

Poster #1

Category: Clinical Vignette

Institution: Ascension Macomb Hospital

Program Director: Deborah LeVan, DO

Presenter: Sean Dawes

Additional Authors: Jared Frisby DO, Christopher Webster DO

Acute Interstitial Nephritis Due to Acute Retroviral Syndrome

Acute interstitial nephritis is an uncommon cause of acute kidney injury. This inflammatory process is typically provoked by medications, but infections and autoimmune diseases are also implicated. We present a case of acute interstitial nephritis caused by acute retroviral syndrome.

A 72 year old male originally presented to the emergency room with a complaint of progressive dyspnea and generalized weakness over 6 weeks. Patient's vitals and orthostatic blood pressure were within normal limits. Initial laboratory workup was significant for a new acute kidney injury, creatinine of 2.17 with baseline of 0.9. Physical exam was significant for bilateral paratracheal lymph nodes and mild splenomegaly. CTA showed bilateral hilar lymphadenopathy and ground glass opacities. Urinalysis was significant for microscopic hematuria with significant proteinuria. ECHO, renal ultrasound, tuberculosis and autoimmune workup were unremarkable. His creatinine stabilized at 1.7 with gentle hydration. Patient was found to be HIV positive with a CD4 count of 550. Renal biopsy revealed chronic interstitial nephritis without glomerular lesions. He was discharged on a steroid taper and ART. In the absence of typical etiologies, it was concluded that his presentation was due to acute retroviral syndrome. This case illustrates the board work up required for unknown causes of acute kidney injury and utility of HIV screening in generalized weakness. While new onset HIV unusual in older patients, it should be considered if typical etiologies of weakness are not present. This case is also interesting as there are few cases of HIV causing acute interstitial nephritis.

Poster #2

Category: Clinical Vignette

Institution: Ascension Macomb Hospital

Program Director: Deborah LeVan, DO

Presenter: Jared Frisby

Additional Authors: Sean Dawes, Kinal Panel, Christopher Webster.

An Unusual Case of Complement-Mediated Hemolytic Uremic Syndrome From Factor H Mutation Presenting with Nephrotic Syndrome

Atypical hemolytic uremic syndrome (HUS) or complement-mediated HUS is a relatively rare entity, manifesting as microangiopathic hemolytic anemia, thrombocytopenia, and acute kidney injury. Complement-mediated HUS are usually caused by genetic mutations of the complement cascade.

We are reporting a case of a 47 year old Caucasian female with a progressive decline in GFR. Her initial lab results were significant for serum creatinine of 2.1 mg/dl, microscopic hematuria and >3 grams of proteinuria on spot urine protein/creatinine ratio. Bilateral lower extremity edema was noted on physical exam. A complete serologic workup was ordered to investigate the etiology of these findings. The only significant serology result was a mildly low C3. A kidney biopsy was completed which revealed chronic thrombotic microangiopathy (TMA). While microangiopathic hemolytic anemia or thrombocytopenia were not present, her biopsy results suggested the possibility of complement-mediated HUS, treatable with eculizumab. She underwent genetic testing for complement deficiencies, revealing a presumed de-novo mutation of complement factor H. She was started on eculizumab and referred for a potential kidney transplant. After 6 months of treatment, she has not required a transplant and her GFR has stabilized at 25-28.

This case study illustrates the complexity of chronic kidney disease and glomerulonephritis. Kidney biopsy remains the gold standard for confirmation of chronic kidney disease etiologies. With a prompt diagnosis, many causes of glomerulonephritis will respond to treatment and prevent the development of end stage renal disease.

Poster #3

Category: Clinical Vignette

Institution: Ascension Macomb Hospital

Program Director: Deborah LeVan, DO

Presenter: Rita Kathawa

Additional Authors: Jared Frisby D.O., Sean Dawes D.O., Kinal Patel D.O., Leslie Terrell D.O. , Molly Veale D.O.

Case of Creutzfeldt-Jakob Disease Presenting as Rapidly Progressive Dementia

Dementia and delirium have become increasingly prevalent within our population. This requires physicians to be astute in differentiating dementia and delirium. In this case, we present a patient with rapid onset dementia.

A 76-year-old gentleman presented from a nursing home for altered mental status. Vitals were significant for tachycardia of 100. Laboratory workup showed hypernatremia of 159. Upon examination, patient was alert, non-communicative and would only withdraw from noxious stimuli. His heart rate and sodium improved with gentle hydration, but his mental status was unchanged. Family was contacted who revealed that the patient was functional 2 months ago until he became confused and non-communicating consistent with presentation. With review of outside hospital records, patient underwent an extensive workup for sudden onset altered mental status. He was ultimately diagnosed with Creutzfeldt-Jakob disease based off significantly elevated tau protein and 14-3-3 protein. Despite grim prognosis, family refused hospice care. Patient was ultimately discharged back to the nursing home.

This case illustrates the importance of communication with family in the setting of dementia and delirium. It also shows the value of extensive history taking when establishing or confirming a diagnosis of dementia. While a brain biopsy is the gold standard for diagnosis, further research is needed to evaluate the efficacy of biomarkers in Creutzfeldt-Jakob disease.

Poster #4

Category: Clinical Vignette

Institution: Ascension Macomb Hospital

Program Director: Deborah LeVan, DO

Presenter: Ishwer Patel

Additional Authors: Javier Aguilar-Aragon, M.D.; Benjamin Collins-Hamel, D.O.

Neurological Complications of VZV in an Individual with a Rare HIV Resistant Mutation

Introduction:

Varicella-Zoster virus (VZV) is a worldwide, infectious and exclusively human pathogen that belongs to the herpesvirus family. Clinically, VZV can cause a widespread of neurologic complications, typically after a vesicular eruption. We present a unique case of an immunocompromised individual with highly resistant HIV that develops VZV meningitis preceded by a vesicular exanthem and further complicated by vasculitis.

Clinical Case:

A 27-year-old African American male with known HIV and prior cerebral aneurysms presented with an acute, painful vesicular rash along the L3 dermatome resembling chickenpox. Labs were remarkable, except for an absolute CD4 count of 125. He was initiated on IV Acyclovir for disseminated herpes zoster. Furthermore, he developed fevers and complaints of headaches with diplopia without localized focal neurological deficits. CT head was negative and lumbar puncture showed lymphocytic pleocytosis (2,162 WBC, 69% lymphocytes) and significant protein elevation of >600mg/dL with positive VZV by PCR. He was discharged home on a course of PO valacyclovir. However, within 5 days of discharge, he returned to the ED with complaints of left hemiplegia. MRI brain showed an acute right thalamic stroke, which was due to zoster vasculitis, a rarely associated complication of VZV reactivation.

Conclusion:

This case exemplifies the risk of immunocompromised individuals to develop reactivation of VZV and further causing meningitis and vasculitis. Although meningitis can be a rare complication, <1%, in individuals following reactivation of herpes varicella, it is important to clinically recognize and treat, as the incidence is slowly increasing over previous decades.

Poster #5

Category: Clinical Vignette

Institution: Ascension Macomb Hospital

Program Director: Deborah LeVan, DO

Presenter: Christine Plichta

Additional Authors: Sean Dawes, DO, Kinal Patel, DO, Jared Frisby, DO, Christopher Webster, DO, Stephen Kehres, DO

Renal-Limited p-ANCA Vasculitis

ANCAs are auto-antibodies associated with various vasculitides and pauci-immune crescentic glomerulonephritis (PICG), leading to the designation of ANCA-associated vasculitis (AAV). There remains a subset of vasculitides nonspecifically categorized as "pauci-immune glomerulonephritis with ANCA positivity." Conventional immunosuppressive therapy remains the standard treatment. Biologics, such as Rituximab, have been shown to be as effective as conventional immunosuppressive therapy in inducing remission. However, there are limited data confirming safety and efficacy of these therapeutic agents.

