an acquired autoimmune disorder caused by development of antibodies against erythrocytes. AIHA is divided into primary and secondary types, the latter of which is often associated with hematologic malignancy (HM). This study aims to shed light on the temporal relationship between diagnosis of AIHA and HM.

Patients diagnosed with AIHA between 2000 and 2010 were identified using ICD9 codes. The medical record was then analyzed for any diagnosis of HM before, during, or after AIHA diagnosis. The time between diagnoses, laboratory values at AIHA diagnosis, the treatments and duration of each therapy, and number of blood transfusions were then analyzed.

A total of 67 patients were identified with secondary AIHA. Twenty-nine patients in this group developed HM at some point during their lifespan; 48.3% were diagnosed before developing AIHA, 20.7% were diagnosed after, and 31% were diagnosed within the same encounter. Forty-four patients were diagnosed with AIHA with no history of HM; within this group, 34.1% were found to have HM during that encounter or in the years following.

These findings reinforce the need to search for malignancy in a patient with AIHA. There were no significant differences in hemoglobin, bilirubin, haptoglobin, lactate dehydrogenase, or reticulocyte count at AIHA diagnosis. Regarding treatment, there were no statistically significant patterns in treatment type or outcomes for either group.

ACP Michigan Chapter, Residents Day 2019

Oral #15 Category: Clinical Vignette

Institution: Sinai Grace Hospital - DMC – Detroit
Program Director: Mohamed Siddique, MD, FACP
Presenter: Amin Marji
Additional Authors: Tanya Odisho, MS-IV; Anand Agarwal, MD; Fnu Abhishek, MD; Rana Ismail, PhD, MSc.

Case Report: Does Moyamoya Disease Increase Posterior Circulation Susceptibility to Aneurysms?

Introduction: Moyamoya Disease (MMD) is a rare cerebrovascular occlusive disease characterized by progressive non-atherosclerotic stenosis of the internal carotid artery (ICA) resulting in a network of collaterals at the base of the brain which give a unique “puff of smoke” appearance on imaging. It is more prevalent in Asian countries and has a female predominance with bimodal distribution.
Case Presentation: An obese 41 year old African American female with a medical history significant for hypertension presented to the hospital complaining of the severe headache and coughing. In the ED, she was found to be profoundly hypertensive. CT-head showed a large SAH. CTA revealed a 4mm saccular aneurysm at the tip of the basilar artery. Stent supported coil embolization of the aneurysm was performed. Interestingly, CTA also revealed extensive Moyamoya pathology involving bilateral ICA with Suzuki grade V changes.
Discussion: SAH from pseudoaneurysms at collateral vessels or saccular aneurysms in the Circle of Willis is the most common symptom leading to the diagnosis of MMD in adults. In our patient, CTA showed evidence of MMD and a saccular aneurysm at the tip of the basilar artery. The origin of such aneurysms is thought to be a result of compensatory increase in blood flow and hemodynamic stress on the vessel walls of the posterior circulation. Chronically, this may cause enlargement and increased risk of rupture. This highlights the importance of undertaking a careful angiographic search for an aneurysm of the posterior circulation, in particular the basilar artery bifurcation in patients with MMD.

ACP Michigan Chapter, Residents Day 2019

Oral #16 Category: CQI/EBM

Institution: Henry Ford Health System – Detroit
Program Director: Odaliz Abreu Lanfranco, MD, FACP
Presenter: Raef Fadel
Additional Authors: Ibrahim H, Hammoudeh R, Ahluwalia G, Roumayah T, Scott M, Gandhi N, France J, Theoharis T, Ross J, Miller J.