We report a 56-year-old male with a history of diabetes mellitus and hypertension presenting with severe headaches for three months. He failed multiple antibiotics from presumed sinusitis. Nasal endoscopy and brain MRI were unremarkable. Significant features of initial presentation include elevated blood pressure and creatinine and bilateral lower extremity edema. The patient's headaches improved with blood pressure control, however his creatinine and edema remained unchanged. Glomerulonephritis was suspected due to positive MPO and p-ANCA antibodies. Patient was discharged and referred for a renal biopsy. Biopsy results revealed AAV in the setting of pauci-immune crescentic glomerulonephritis. Patient was subsequently treated inpatient with pulse steroids and Rituxin.

Management of AAV requires awareness of the immunosuppression burden along with controlling the disease activity. Modified treatment protocols with the use of newer agents, such as Rituximab, have maintained positive outcomes with some decreased toxicity. However, current studies indicate that treatment limitations of incomplete efficacy and cumulative toxicity still remain. Further studies for safer, efficacious, and cost-effective targeted therapy regimens is warranted if patients are to receive effective and appropriate therapy for AAV.

Poster #6

Category: Clinical Vignette

Institution: Ascension St. John Hospital – Grosse Pointe

Program Director: Raymond Hilu, MD, FACP

Presenter: Bishoy Abraham

Additional Authors: Dominic Brink, MD, Rajaninder Sharma, MD, FACP

Fibromuscular Dysplasia Presented by TIA with History of Chronic Headaches and Cervical Pain

Introduction

Fibromuscular dysplasia (FMD) is nonatherosclerotic noninflammatory vascular disease that most commonly affects renal and internal carotid arteries. We present a rare case of fibromuscular dysplasia with a clinical presentation of exertional symptoms.

Case Presentation

A 51 years old female presented with sudden onset exertional left lower extremity weakness and perioral numbness as she was playing with her baby. Patient had longstanding history of headaches and neck pain. On physical exam, patient had left lower extremity weakness. CT head was negative. CTA revealed beaded appearance of the bilateral internal carotid arteries in the neck consistent with fibromuscular dysplasia. Patient underwent cerebral angiogram which confirmed previous findings. Patient's symptoms improved, and she was started on aspirin.

Discussion

FMD is nonatherosclerotic noninflammatory vascular disease involving renal arteries in 75-80%. Approximately 90% of cases are women. There are two major angiographic subtypes: multifocal and focal. Presenting symptoms include: headache, chronic neck pain, cervical bruit, TIA or stroke. FMD is most frequently diagnosed using imaging techniques. CTA is preferred over MRA. The treatment of cerebrovascular FMD depends upon the absence or presence of symptoms. Antiplatelet therapy with aspirin is reasonable for all patients. Percutaneous balloon angioplasty is recommended for patients with stroke. Stenting is preserved for patients with suboptimal angioplasty results or for patients with dissection who fail anticoagulant therapy.

Conclusion

Exertional headache, neck pain or TIA should raise suspicion of cerebrovascular disease. Fibromuscular dysplasia should be considered in otherwise healthy patients with no risk factors for atherosclerosis.

Poster #7

Category: Clinical Vignette

Institution: Ascension St. John Hospital – Grosse Pointe

Program Director: Raymond Hilu, MD, FACP

Presenter: Saif Affas

Additional Authors: Louis Saravolatz, MD, Tarik Hadid, MD

Sphenoidal Air Sinus Plasmablastic Lymphoma in Immunocompetent Patient

Plasmablastic lymphoma (PBL), which is categorized as a distinct subtype of diffuse large B-cell lymphoma (DLBCL), is a very rare disease which characterized by the presence of neoplastic cells resembling B immunoblast, but have immunophenotype features of plasma cells.

PBL is often reported in the oral cavity of HIV infected patients. It was extremely rare to be reported in HIV- negative patients or to involve non-oral organs.

Non-oral PBL usually involve the maxillary air-sinus and ethmoidal air-sinus but has never been reported in the sphenoidal air sinus.

Case report

A 75 years old man presented after 2 weeks history of nasal congestion that failed outpatient antibiotics treatment course for presumptive diagnosis of bacterial sinusitis. On examination, patient had left fascial swelling, redness and left side conjunctivitis, no Lymphadenopathy or hepato-splenomegaly appreciated. Computed tomography (CT) scan of maxillofacial showed complete opacification of the left sphenoid sinus with osseous erosion. Magnetic resonant imaging (MRI) identified a mass lesion in left cavernous sinus and opacification of the sphenoidal sinus. Patient underwent bilateral endoscopic sphenoidotomy with biopsy, which revealed plasmacytoid cells positive for CD79a and weakly for CD138 with strong EBV staining and Ki-67 >90% but was negative for CD20.

Radiological body scan, Bone marrow biopsy and cerebrospinal fluid analysis were normal and showed no metastasis. HIV serology was negative.

Patient was diagnosed with Stage I-B plasmablastic lymphoma. He was treated with EPOCH followed by external beam radiation therapy.

Poster #8

Category: Clinical Vignette

Institution: Ascension St. John Hospital – Grosse Pointe

Program Director: Raymond Hilu, MD, FACP

Presenter: Maha Alfaraidhy

Additional Authors: Bassent Botros MD, Matthew Wilkins MD, Micheal Kern MD, Leonard Johnson MD FACP

Descending Necrotizing Mediastinitis; A Rare Complication of Peritonsillar Abscess

Introduction: Peritonsillar abscess is a known complication of acute tonsillitis and other odontogenic infections. The standard treatment includes penicillin base therapy with incision and drainage. Descending necrotizing mediastinitis (DNM) is a rarely described complication that involves extension into the mediastinum and thorax from oropharyngeal infections.

Case: A 47-year female presented to an urgent care for a dental abscess of the right lower jaw and was placed on oral clindamycin given that she had a penicillin allergy. Several days later, she presented to the emergency department with progressive sore throat, right-sided facial swelling, odynophagia, and dyspnea. CT scan demonstrated a peri-tonsillar abscess. Bedside and subsequent intraoperative I&D's were done, IV clindamycin was continued but the patient had persistent fever, increased leukocytosis as well as cough. Repeat CT demonstrated a right loculated empyema with extension to the mediastinum. Thoracotomy was done to drain loculated effusion and a mediastinal abscess. The operative culture grew *Streptococcus anginosus* which was resistant to clindamycin. The patient's antibiotics were changed to ceftriaxone and metronidazole with gradual improvement. The patient was discharged to complete one month of adjuvant antibiotic therapy.

Conclusion: While peritonsillar abscess is a common complication of odontogenic infections, extension into the mediastinum and thorax (DNM) is a rare complication. In our case, this was likely due to inadequate antibiotic coverage despite multiple I&D's. Clinicians should be aware of this rare complication as well as potential resistance of oral flora to clindamycin.