Electronic Health Record Visual Overlay Promises to Improve Hypertension Guideline Implementation

Background: Primary care management of essential hypertension (HTN) has become increasingly challenging since recently published guidelines integrate atherosclerotic cardiovascular disease (ASCVD) risk stratification into decision making. Our objective was to measure whether overlay of visual decision support (VDS) with standard electronic health record (EHR) platform improves guideline-based treatment, and reduces time burden associated with EHR use, in management of essential HTN.
Methods: This was a quality improvement project. We interviewed primary care physicians and tasked each with two simulated patient encounters for HTN: (1) using standard EHR to guide treatment, and (2) using VDS to guide treatment. The VDS included graphical blood pressure (BP) trends, target BP with recommended interventions, ASCVD risk score, and information on the patient's social determinants of health. We assessed whether treatment selection was congruent with guidelines and tracked time physicians consulted the EHR.
Results: We evaluated 70 case simulations in total. Use of VDS compared to usual EHR was associated with: higher proportion of correct guideline prescribing (94% vs. 60%, $p<0.01$), more ASCVD risk determination (100% vs. 23, $p<0.01$), and more correct BP target identification (97% vs. 60%, $p<0.01$). Time clinicians spent consulting the EHR fell an average of 121 seconds with use of VDS ($p<0.01$). On a 10-point scale, clinicians rated the VDS 9.2 vs. 5.9 ($p<0.01$) for ease of gathering necessary information to treat HTN.
Conclusions: The integration of VDS tools into the EHR demonstrates potential to reduce time and improve HTN guideline implementation. Further testing in clinical practice is indicated.

ACP Michigan Chapter, Residents Day 2019

Oral #17 Category: CQI/EBM

Institution: Henry Ford Allegiance Health
Program Director: Vivek Kak, MD, FACP
Presenter: Nishant Chaudhary
Additional Authors: Hazem Zebda, MD. Roomana Khan, MD. Anish Wadhwa, MD. Vivek Kak, MD.

Quality Improvement: Defining Appropriate Indications for Peripherally Inserted Central Catheters (PICCs) at Allegiance

Introduction
The use of peripherally inserted central catheters (PICCs) has been increasing according to literature review. It is imperative to understand the clinically appropriate indications to ensure patient safety and increase cost-savings.
Methods
A comprehensive review of 244 PICC lines was performed at HFAH; we reviewed indication for insertion, infusion of peripherally compatible infusates vs. vesicants, and duration of use (≤14 days or > 14 days). We evaluated the appropriateness of PICC use compared to other venous access devices using the Michigan Appropriateness Guide for Intravenous Catheters (MAGIC) recommendations.
Results
Appropriate indications for PICC included centrally compatible infusates, prolonged duration of use (>14 days) and hemodynamic monitoring (>14 days). 106 cases (43%) were rated as appropriate, and 138 (57%) cases as inappropriate. 138 PICCs were removed in less than 14 days, with 7 documented complications.
Discussion
Peripheral IVs, ultrasonography-guided peripheral intravenous catheters and midlines are preferable to PICCs for use up to 14 days with peripherally compatible infusates. In critically ill patients, requiring emergent venous access, central venous catheters should be used over PICCs when ≤14 days are anticipated. Using this data, an algorithm has been created at our center to reflect the recommendations above to guide future PICC use, including a vascular nursing consultation. Further research is required to establish the effectiveness of the criteria and consider appropriateness in patients with chronic kidney disease 3b or worse. This criterion and algorithm can be used to promote quality improvement efforts, cost reduction, and promote safety.

ACP Michigan Chapter, Residents Day 2019

Oral #18 Category: Research

Institution: Sinai Grace Hospital – DMC – Detroit
Program Director: Mohamed Siddique, MD, FACP
Presenter: Javardo McIntosh
Additional Authors: Yasir Alsaraf, Akshay Sharma, Rana Ismail, Malitha Hettiarachichi

Is DRIP Score More Effective Than HCAP Classification in Detecting Patients at Risk for MDR Bacteria?

Introduction: Healthcare-associated pneumonia (HCAP) classification include patients who have frequent contact with the healthcare environment. The DRIP score was recently introduced to allegedly provide better risk prediction of pneumonia due to multi-drug resistant (MDR) pathogens.
Methods: We performed a literature search using PubMed and Cochrane databases. We used keywords “Pneumonia,” “Healthcare-associated pneumonia,” “Multi-drug resistance risk factors." We evaluated 14 studies including systematic reviews and meta-analysis, and observational studies.
Results: One study compared patients with community-acquired pneumonia (CAP) to HCAP patients, and reported that the latter were older and had significantly more comorbidities. MDR bacteria were low in both cohorts. According to a systematic review the high prevalence of MDR organisms in HCAP vs. CAP was comparable in both HCAP and CAP; it also demonstrated that the excess mortality within the HCAP groups was primarily due to confounders such as age and comorbid conditions. Webb et al. evaluated the risk factors for pneumonia due to MDR pathogens and derived a DRIP score. The DRIP Score accuracy was 81.5% and surpassed that of HCAP criteria (69.5%); this resulted in reduced use of unnecessary broad-spectrum antibiotics by 46%. Another study applied the DRIP score retrospectively to HCAP patients and compared it to the HCAP criteria; adopting the HCAP led to a 31% increase in broad-spectrum antibiotic use versus 9% using the DRIP score.
Conclusion: Using the DRIP score approach seems to be more predictive in detecting patients at risk of MDR pneumonia and has the potential to decrease antibiotic overutilization without increasing morbidity and mortality.

ACP Michigan Chapter, Residents Day 2019

Oral #19 Category: Clinical Vignette

Institution: Henry Ford Health System – Macomb
Program Director: Amitha Aravapally, MD, FACP
Presenter: Michael Piatek
Additional Authors: Dr. Anuradha Sreenivasan DO

T Cell-Mediated Hepatocellular Damage in a Young Female

Autoimmune hepatitis (AIH) is an uncommon condition that can be very devastating for patients. Cases in which other hepatotropic virus have been ruled out and other more common causes of liver injury such as NASH, or drugs will most of the time fall under autoimmune hepatitis. AIH has 6 month untreated mortality rate of 40% and can manifest in different ways. Ranging from asymptomatic with abnormal labs to, fatigue, weakness jaundice or typical cirrhosis features.

Our patient was a 34 year old female who presented with complaints of weakness, nausea, vomiting and an unsteady gait. She was found to a lactic acid of 7.5, hypokalemia 2.5 and AST 461, ALT 167, ALP 343 and Total bili of 4.0. A full hepatitis panel along with Ceruloplasmin, iron studies, copper levels, and hepatic toxins all returned unremarkable. ANA was performed which returned positve for speckled type 1:160. An abdominal ultrasound was performed showing increased echogenicity with a heterogeneous pattern suggestive of hepatocellular disease.

She has type I autoimmune hepatitis which commonly has high circulating levels of ANAs. Cell mediated CD4+ T lymphocytes target and damage hepatocytes leading to damage. Treatment including either high dose prednisone or half-dose prednisone with azathioprine will lead symptomatic improvement within weeks. Serum bilirubin levels and albumin can take weeks to months were as transaminases are expected correct more quickly. This case should be a reminder to look for autoimmune sources when more common causes of hepatic injury are ruled out.

ACP Michigan Chapter, Residents Day 2019

Oral #20 Category: Clinical Vignette

Institution: Henry Ford Health System – Detroit
Program Director: Odaliz Abreu Lanfranco, MD, FACP
Presenter: Dania Shakaroun
Additional Authors: Daniel Oulette, MD

A Case of Secondary Hemophagocytic Lymphohistiocytosis Due to Extra-Pulmonary Sarcoidosis

Hemophagocytic lymphohistiocytosis (HLH) is a hyper-inflammatory disorder characterized by excessive immune activation. It clinically manifests in fever, hepatosplenomegaly and a set of laboratory abnormalities including cytopenia, elevated ferritin, triglycerides and soluble CD25 (Interleukin-2 receptor). Secondary HLH is induced by infections, malignancies or rheumatic diseases. Only four cases of HLH associated with sarcoidosis with no other triggering factor have been reported in English literature. Early diagnosis is crucial for early treatment, as HLH can be rapidly fatal. Herein, we report a case of a 48-year-old male who was diagnosed with extra-pulmonary sarcoidosis and developed fatal HLH not responsive to treatment.