Poster #9

Category: Clinical Vignette

Institution: Ascension St. John Hospital – Grosse Pointe

Program Director: Raymond Hilu, MD, FACP

Presenter: Jinan Al-Naqeeb

Additional Authors: Susan VanDellen DO, FACP

Hydrazine Induced ANCA-Associated Vasculitis : A Unique Presentation of an Ulcerative Variant

Introduction: Drug-induced anti-neutrophil cytoplasmic antibody (ANCA) associated vasculitis is a rare adverse effect of Hydralazine, and presents similarly to idiopathic ANCA-associated vasculitis. Diagnosis and treatment of this disease remain challenging. We highlight a unique presentation of Hydralazine-induced ANCA-associated vasculitis that required long-term immunosuppressive therapy.

Case Presentation: A 30-year-old female with a history of hypertension treated with Hydralazine, presented after developing a purpuric rash on her extremities, followed by the development of ulcerations on both legs. Examination revealed large, stage III, deep ulcers on bilateral anterior tibial regions. A workup for malignancy was negative. Serological tests showed high titers of perinuclear (P) - ANCA, anti-myeloperoxidase (MPO). CT scan of the abdomen showed hepatosplenomegaly. A biopsy from an ulcerative lesion showed perivascular inflammation consistent with vasculitis. Hydralazine was discontinued and she was started on prednisone 30 mg daily, followed by a combination of prednisone and azathioprine for two years. Kidney and lung functions remained normal. The ulcerations ultimately healed after two years.

Discussion: Here we present a unique case of Hydralazine-induced ANCA-associated vasculitis with primarily skin involvement, with sparing of the kidneys and the lungs. To our knowledge, this is the first reported case of Hydralazine-induced ANCA-associated vasculitis that presented as deep skin ulcerations. Additionally, the majority of drug-induced ANCA-associated vasculitis cases improve after withdrawing of the offending drug. In this case, prolonged treatment with immunosuppressive therapy was required. Although rare, the recognition of unusual presentations of Hydralazine-induced ANCA-associated vasculitis by clinicians is important for timely initiation of treatment.

Poster #10

Category: Clinical Vignette

Institution: Ascension St. John Hospital – Grosse Pointe

Program Director: Raymond Hilu, MD, FACP

Presenter: Kootaybah AlSheikhly

Additional Authors: Andrew Boshara MD, Antonious Attallah MD

Clozapine-Induced Pericardial Tamponade

Introduction:

Clozapine is known for its notorious side effects affecting the heart. It can cause myocarditis and cardiomyopathy. We report a case of clozapine-induced pericardial effusion with tamponade

Case presentation:

A 46-year-old female, with a past medical history of pulmonary embolism on rivaroxaban, schizophrenia, and polysubstance abuse, presented with exertional dyspnea for one day. She denied other symptoms. Physical examination was normal except for distant heart sounds. Transthoracic echocardiogram identified a large pericardial effusion circumferential to the heart with evidence of tamponade physiology. She was immediately admitted to the hospital. Electrocardiogram showed normal sinus rhythm with low voltage QRS. Chest X-ray showed an enlarged cardiac silhouette. A pericardial window was performed with drainage of two liters of straw-colored fluid, which tested negative for malignancy or infection. The pericardial biopsy did not reveal any pathology. She was started on clozapine two months ago for her schizophrenia. Two weeks after starting clozapine, she presented to her cardiologist's office for follow up and was diagnosed with pericardial tamponade. Clozapine was discontinued and a repeat echocardiogram performed 17 days later showed only trivial residual pericardial effusion.

Discussion:

There are few case reports of clozapine-associated pericardial effusion and tamponade. The unique feature of the case is its severity and the need for pericardial window on two occasions.

Conclusion:

Clozapine-induced pericardial tamponade is a rare but life-threatening adverse effect. Physicians should be aware of this potential side effect in order to facilitate timely identification and treatment in order to avert a fatal outcome.

Poster #11

Category: Clinical Vignette

Institution: Ascension St. John Hospital – Grosse Pointe

Program Director: Raymond Hilu, MD, FACP

Presenter: Peter Boshara

Additional Authors: Zachary Pounders DO, Quresh Khairullah MD

Antibiotics Versus Electricity: A Case of Complete Heart Block Associated with Legionnaires' disease

Introduction: Known, albeit rare, cardiac manifestations of Legionella disease include endocarditis, myocarditis, pericarditis, and pericardial effusion. Only three cases of Legionella-related conduction disturbance have been reported in adults, one of which demonstrated high-grade AV block.

Case: The patient is a 75-year-old male with a history of end-stage renal disease on hemodialysis, diabetes and hypertension who complains of fever, chills, shortness of breath and diarrhea for 1-week duration. Home medications included Atorvastatin, Amlodipine and Hydralazine. He was hypertensive, tachypneic, febrile to 102.4°F, and hypoxic to 88% on room air. Lab work revealed leukocytosis, anion gap metabolic acidosis, lactic acidosis and elevated Procalcitonin without electrolyte abnormalities. Chest X-ray revealed bilateral pulmonary infiltrates. Initial electrocardiogram (EKG) showed normal sinus rhythm, without baseline conduction defects. The patient was admitted for healthcare-associated pneumonia and treated with vancomycin and cefepime. Legionella sputum PCR returned positive and he was transitioned to levofloxacin. On day three of hospitalization, the patient developed persistent asymptomatic bradycardia. Repeat EKG showed complete heart block with junctional escape rhythm; there was no prolongation of QTc interval. He was evaluated by electrophysiology and deemed stable for discharge on levofloxacin without a temporary pacemaker. A 1-week follow-up EKG revealed normal sinus rhythm with total resolution of AV block, such that there was no need for a permanent pacemaker.

Conclusion: Legionella should be considered in patients who present with new-onset cardiac conduction disturbance in the setting of community-acquired or healthcare-associated pneumonia. Early recognition and treatment is essential to recovery from this reversible, infectious conduction disturbance.

Poster #12

Category: Clinical Vignette

Institution: Ascension St. John Hospital – Grosse Pointe

Program Director: Raymond Hilu, MD, FACP

Presenter: Benjamin Huber

Additional Authors: Baker Hillawy M.D., Elizabeth Bankstahl M.D., FACP

Acute Pancreatitis and Troisier's sign as the Herald Symptom for Metastatic Small Bowel Adenocarcinoma

Troisier's sign is the asymptomatic swelling of Virchow's Node, a lymph node located in the left supraclavicular fossa. Classically, Troisier's sign in the appropriate clinical setting is suggestive of gastric cancer, although other causes have been described. In this clinical vignette we present a case of acute pancreatitis with Troisier's sign later found to have small bowel adenocarcinoma.

The patient is a 45-year-old female who presented with a chief complaint of sudden onset epigastric abdominal pain which radiated to her back. Physical examination revealed epigastric tenderness and a nonpainful enlarged lymph node in the left supraclavicular fossa. Lipase was elevated > 600 unit/L, and a clinical diagnosis of pancreatitis was made. Initial abdominal ultrasonography and chest CT were unremarkable. Patient denied drinking alcohol, calcium was 9.9mg/dL, and triglycerides were 54mg/dL. CT abdomen/pelvis was obtained revealing a 3.5cm lesion in the liver and multiple peripancreatic masses. Excisional biopsy of the node was performed. ERCP revealed an ulcerative mass in the duodenum. Pathology identified adenocarcinoma consistent with a small bowel primary. Similar pathology was found in Virchow's Node. The patient's pancreatitis resolved with standard treatment and she was discharged with oncology follow up.

This case illustrates the importance of a thorough physical exam in the management and diagnosis of common conditions such as pancreatitis. Although most pancreatitis cases are secondary to alcohol or gallstones, recognition of history and physical warning signs such as Troisier's sign can greatly assist in narrowing the differential diagnosis; of which abdominal cancer is always included.