Our patient presented initially with unintentional weight loss and abdominal pain. Imaging showed a large mesenteric mass, large splenic masses and extensive retroperitoneal lymphadenopathy. Liver, retroperitoneal mass and bone marrow biopsies all showed non-necrotizing granulomatous inflammation. Patient was started on steroids with no significant improvement in his symptoms. Two months after diagnosis, he presented again with fever, fatigue and abdominal pain. His blood work was significant for pancytopenia and low fibrinogen. A thorough infectious work up was negative. His ferritin level and CD 25 were both elevated. A bone marrow biopsy showed histiocytic hemophagocytosis with no overt malignancy. Patient was treated with steroids, intravenous immunoglobulin and etoposide, however, he succumbed to his disease and expired shortly after.

The association between hemophagocytic lymphohistiocytosis and sarcoidosis is extremely rare. Internists and intensivists need to have high level of suspicion to allow early recognition and prompt treatment to prevent fatal outcomes.

ACP Michigan Chapter, Residents Day 2019

Oral #21 Category: Research

Institution: Western Michigan University School of Medicine – Kalamazoo
Program Director: Joanne Baker, DO, FACP
Presenter: Anandbir Bath
Additional Authors: Jasreen Kaur, MD Prashant Patel, DO

Trends and 30-Day Readmission Rate for Patients Discharged with Diabetes Mellitus with Complication: Analysis of 1,457,583 Admissions

Introduction
Diabetes mellitus (DM) with complication is a major cause of morbidity and mortality and is associated with a high re-admission rate (RR) and economic burden on health care. This study was done to determine demographic parameters associated with high RR secondary to DM.
Methods
Nationwide Inpatient Sample data was used to extract data of patients discharged with DM for year 2012-2014 using clinical classification software (CCS). NIS represents 20% of all hospital data in US. All the patients who were discharged with primary diagnosis of DM with complications and readmitted within 30 days were identified and categorized based on admitting diagnosis. Patients were classified as readmissions secondary to DM with complication as primary cause, readmissions with DM with complication as secondary cause and non-DM associated readmissions. Chi-square analysis was done for statistical significance.
Results
We identified a total of 1,457,583 admissions for DM nationwide during the study period with total 30-day RR of 45.7%. 30-day RR for DM as primary diagnosis accounted for 9.1%. Age group (18-44), females, patients under Medicaid and living in metropolitan areas had higher 30-day RR secondary to DM as a primary cause and secondary to non-DM related causes ($p<0.01$).
Conclusion
Our study identifies the demographic parameters associated with high 30-day readmission rate for Diabetes mellitus with complications. It reveals that DM with complications is associated with high 30-day RR. Strategies to reduce morbidity and healthcare cost should be targeted more in these groups with high RR.

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Oral #22 Category: Research

Institution: University of Michigan – Ann Arbor
Program Director: John DelValle, MD, FACP
Presenter: Carmel Ashur
Additional Authors: L. Farhat, E. Norton, J.B. Froehlich, D.J. Pinsky, K.M. Kim, S. Fukuhara, M.G. Deeb, H. Patel, K.A. Eagle, B. Yang, M. Hofmann

Seasonal Variation of Acute Type A Aortic Dissection - A Call for Action to Vaccinate Against Influenza in High Risk Populations

Introduction: A higher incidence of acute type A aortic dissection (ATAAD) during winter months has been described; and seasonal variation is independent of climate and associated with influenza activity.
Methods: We compared monthly admissions for ATAAD at our institution against seasonal influenza activity data obtained from the Centers for Disease Control (CDC) and Michigan Department of Health & Human Service (MDHHS). We compared influenza vaccination rates (VR) for patients receiving their primary care at our medical center stratified by five different diagnosis codes.
Results: From July 1997 to April 2018 we treated 667 patients with ATAAD. Over this study period, there were on average 62.8 cases/month for December-March compared to 50.29 cases/month for April-November (p=0.002). When comparing the three months with the highest influenza activity in Michigan for each year for 2005 to 2017, we found 3.9 cases/month and 3.2 cases/month during non-flu season (p=0.040). There was increased intraoperative mortality (2.1% vs 0.3%, p=0.04) and a trend towards higher 30-day mortality (7.9% vs 5%, p=0.14) in patients treated November-March (n=317) versus April-October (n=357). We queried EHR from 2000-present and compared VR among thoracic aortic aneurysm/dissection (TAAD) (n=1,214, VR=23%) versus CAD (n=9,116, VR=27%, p=0.003), diabetes (n=21,248; VR=27.5%, p=0.0025), hypertension (n=58,139; VR=28.5, p=0.0001) and chronic pulmonary disease (n=34,867; VR=27%, p=0.004).
Conclusion: Our data confirms seasonal variation in ATAAD with higher event rates in the winter and peak flu season months. Influenza vaccination rates are low in patients at risk for TAAD calling for increased awareness in this patient population.

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Oral #23 Category: Research

Institution: WSU Internal Medicine – Rochester
Program Director: Sarwan Kumar, MBBS, FACP
Presenter: Anubhav Jain
Additional Authors: Ankita Aggarwal, Vrushank Patel, Sarwan Kumar

Effect of Albumin on Anti-Coagulation with Warfarin: Is it just a Theory?

Background: Warfarin is a protein-bound drug. Thus, it has been a concern that hypoalbuminemia could cause over-anticoagulation in these patients. We studied patients on warfarin to look for an association between the number of readmissions with supratherapeutic INR and their baseline albumin level.
Methods: This is a retrospective cross-sectional study which recruited patients from a community hospital who were on warfarin for atrial fibrillation and were admitted with the primary diagnosis of supratherapeutic INR from June 2017 to June 2018. Electronic medical records was reviewed to access data on patient demographics, co-morbidities, re-admissions with supratherapeutic INR, albumin levels at baseline and in every re-admission. Linear regression and student T-Test was used to assess the association between albumin and readmissions with supratherapeutic INR. Multiple linear regression analysis was employed to assess for the effect of other co-morbidities.
Results: 290 patients had multiple admissions with supratherapeutic INR. Mean age was 67.8 ±16.4 years with 44% (128) males and 55% (162) females. On linear regression analysis, there was no association between the number of re-admissions and their baseline albumin (p-value > 0.01). A students t-test was used to compare the mean number of readmissions between the normal albumin group and low albumin group. The mean number of readmissions were similar in 2 groups that are patient's with normal albumin and patients with low albumin.
Conclusion: We did not find any correlation between the number of readmissions with supratherapeutic INR and baseline albumin level. It appears that the effect of albumin on warfarin is more of a theoretical concept than a practical finding. Further studies are needed to solidify our findings.

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Oral #24 Category: Research

Institution: Western Michigan University School of Medicine – Kalamazoo
Program Director: Joanne Baker, DO, FACP
Presenter: Michael Reaume
Additional Authors: Mireya Diaz, Vishal Deepak, Joanne Baker, Spencer Winters

Compliance with Low Tidal Volume Mechanical Ventilation in Obese Patients with Acute Respiratory Distress Syndrome