Poster #13

Category: Clinical Vignette

Institution: Ascension St. John Hospital – Grosse Pointe

Program Director: Raymond Hilu, MD, FACP

Presenter: Zaid Noori

Additional Authors: Daniel Lebovic MD

Rare Case of Thrombotic Thrombocytopenic Purpura (TTP) Presenting as Recurrent Strokes Preceding Hematological Findings by Weeks

Introduction:

Thrombotic thrombocytopenic purpura (TTP) is a hematological emergency caused by reduced activity of von Willebrand factor-cleaving protease ADAMTS13. It involves thrombocytopenia, hemolytic anemia, and sometimes organ damage. We report an unusual TTP presentation of recurrent neurological symptoms preceding hematological manifestations.

Case presentation:

A 48-year-old female with a history of uterine leiomyoma, and hypertension presented with two episodes of hemiparesis and numbness. Brain MRI on both occasions showed small infarcts in the right anterior cerebral artery distribution. She was stabilized and discharged on Aspirin and Clopidogrel. However, a week later, the patient presented with right sided hemiparesis and numbness. Imaging studies showed evidence of infarction in the left MCA distribution. Due to high clinical suspicion of a cardioembolic etiology, Rivaroxaban was initiated. One week later, she presented with vaginal bleeding. Her labs showed a 4 gm drop in hemoglobin, and platelets count of 10 K/mcl (previously normal). Hemolysis workup was positive, including schistocytes on peripheral blood smear. ADAMTS13 activity was <5%. Plasma exchange, steroids, and Rituximab were started. Her platelets normalized, and her neurologic findings resolved. She was discharged on prednisone in stable condition.

Discussion:

TTP typically presents with severe hemolytic anemia and thrombocytopenia. However, not all patients with TTP are critically ill. Some present with mild symptoms. Neurologic findings are common, ranging from mild confusion and headache to seizures, strokes or coma. Additionally, there are rare case reports of patients presenting with recurrent stroke-like symptoms prior to developing hematologic abnormalities, similar to our patient.

Poster #14

Category: Clinical Vignette

Institution: Ascension St. John Hospital – Grosse Pointe

Program Director: Raymond Hilu, MD, FACP

Presenter: Abdllqwy Obeid

Additional Authors: Alaa Hajal, MD, Michael Yacoub, MD

Ketogenic Diet Resulting in Dry Beriberi

Introduction:

Low carbohydrate, high protein (ketogenic) diet has been gaining popularity worldwide, as an effective diet for rapid weight loss. Physicians and patients should be aware of the potential morbidity of such a diet, as this case demonstrates.

Case:

A 22-year-old female with no significant history presented with numbness and weakness in her legs. Her symptoms started 10 days prior with progressive ascending numbness to her knees, followed by weakness in hand grip, and unsteady gait. She denied difficulty breathing, leg or back pain, headaches, neck rigidity, bowel or bladder incontinence, fevers, or chills. She gave further history of a 50 lb weight loss after being on a ketogenic diet for 4 months, consuming less than 10g carbohydrates daily. Her exam revealed absent ankle and knee reflexes, and decreased light touch sensation below the knees. She had left foot-drop, and noticeable decrease in hand grip strength. Spinal fluid studies were unrevealing except for pleocytosis (WBC 23, lymph 100%). MRI of her brain and entire spine were unremarkable. Electromyography suggested an inflammatory motor and sensory neuropathy, with both demyelinating and axonal involvement. Thiamine level was 33 nmol/L (74-222). Repeat spinal fluid analysis revealed persistent lymphocytic pleocytosis (WBC 40). Thiamine deficiency, due to inadequate intake from ketogenic diet, led to dry beriberi resulting in quadriplegia.

Discussion:

Dry beriberi develops into a symmetrical peripheral neuropathy characterized by both sensory and motor impairment. Causes include TPN, bariatric surgery, and inadequate thiamine consumption. This case is alarming, demonstrating a ketogenic diet leading to quadraparesis.

Poster #15

Category: Clinical Vignette

Institution: Ascension St. John Hospital – Grosse Pointe

Program Director: Raymond Hilu, MD, FACP

Presenter: Sara Samaan

Additional Authors: Adam Cassella DO, Mamta Sharma MD, Louis Saravolatz MD
MACP

What Came First? A Case of Septic Portal Vein Thrombosis with *Bacteroides fragilis* Bacteremia

Introduction: Pylephlebitis is a rare but fatal condition characterized by infective portal vein thrombosis, typically as a complication of an intra-abdominal infection. We report a case of pylephlebitis caused by *Bacteroides fragilis*.

Case: A 70-year-old African-American transgender male with history of alcoholism, CAD, and hypertension, presented with left lower quadrant pain and lower back pain for 5 days. He also endorsed subjective fevers, chills, decreased appetite, weakness, and chronic constipation. Physical examination was remarkable for a fever of 102 °F and cachexia. Initial labs revealed WBC 27,000 with 94% polymorphs, normochromic anemia, elevated transaminases, direct hyperbilirubinemia, and lactic acidosis. Blood cultures grew *B. fragilis*. A contrast-enhanced computed tomography of the abdomen and pelvis revealed enlarged left para-aortic lymph nodes, portal vein thrombosis, and sigmoid diverticulosis. He was started on Ceftriaxone, Metronidazole, and heparin drip. Over the next few days the patient improved and repeat blood cultures remained negative. He was discharged on Eliquis, Ciprofloxacin and Metronidazole for 4 weeks with outpatient follow-up.

Discussion: Pylephlebitis has been commonly associated with diverticulitis and appendicitis. In this case, the infection likely resulted from bacterial translocation from diverticulosis. *B. fragilis* is the most common cause, followed by *Escherichia coli*. *Bacteroides* has been linked to pylephlebitis due to the coagulation cascade via production of transient anticardiolipin antibodies. It is a serious infection with significant mortality and should be treated with antibiotics for 4 to 6 weeks. The efficacy of anticoagulation is debatable. *B. fragilis* bacteremia should caution one to search for an intra-abdominal focus.

Poster #16

Category: Clinical Vignette

Institution: Ascension St. John Hospital – Grosse Pointe

Program Director: Raymond Hilu, MD, FACP

Presenter: Jordan Swisher

Additional Authors: Fawad Shahid M.D.

Sevoflurane in the Setting of Refractory Status Asthmaticus

41-year-old female with past history of asthma was brought to hospital in severe asthma exacerbation leading to cardiac arrest. She was resuscitated for 45 minutes before achieving ROSC. She was subsequently intubated, admitted to the ICU, and started on hypothermia protocol. Patient was noted to have severe mixed respiratory and metabolic acidosis with pH of 6.97, PCO₂ 76 and a bicarb of 12. Multiple standard modalities of treatment were pursued including continuous nebulized albuterol, IV steroids, magnesium sulfate. Patient was saturating well on 40% FiO₂ but had high peak airway pressures in the 50's with significant auto PEEPing.

Pt was heavily sedated and paralyzed using nimbox infusion. Ketamine was started for additive bronchodilator effect. Respiratory rate was dropped to 8 and I:E ratio was increased to 1:12. Despite these measures, pt kept deteriorating with worsening respiratory acidosis.