Background: Mechanical ventilation with low tidal volume ventilation (LTVV) improves mortality in Acute Respiratory Distress Syndrome (ARDS). Nonetheless, multiple studies have demonstrated poor compliance with this recommended intervention. Our study aimed to evaluate the use of LTVV in obese patients compared to their non-obese counterparts.
Methods: Subjects were retrieved from the MIMIC-III Critical Care Database. Adult subjects with an admitting diagnosis of ARDS (ICD-9-CM 518.82, 518.85) who were mechanically ventilated using a volume-control ventilation modality were included. Our cohort of 169 subjects were then grouped by standard body mass index (BMI) cutoffs. We evaluated 'compliance' with LTVV (defined as a tidal volume of 8mL/kg predicted body weight or less) in all groups at two intervals: 1) initial ventilator setting 2) lowest set tidal volume at any point.
Results: In our analysis of initial ventilator settings, 48.0% of subjects received LTVV. Subjects with a normal BMI received LTVV in 70.8% of cases versus 34.1% in obese subjects. Evaluating the lowest tidal volume prescribed, 58.0% received LTVV. Subjects with a normal BMI received LTVV in 81.3% of cases versus 42.7% in obese subjects. At both intervals, subjects with a prescribed tidal volume that is compliant with LTVV decreases with increasing BMI ($p < 0.001$).
Conclusions: Obese patients with ARDS are less likely to be prescribed LTVV, and compliance with LTVV has an inversely proportional relationship to BMI. Poor compliance with LTVV is more prevalent in obese patients, and further research is needed to delineate why clinicians choose higher tidal volumes for this subpopulation.

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Oral #25 Category: Clinical Vignette

Institution: Mercy Health – Grand Rapids
Program Director: Mark Spoolstra, MD, FACP
Presenter: Michael Davis
Additional Authors: Allie Eickholtz, Nasir Khan, MD, Ha-neul Seo, MD

Behcet Syndrome and the Diagnostic Challenges in the Acute Setting

Behcet syndrome is a rare systemic inflammatory condition associated with both small and large vessel vasculopathies. The diagnosis can be difficult because it is a clinical diagnosis that requires the clinician to rule-out numerous other systemic diseases. Our patient is a 31 year old male who presented with three days of worsening severe right eye pain and blurry vision. On presentation to the hospital, he was found to have panuveitis of the right eye, a swollen right knee, erythema nodosum of the left anterior leg, and oral and genital ulcerations. Besides the right eye pain, the patient reported that some of these findings he noticed previously over the course of the last 3 months. The patient was emergently started on atropine and prednisolone eye drops by ophthalmology and started on antifungal and antivral therapy by ID for concerns of a disseminated infection. The patient was stable throughout the hospital stay and was ultimately discharged with close follow-up on eye drops and antivirals.
The patient in this case presented a diagnostic challenge with the acuity of his ocular symptoms. He met criteria for Behcet syndrome with his oral and genital ulcers, erythema nodosum, and panuveitis. While rare, Behcet syndrome is an important systemic condition that must be considered when other systemic diseases have been ruled-out.

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Oral #26 Category: Clinical Vignette

Institution: Sparrow Hospital – Lansing
Program Director: Peter Gullick, DO
Presenter: Lawrenshey Charles
Additional Authors: Lawrenshey Charles DO, Robert Gumbita DO, Jason Liu DO, Thomas Bergren DO, Sonya Gupta, DO

Excessive Inhaled Nitrous Oxide Induced Subacute Combined Degeneration—No Laughing Matter

Introduction:
Nitrous oxide (N2O) is a colorless, tasteless, and odorless gas with relaxant and euphoric properties. It's cheap, readily available, and undetectable on routine drug screen. High concentrations of inhaled N2O may lead to subacute combined degeneration. We present a case of myelopathy secondary to vitamin B12 deficiency resulting from N2O abuse.
Case Presentation:
A healthy 19 year-old male presented with progressive bilateral LE paresthesia and ataxia. He was inhaling 100-150 N2O cartridges weekly. Neurologic examination revealed deficits to vibration, proprioception, weakness, and diminished reflexes in bilateral LE. Labs were significant for pancytopenia, profound vitamin B12 deficiency (55 ng/mL) and elevated methylmalonic acid (1.75 umol/L). UDS was negative. MRI showed subacute degeneration of the spinal cord dorsal column at C2-C5. Treatment with IM cyanocobalamin resulted in normalization of pancytopenia and B12 levels (573 ng/mL). Patient had partial resolution of neurological symptoms and continued rehabilitation is planned.
Discussion:
Recreational N2O use has been increasing and poses serious health risk with long-term neurological sequelae. N2O irreversibly inactivates cobalamin resulting in demyelination, most notable on MRI with symmetric increased T2 signal in posterior/lateral columns of cervical and thoracic spinal cord, and B12 deficiency. B12 deficiency mimics hematological malignancies, multiple sclerosis, and Guillain-barre syndrome making it a great masquerader. Patients can present with ascending paresthesia, weakness, ataxia, and loss of sphincter control. Better recognition, prompt investigation, and early therapy can result in improvement of neurological function in N2O induced B12 deficiency. B12 deficiency of unclear etiology should spark a suspicion for N2O toxicity.

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Oral #27 Category: Research

Institution: WSU Internal Medicine – Rochester
Program Director: Sarwan Kumar, MBBS, FACP
Presenter: Toribiong Uchel
Additional Authors: Mulham Shikh Hamdon, Manishkumar Patel, Sarwan Kumar

Dexmedetomidine as Adjuvant Therapy in Management of Alcohol Withdrawal Syndrome in ICU: Retrospective Cohort Study

PURPOSE
The purpose of this study is to evaluate the potential benefits of dexmedetomidine when combined with benzodiazepine for alcohol withdrawal syndrome (AWS).
METHOD
This is a retrospective cohort study. Charts of ICU patients with AWS were reviewed. Patients were divided into the study group (benzodiazepine and dexmedetomidine) and control group (benzodiazepine alone). Primary outcome was incidence of endotracheal intubation, and secondary outcomes were average daily benzodiazepine doses and length of stay. Adverse events noted were hemodynamic instability.
The study group had an incidence of 1/15 (6.6%) for endotracheal intubation versus 4/20 (20%) from control group. The study group used 2.89 mg less lorazepam per day, 13.17 mg/day versus 16.06 mg/day from the control group (0.101 - 5.80) (p= 0.5).
In the study group, the average daily requirement of benzodiazepine decreased after the addition of dexmedetomidine from 1.9 mg/hour to 0.22 mg/hour. This was a decrease of -1.60 mg/hour (-2.09 - -1.26) (p< 0.0001).
The incidence of hemodynamic instability was 4/20 (20%) in the control group and 5/15 (33.3%) in the study group.
There was no significant different in ICU LOS between the two groups, 3.6 days (study) versus 3.7 days (control).

CONCLUSION
The data from this study reveals a benefit of initiating patients with AWS on dexmedetomidine with benzodiazepine. This is due to lower incidence of respiratory failure and less benzodiazepine requirement. The study provides opportunity for clinicians to safely manage AWS patients avoiding undesirable complications of excessive benzodiazepine use, while transitioning patients to independence of alcohol.

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Oral #28 Category: Clinical Vignette

Institution: University of Michigan – Ann Arbor
Program Director: John DelValle, MD, FACP
Presenter: Sarah Uttal
Additional Authors: Jeffrey T Gibbs MD, Raymond Y Yeow MD, and Jawad T Al-Khafaki MD

Sepsis – The Great Masquerader

A 68-year-old man with history of systolic heart failure, bioprosthetic mitral valve (MV) replacement, and rheumatoid arthritis (RA) presented with 3 months of diffuse joint pain and weakness. He presented to the emergency room multiple times, each time treated for worsening RA flare with steroids, in addition to home immunosuppressants methotrexate and leflunomide. Pain was specifically worsening at his left knee. After running out of medications, his weakness progressed and he was admitted with diffuse arthralgias, new thrombocytopenia, acute kidney injury and elevated inflammatory markers. Physical exam demonstrated pain out of proportion on left knee and apical systolic murmur. Bedside left knee aspiration yielded frank purulent fluid and broad-spectrum antibiotics were started. Echocardiogram demonstrated a large 2.0 x 0.8cm vegetation on the MV with new severe mitral stenosis, echodensity on the aortic valve, and depressed ejection fraction 10% (from 45%). Blood cultures grew gram positive cocci in clusters. Due to concern for bioprosthetic endocarditis cardiothoracic surgery was consulted. Patient progressively became unstable due to septic and cardiogenic shock necessitating transfer to the intensive care unit. Simultaneous left knee arthrotomy with debridement and MV replacement were performed. Postoperative course was complicated by new arrhythmias and ischemic stroke. This case highlights the challenge in diagnosing sepsis in patients with autoimmune disease, and resulted in critical learning points regarding when to suspect sepsis in such patients, to avoid treatment delays and detrimental outcomes. The case's learning points focused on identifying red flags in history, physical exam, and selective diagnostic work-up.