Hence patient was taken to the OR for sevoflurane inhalation therapy. After an hour of inhalation at targeted MAC of 1.5, tidal volumes increased from 500 mL to 750 mL. ABG pre-and post procedure demonstrated pH 7.11 to 7.31, PCO₂ dropped from 111 to 56. Patient was continued on albuterol, IV steroids; ketamine and nimbox were weaned off. Respiratory status remained stable throughout the rest of ICU stay. Unfortunately, she did not have any meaningful improvement in neurological status. This case stands as an example of the multimodal approach and innovative treatments in the setting of refractory status asthmaticus.

Poster #17

Category: Clinical Vignette

Institution: Ascension St. John Hospital – Grosse Pointe

Program Director: Raymond Hilu, MD, FACP

Presenter: Jose Zamora-Sifuentes

Additional Authors: Gerald Whitney, MD

Hidden in Plain Sight: A Case of Malignancy Masquerading as Lower Extremity Cellulitis

INTRODUCTION

Erythematous unilateral lower extremity swelling is a common presenting complaint with a wide differential diagnosis. Although rare, lymphoma can present with obstructive lymphedema and lower extremity cellulitis, further complicating a seemingly straightforward picture.

CASE PRESENTATION

Our patient is a 48-year-old female who presented with unprovoked, left lower extremity swelling for three days. On examination, she had severe edema and erythema, extending from foot to hip with p'eanu d'orange changes. She was initially started on a course of antibiotics. CT Venogram ruled out deep venous thrombosis. CT abdomen/pelvis showed bilateral lymphadenopathy of inguinal, iliac, and retroperitoneal nodes, in addition to hepatosplenomegaly, two hepatic masses, mild bilateral hydronephrosis, and extensive subcutaneous edema. She was positive for hepatitis C. LDH was 485. Excisional biopsy of the right axillary lymph node showed nodal marginal zone B-cell lymphoma. She was discharged in stable condition with outpatient follow-up to oncology for induction chemotherapy and infectious disease for Hepatitis C treatment.

DISCUSSION

Although usually benign and uncomplicated, the differential diagnosis for unilateral lower extremity swelling with skin changes is extensive and requires a high index of suspicion for alternative diagnoses. Malignancy, such as lymphoma, should be considered as part of the differential diagnoses as it can cause obstructive lymphedema and additional complications. In these cases, a thorough history and physical is particularly imperative to avoid misdiagnosis, delays in treatment, and subsequent poor outcomes.

Poster #18

Category: Clinical Vignette

Institution: Ascension Providence Hospital – Southfield

Program Director: Robert Bloom, MD, FACP

Presenter: Christopher Hakim

Additional Authors: Eric Nguyen, Constantine Melitas, & Kha Ngo

UnDRESSing Elevated Liver Enzymes

The differential diagnosis for liver transaminases over 1000 units/liters typically includes liver ischemia, acute viral hepatitis, acetaminophen-induced liver toxicity, and autoimmune hepatitis. We present a case of liver transaminases over 1000 units/liter from an atypical etiology.

A 52-year-old male with history of hypertension, CKD, GERD, and gout presented with persistent intermittent fevers of 39C. During a previous hospitalization he developed a gout flare and was started on allopurinol. Soon after starting allopurinol, he developed a diffuse morbilliform rash. On initial exam, vitals were within normal limits and laboratory data revealed white blood cell count within normal limits, hemoglobin 7.9 gm/dL, platelet count 71 K/mcl, INR 1.1, AST 878 unit/L, ALT 1,117 unit/L, as well as peripheral eosinophilia. Viral hepatitis serologies, autoimmunity studies, and viral markers for EBV, CMV, HSV, and varicella were all negative. Given that he had taken a "high risk medication," weeks before presentation, subsequently presented with fevers, rash, and renal impairment and now developed peripheral eosinophilia, DRESS syndrome secondary to allopurinol was diagnosed.

Drug reaction with eosinophilia and systemic symptoms (DRESS) is a rare, potentially life-threatening, drug-induced hypersensitivity reaction. The diagnosis of DRESS is suspected in a patient who received a drug treatment, such as allopurinol, and presents with characteristic symptoms including skin rash, liver involvement, hypereosinophilia, and lymphadenopathy. Dress typically causes transaminase elevations, but usually not in the 1000s, as seen in our patient. Supportive therapy and prompt withdrawal of the offending agent is the primary treatment.

Poster #19

Category: Clinical Vignette

Institution: Ascension Providence Hospital – Southfield

Program Director: Robert Bloom, MD, FACP

Presenter: Nour Hammad

Additional Authors: Ali Zakaria MD, Nader Warra MD

Miller Fisher Syndrome

Miller Fisher Syndrome (MFS) is a rare variant of Gullian Barre syndrome (GBS) with an incidence of one per million population. Our patient developed MFS after upper respiratory tract infection (URTI) with resolution of symptoms five days with IVIG infusion.

A 31 year-old white male patient with past medical history of hypothyroidism and type II diabetes mellitus presented with sudden onset diplopia and retro-orbital pressure of one week duration. His right eye was deviated downward and inward. He had unsteady gait and recurrent falls. He complained of intermittent bilateral upper extremity numbness and tingling with no weakness. He had an URTI ten days prior and finished a course of azithromycin. Neurological exam revealed decrease eye abduction bilaterally. Reflexes 0/4 in upper and lower extremities bilaterally. His laboratory workup revealed C-reactive protein 10.9 mg/L, erythrocyte sedimentation rate 25 mm/hr, normal CBC and CSF analysis, negative ANA, Lyme, and syphilis titers, and normal serum protein electrophoresis. Anti-GM1 (ganglioside) antibodies were negative. Brain imaging studies were unremarkable. He received intravenous immune globulin (IVIG) for five days with complete resolution of symptoms.

MFS presents with a triad of ophthalmoplegia, ataxia, and areflexia. MFS is preceded by URTI in 56–76% of the patients. The pathogenesis is related to the antiganglioside anti-GQ1b IgG antibody. Rapid onset bilateral ophthalmoplegia is the most common symptom. Full recovery is usually seen within six months. IVIG and plasmapheresis may decrease the disease course and prevent progression to more serious conditions such as GBS.

Poster #20

Category: Clinical Vignette

Institution: Ascension Providence Hospital – Southfield

Program Director: Robert Bloom, MD, FACP

Presenter: Maria Karapetyan

Additional Authors: Ali Zakaria , MD2, Ziyad Iskenderian, MD1 , Husarsky Eliot, MD2

TB or Not TB

Introduction:

Tuberculosis (TB) causes approximately three million deaths per year worldwide and occurrences are increasing in developed countries. Abdominal TB, which may involve the gastrointestinal tract, peritoneum, solid viscera, and lymph nodes. Abdominal TB accounts for five percent of all tuberculosis cases. Family history revealed that her grandmother was diagnosed and treated for pansensitive TB. She did not live with her grandmother but was certainly exposed during regular visits. At that time, she was tested for latent TB. Test results were negative.

Case Description:

The 19-year-old female showed 3 weeks of abdominal pain, bilious emesis, diarrhea, and 20 pounds of sudden weight loss. She had abdominal tenderness and Ascites. Imaging revealed bilateral adnexal lesions with mesenteric lymphadenopathy. CEA, CA-19.9 were positive. Due to initial concern of carcinomatous disease, OB/GYN consulted and the patient underwent open laparotomy. The patient suffered 6 iatrogenic enterotomies, due to "Frozen Abdomen" during surgery. Multiple specimens were obtained intraoperatively revealing granulomatous findings. PCR for Mycobacterium Tuberculosis complex was tested and it was negative.