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Oral #29 Category: Clinical Vignette

Institution: Western Michigan University School of Medicine – Kalamazoo
Program Director: Joanne Baker, DO, FACP
Presenter: Wasif Elahi Shamsi
Additional Authors: Prashant Patel, D.O.

The Forgotten Disease: An Atypical Case of Lemierre's Syndrome Presenting as a Shoulder Abscess

Lemierre's Syndrome (LS) is an acute oropharyngeal infection with secondary septic thrombophlebitis of the internal jugular vein (JV) and distant septic emboli. Formerly called "the forgotten disease," it is a rare and potentially fatal disease.

A 29-year-old female presented to an urgent care center with sore throat, shortness of breath and left shoulder pain. She was prescribed azithromycin for pneumonia. About four days later, she presented to the emergency department with progressive worsening of the same symptoms. Her vitals revealed she was febrile, tachycardic, tachypneic, and hypoxic. Labwork revealed a leukocyte count of 32K, with predominantly neutrophils. Computed topography of neck and chest showed multiple loculated abscesses of the left shoulder, retro-clavicular soft tissue, right peritonsillar region, and thrombosis of a branch of right external JV and multiple bilateral septic emboli to the lungs. She was started on clindamycin and ampicillin-sulbactam, but due to septic shock, the patient required intensive care unit (ICU) support. She underwent drainage of the left shoulder abscess, with cultures growing Fusobacterium nucleatum. After a complicated course in the ICU, the patient clinically improved and was transferred to medicine floor.

LS usually involves internal JV, but can involve the external JV or its branches. Although pulmonary septic emboli are common, rarely musculoskeletal abscesses can occur as an unusual presenting symptom. Our case highlights that LS requires prompt diagnosis and management to prevent progressive decline. Clinicians should consider this diagnosis in young patients with an unresolving sore throat, persistent fever, as it can be fatal if undiagnosed.

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Oral #30 Category: Clinical Vignette

Institution: St. Joseph Mercy – Ann Arbor
Program Director: Patricia McNally, MD, FACP
Presenter: Rami Bzeih
Additional Authors: Alexendre Carvalho, Eghosa Idumwunyi, Rebecca Daniel

Diffuse Large B-Cell Lymphoma Presenting as Questionable Renal Primary Tumor

Diffuse large B-cell lymphoma (DLBCL) is the most common histologic subtype of Non-Hodgkin's Lymphoma. Very rarely, it can present as a primary renal malignancy, known as Primary Renal Lymphoma (PRL)

A 62 year old male presented to the ED with non-specific symptoms including progressive weakness, loss of appetite, and weight loss. Initial labs were significant for elevated calcium level of 15.7 mg/dL, and serum creatinine of 2.03 mg/dL, well above his baseline. Staging CT's revealed large infiltrative mass involving the right renal pelvis. There were moderately to markedly enlarged lymph nodes noted throughout the abdomen and chest. Left retroperitoneal lymph node and right renal mass biopsies revealed DLBCL. The patient was initiated on R-CHOP therapy, with CT evidence of response to therapy 2 weeks later.

A diagnosis of PRL can only be made if there an absence of other nodal or extranodal involvement. Here, there is diffuse nodal involvement thus making a diagnosis of PRL highly questionable. The inherent difficulty of diagnosing early stage renal cancer and aggressiveness of DLBCL makes diagnosing PRL incredibly challenging. Finally, it is important to recognize often overlooked telltale signs of renal malignancy, notably hypercalcemia and rising serum creatinine. Doing so can help expedite a patient's diagnosis and initiation of treatment.