Rifampin, Levaquin, Isoniazid were issued parenterally. Multiple surgeries were conducted after complications from the first attempt. Follow-on surgeries resulted in Sepsis, and ultimately death, due to multiorgan failure. The final cultures confirm positive for TB.

Conclusion:

Abdominal TB skirts normal convention. Although age, rarity, and family history made this a rare occurrence, abdominal pain, weight loss, and ascites were indicators that this patient required a deeper look for something out of the ordinary.

Poster #21

Category: Clinical Vignette

Institution: Ascension Providence Hospital – Southfield

Program Director: Robert Bloom, MD, FACP

Presenter: Avery Mendelson

Additional Authors: Ziyad Iskenderian MD

Cryptogenic Stroke or Systemic Sclerosis Complication: A Curious Case

A 56 year old Caucasian male presented to the hospital with acute right sided hemiparesis and dysphasia. CT scan found changes consistent with left middle cerebral artery occlusion. Fortunately, the patient presented within the therapeutic window for tissue plasminogen activator (tPA) administration. He also received a mechanical thrombectomy. His NIH stroke scale on admission was found to be eighteen. After tPA and thrombectomy, his NIH scale was three. The patient was a lifelong non-smoker, had no history of elevated cholesterol, or hypertension, and no family history of stroke. The patient was recently diagnosed with Systemic Sclerosis with coexisting esophageal dysmotility, and Raynauds phenomenon. Cardiology evaluated the patient with echocardiogram, revealing no atrial septal defect, or patent foramen ovale. A loop recorder found no evidence of atrial fibrillation. CT angiography of the head and neck revealed no stenosis of the arteries. Hematologic evaluation yielded no evidence of hypercoagulability, antiphospholipid syndrome, lupus anticoagulant, or cardiolipin antibody. He was evaluated for myeloproliferative disorder that may have led to this stroke, however a JAK2 mutation was absent. This patient is young and lacks many of the common risk factors associated with cerebrovascular accident (CVA). After significant evaluation for etiologies of this patients' stroke, no cardiac or hematologic cause was found. It is possible that the patients' Systemic Sclerosis, independently, resulted in macrovascular changes that put him at an increased risk of CVA. Although a definite causative relationship between his Systemic Sclerosis and stroke cannot be established, it remains a likely etiology.

Poster #22

Category: Clinical Vignette

Institution: Ascension Providence Hospital – Southfield

Program Director: Robert Bloom, MD, FACP

Presenter: Chad Stennett

Additional Authors: Samira Ahsan, MD; Muhammad Ahsan, MD; Robert Singer, MD.

Porphyria Cutanea Tarda: A Potential Harbinger of Hepatitis C Infection

Chronic hepatitis C virus (HCV) infection has become one of the most common causes of chronic liver disease and affects an estimated 2.4 million individuals in the United States alone. A substantial number of extrahepatic manifestations are seen over the natural history of the disease, with skin being a commonly involved organ. Porphyria cutanea tarda (PCT) is a well-documented dermatologic condition associated with HCV and among this population is believed to carry an overall prevalence as low as 1%. A 61-year-old African American male with a history of ESRD, CVA, and intravenous drug use presented with complaints of generalized weakness and was found to have pseudomonas bacteremia. On physical examination multiple lesions in various stages of healing on the dorsum of both hands were observed. He described them starting as blisters which would easily break, eventually forming a scab. A shave biopsy performed after discharge revealed porphyria and elevated serum porphyrin levels confirmed the diagnosis of PCT, distinguishing it from pseudoporphyria—a condition mimicking PCT both clinically and histologically but without serum porphyrin elevation. The patient was screened for HCV infection with a positive result and since beginning treatment has noticed near resolution in his skin symptoms.

It is often times years before individuals with HCV infection develop symptoms and when they do, the first signs may manifest in the skin. This case highlights just one of the considerable number of dermatologic conditions associated with HCV infection and the need to further investigate skin findings in this group of individuals.

Poster #23

Category: Clinical Vignette

Institution: Authority Health – Detroit – Internal Medicine

Program Director: Joel Appel, DO

Presenter: Samra Huda

Additional Authors: Dr. Zohair Ahmed

"I'm One in a Million!" A Case of Stiff Person Syndrome

Stiff Person Syndrome (SPS) is a rare neurological disorder that is characterized by progressive rigidity of the axial and limb muscles causing severe mobility impairment. Classic SPS is related to antibodies against glutamic acid decarboxylase (GAD). SPS has an incidence of 1 case per million per year. Due to the rarity and complex manifestations, this disease is often misdiagnosed.

A 38-year old African American gentleman presented to the clinic with progressive difficulty in ambulation. Although he had left-sided hemiparesis from a prior CVA, he was able to work before these symptoms. He was referred to PT/OT along with psychiatry for possible conversion disorder and to follow-up in one month to review labs (including a full antibody panel). There was a lapse in follow-up. A year later, he presented to the hospital for severe, unbearable back spasms. Labs were significant for a CPK > 17,000 and he was treated for rhabdomyolysis of unknown etiology. He was discharged on valium, lidocaine patches, and Flexeril. Follow-up at the clinic showed elevated GAD-65 antibody levels (5,111 nmol/L) and he was diagnosed with SPS. These patients will experience prolonged spasms with enough trauma to cause rhabdomyolysis and bone fractures. Treatment with benzodiazepines and muscle relaxants were no longer effective and he was started on IVIg with improvements in his mobility. The efficacy of IVIg was not sustained and plasmapheresis will be initiated. SPS is a debilitating disease leading to reduced quality of life. Awareness of this rare disorder can lead to timely diagnosis and management.

Poster #24

Category: Clinical Vignette

Institution: Authority Health – Detroit – Internal Medicine

Program Director: Joel Appel, DO

Presenter: James Vu

Additional Authors: Modar Alom, MD; Ahmad Aburashed, MD;

Oh No! He Can't Go! A Rare Case of Ogilvie's Syndrome

Ogilvie's Syndrome (known as acute colonic pseudo-obstruction – ACPO) is a rare, acquired disorder characterized by colonic dilatation without mechanical obstruction. The incidence and prevalence of ACPO is unknown. Common clinical manifestations include abdominal distension, abdominal pain, nausea, and vomiting. Timely diagnosis and treatment are required to prevent life-threatening complications and invasive interventions.

An 80-year old gentleman with a history of COPD presented with acute hypoxic respiratory failure requiring mechanical ventilation. He required ICU management for sepsis secondary to aspiration pneumonia. A few days after admission, we noted that he had no bowel movements, despite normal abdominal exam, negative digital rectal exam, lactulose, and multiple tap water enemas. On day 4 of hospitalization, his abdominal exam revealed distention and tympany with hypoactive bowel sounds. Abdominal x-ray showed distended gas-filled colon throughout the abdomen with a maximum colonic diameter 9.12 cm. Conservative treatment with decompression tube and neostigmine were attempted. Due to lack of response, multiple colonoscopic decompression were completed, leading to resolution of his pseudo-obstruction resulting in defecation.

Although a rare disorder, Ogilvie's syndrome is under-recognized. Our case is a patient, who acquired Ogilvie's syndrome while being managed in the ICU. His risk factors include elderly, male, pneumonia, benzodiazepine, opioid, anticholinergic, and electrolyte imbalance. Physicians should be aware of the clinical presentation and include Ogilvie's syndrome in the differential for patients with distended abdomen. Failure of early recognition can result in perforation and ischemia leading to high morbidity and mortality.

ACP Michigan Chapter, Residents Day 2019

Poster #25

Category: CQI/EBM

Institution: Authority Health – Detroit – Internal Medicine

Program Director: Joel Appel, DO

Presenter: Jennifer Wollack

Additional Authors: Trang Dang, DO, Joel Appel, DO

Too Many Choices – Too Long of a Time! Impact of Multiple Order Choices for Evaluation of Inpatient DVTs

Introduction: The electronic health system has helped to modernized the “paper-work” of healthcare so that time can be used more efficiently. At times, it can be a hinderance to patient care. We noted that there are multiple order choices for inpatient deep vein thrombus (DVTs) evaluation. However, only one is the “right” choice. We hypothesized that choosing the “wrong choice” can lead to delayed tests resulting in an increase length of stay (LOS).

Methods: A retrospective analysis on electronic charts from one year of Residency (July 2016 – June 2017) were reviewed. Inclusion criteria consisted of patients > 18 years old with any orders used to investigate DVTs. This resulted in a total of 1,699 patients. Variables of interest focused on the impact of “wrong” orders on length of stay and delay in anticoagulation.

Results: 2.6% of DVT orders were placed incorrectly. The most common incorrect choices were ultrasound (56%) and Duplex (44%). Of these, 11% had an acute DVT diagnosed with more than half not started on empiric anticoagulation. Delay in discharge resulted in an extra day in the LOS.

Conclusion: Although 2.6% of orders assessing for DVTs were incorrect, this led to an extra day in the LOS. Fortunately, there were no acute consequences in these patients. At this current time, there is no system in place that automatically notifies Physicians of the wrong orders – most often, they are revealed when orders have not been completed for a few days.

Poster #26

Category: Clinical Vignette

Institution: Beaumont Hospital – Dearborn

Program Director: Ruaa Elteriefi, MD, FACP

Presenter: Mahad Ahmed

Additional Authors: Saeed N., Aguilieri J., Bangash R., Orlang C, Noujaim D., Tapia-Zegarra G.

Ruptured Cyst Presenting with Meningitis in Untreated Neurocysticercosis (NCC)

CASE: 31 yo immigrant gentleman from rural Mexico, with PMH of meningitis s/p VP shunt placement for hydrocephalus (9 years prior-NCC was suspected due to brain calcifications and positive taenia solium IgG, without further treatment). He presented with a headache, neck pain and fever x 1 day. PE: AOX4, no meningeal signs, fundoscopic exam normal. Labs were normal. CT-head: calcifications. MRI: cervical leptomeningeal enhancement with inflammation from ruptured cyst.

Empiric antibiotics started for meningitis. LP revealed neutrophilic leukocytosis, low glucose, high protein, with negative culture. CSF PCRs were negative for herpes simplex, varicella zoster, cytomegalovirus, adenovirus and enterovirus. However, EITB (enzyme-linked immunoelectrotransfer blot) NCC antibody was positive in CSF and serum. Praziquantel/albendazole were given for 6 months, with steroid taper. After therapy, inflammation on MRI resolved, without further symptoms.

DISCUSSION: Neurocysticercosis, caused by *T. Solium* tapeworm, only presents with chronic meningitis in 8% of known cases, while acute meningitis is very rare. Common presentations are nausea/vomiting, headache, focal deficits and seizures. IDSA recommends brain CT (for calcifications) and MRI (for identification of scolex and hydrocephalus) as first steps, with subsequent serum and CSF ETIB testing for confirmation. Subarachnoid NCC should prompt imaging of the entire spine.

Antiparasitic therapy should always be started with steroids to decrease inflammation. In our patient, appropriate testing could have prompted antiparasitic therapy 9 years prior.

CONCLUSION: Patients from endemic areas with neurological symptoms, must get CT and MRI brain immediately, followed by confirmatory testing if positive. Early confirmation may prevent long term neurological complications.

Poster #27

Category: CQI/EBM

Institution: Beaumont Hospital – Dearborn

Program Director: Ruaa Elteriefi, MD, FACP

Presenter: Mohamad El Abdallah

Additional Authors: Israa Ibrahim MD, Ammar ElJack MD, Tooba Rehman MD, Heba Habbal MD, Hammam Shereef MD, Najlaa Alsudani MD, Rajiv John MD, Ruaa E

Improving Safety on Long-Term Controlled Substances Via Urine Drug Screen Monitoring: An Interprofessional Approach

Introduction: Although guidelines recommend annual urine drug screens (UDS) to improve safety on long-term controlled substances, adherence to this practice in primary care remains subpar (less than 8 to 15% adherence in the literature). Our resident-run internal medicine clinic with an embedded pharmacist previously demonstrated improvement in the proportion of patients on long-term controlled substances who had a controlled substance agreement (CSA) signed. In this project, our clinic adopted a strategy to further improve safety on controlled substances via appropriate UDS, which is a parameter included in our CSA.

Study Design: “Plan-Do-Check-Act”

Aim: To increase UDS for patients on long-term controlled substances to >50% over 5 weeks.

Study Design: “Plan-Do-Check-Act” quality improvement (QI) initiative

Methods: The percentage of patients on long-term controlled substances (>3 continuous months or recurrent use >6 months) with a new UDS obtained was assessed 5 weeks after implementation of interprofessional interventions to improve monitoring. In January 2019, the clinic pharmacist helped identify patients meeting policy criteria and educated medical residents, providers, and staff to ensure new UDS were discussed and obtained during patient visits. The outcome was percentage of UDS obtained for eligible patients.

Results: A total of 90 patients on long-term controlled substances were included in this analysis. Prior to QI initiatives, 23% (n= 21) of eligible patients had a UDS completed, which increased to 60% (n=54) five weeks post-QI.

Conclusion: The first PDSA cycle demonstrated improved UDS adherence, which is a tool to enhance safety on long-term controlled substances by identifying misuse and diversion.

Poster #28

Category: Clinical Vignette

Institution: Beaumont Hospital – Dearborn

Program Director: Ruaa Elteriefi, MD, FACP

Presenter: Heba Habbal

Additional Authors: Tooba Rehman, MD; Hammam Shereef, MD; Mahad Ahmed, MD; Hafsa Parpia, MD; Ruaa Elteriefi, MD; Rajiv John, MD

Leukocytoclastic Vasculitis (HSP): A Childhood Disease in an Adult

Introduction:

Leukocytoclastic vasculitis, Henoch-Schönlein purpura (HSP) is a small vessel vasculitis associated with systemic IgA-immune deposits and vascular inflammation in childhood (90% of cases) and less commonly seen in adults. We present a rare case of HSP in an adult with severe renal and gastrointestinal involvement.

Case presentation:

A 56-year-old Caucasian female with medical history of alcoholic liver cirrhosis presented with bilateral lower extremity rash for 3 weeks and generalized abdominal pain and hand swelling. She reported a URI 4 weeks prior. Exam revealed palpable non blanchable purpura. Laboratory work revealed new renal failure with a creatinine of 3.6 mg/dl. Skin biopsy showed dermal inflammation and extravasation of erythrocytes. She was given IV methylprednisolone 125mg daily. Kidney function continued to worsen hence continuous renal replacement therapy was started. Kidney biopsy (delayed due to coagulopathy) showed IgA nephropathy. Her hospital course was complicated by terminal ileum perforation. Eventually, she developed DIC which is associated with severe HCP and passed away under hospice care.

Clinical Significance and Discussion:

Overall, this patient shared signs and symptoms of abdominal pain, purpuric rash, terminal ileum perforation, and rapid renal failure with other adult patients previously reported in the literature. However, unlike them, histopathology did not reveal leukocytoclastic vasculitis. Furthermore, HSP carries a relatively poor prognosis in adults compared to children, and even more so in the setting of multiple comorbidities. Combinations of pulse dose steroids, immunosuppressive agents, and plasmapheresis have yielded mixed results in small series, beckoning further investigation for an effective regimen.

Poster #29

Category: Clinical Vignette

Institution: Beaumont Hospital – Dearborn

Program Director: Ruaa Elteriefi, MD, FACP

Presenter: Ahmed Hashim

Additional Authors: Pooja Modi, Ammar Eljack, Hassan Mouzaihem, Xiaofan Mi, Thomas Russo, Raai Mahmood, Cecilia Big, Kevin Jamil, Rajiv John

Sternoclavicular Joint Abscess Necessitating Empyema: Four ER Visits in Six Days

Introduction: This is a case of Sternoclavicular Joint (SCJ) infection deceptively and rapidly crossing fascial planes to necessitate empyema over 6 days. SCJ infection is a rare disease, accounting for 1% of all infections. Risk factors are surmised to include IV drug use and diabetes mellitus.

Case Description:

A 52-year-old man with PMH of DM presented to the ED four times in six days. In the first three visits, he had worsening pectoral and shoulder pain and was symptomatically treated and discharged. During the first ED visit, CT Neck was negative. In the second ED visit, CTA was negative for PE. Three days later, CTA neck showed density from the left first rib to the left sternoclavicular joint, suggesting hematoma and chest wall contusion. On the final ED visit, CT chest showed a left anterior chest wall abscess contiguous with a left upper lobe empyema. VATS confirmed empyema and revealed costochondral and sternoclavicular joint abscess. Decortication, SCJ resection, and pectoralis muscle debridement were performed. MSSA was isolated from surgical cultures. After pectoralis muscle flap closure, he was committed to 6 total weeks of IV cefazolin.

Clinical Significance and Discussion: The compelling factor in this case is how fast an MSSA SCJ infection progressed to empyema, and how elusive the diagnosis was, evading multiple health care professionals. CT findings of SJI might not be seen in the first 14 days. Almost 50% of culture positive infections are Staphylococcus Aureus, are usually confined to the joint and respond to treatment well.

Poster #30

Category: Clinical Vignette

Institution: Beaumont Hospital – Dearborn

Program Director: Ruaa Elteriefi, MD, FACP

Presenter: Raai Mahmood

Additional Authors: saeed N; Al-bana K; Sawah A; pooja M ; parpia H ; sanstrum J; Eljak A

Hypophysitis Mystery: Diagnostic Delimma of Neurosarcoid

Hypophysitis refers to inflammation of the pituitary gland and/or infundibulum. It can be primary (xanthomatous, lymphocytic) or secondary (TB, neurosarcoidosis, syphilis&autoimmune disorders).Neurosarcoidosis presents a diagnostic dilemma especially in the absence of extraneural involvement.

We present a case of 52y f with PMH of hypertension,stroke and hypothyroidism presented with 10 months hx of extensive polyuria and polydipsia,vitally stable.Blood work showed normal serum Na with low urine osmolality at 161.Water depravation test showed low urine osmolality as well but after ADH administration urine osmolality increased from 164 to 468 and central diabetes insipidus was diagnosed.Further workup including Brain MRI revealed thickening of pituitary infundibulum and leptomenigeal enhancement,her LP showed high protein, high IgG and lymphocytic predominance.her Quantiferon was also positive(at this point DDX was limited to TB and neurosarcoidosis other etiologies including autoimmune and tumor causes were excluded) but given absence of extraneural signs of sarcoid and normal ACE level and her proven exposure to TB presumptive diagnosis of TB was made however despite 9 months of anti-TB therapy LP and MRI failed to show improvement and neurosarcoid became the leading diagnosis. To date patient is undergoing preparation for brain/meningeal biopsy.

we concluded that Early diagnosis and immunosuppression for isolated neurosarcoidosis is the key in improving clinical outcomes. MRI and LP can guide us towards patients in whom an empiric trial of steroids is appropriate however in certain occasions and despite the risks associated with brain biopsy it might be necessary to prove neurosarcoid especially in the absence of extraneural tissue.

Poster #31

Category: Clinical Vignette

Institution: Beaumont Hospital – Dearborn

Program Director: Ruaa Elteriefi, MD, FACP

Presenter: Naba Saeed

Additional Authors: Mohammad Alsibae, Syed Tasleem

Immunosuppression After Liver Transplantation in the Face of Rhino-Orbito-Cerebral Mucormycosis: A Treatment Dilemma

INTRODUCTION: Rhino-orbito-cerebral mucormycosis is a rapidly fatal disease. It is seen most commonly in immunocompromised patients, and carries a high mortality rate of 85%.

CASE: 73 yo lady 1 yr s/p OLT (orthotopic liver transplant), on tacrolimus plus prednisone, presented with 2 weeks of rhinorrhea and sinus pain, and 3 days of left orbital erythema, edema, and fever. Imaging revealed extensive sinus opacification, extending to the left orbit and skull base, with osteomyelitis. Urgent nasal endoscopy showed turbinate and skull base necrosis. Biopsies found mucormycosis.

Immunosuppression was stopped, with close monitoring of liver enzymes. She underwent multiple debridements, alongside amphotericin-B/ micafungin therapy. After 2, low dose tacrolimus was restarted. Subsequent repeat endoscopy with biopsy revealed absence of mucormycosis and no further necrosis. She was later switched to and then discharged on posaconazole and low dose tacrolimus. 4 months later she remains asymptomatic, without evidence of rejection.

DISCUSSION: In OLT patients, mucormycosis is responsible for 21% of invasive fungal infections. Rhino-orbito-cerebral mucormycosis is much more dangerous than is graft rejection. Holding immunosuppression until eradication of fungal disease is reasonable. Furthermore, time to initiation of antifungal therapy is inversely proportional to survival in this population, necessitating a low threshold of suspicion.

CONCLUSION: Early initiation of antifungal therapy has the highest mortality benefit for transplant patients with mucormycosis infection. Holding immunosuppression during acute infection may improve outcomes in this population. Awareness must be raised about these benefits amongst internal medicine practitioners.

Poster #32

Category: Clinical Vignette

Institution: Beaumont Hospital – Royal Oak

Program Director: Sandor Shoichet, MD, FACP

Presenter: Sohail Farshad

Additional Authors: Figueroa, Fernando

The Central Nervous System Effects and Mimicry of Common Variable Immunodeficiency

Common variable immunodeficiency (CVID) has different clinical manifestations that can mimic other diseases such as sarcoidosis. In addition, there is a scarceness of information on the central nervous system involvement of CVID. We present the case of a 30-year-old woman with a history of recurrent upper respiratory infections, vitiligo, and immune thrombocytopenic purpura who presented with gradually progressing right sided numbness and paresthesia. Magnetic resonance imaging (MRI) of the spine revealed a thoracic signal hyperintensity with spinal cord swelling and incidentally found diffuse pulmonary nodules. MRI of the brain demonstrated a T2 hyperintensity in the right middle frontal gyrus. Cerebral spinal fluid revealed a normal protein, normal glucose, normal angiotensin converting enzyme, and no oligoclonal bands. Serum immunoglobulins revealed a hypogammaglobulinemia. Endobronchial and subsequent mediastinum biopsies were all negative for sarcoidosis and malignancy. No infectious etiology was found. She was treated with glucocorticoids and intravenous immunoglobulin replacement therapy for transverse myelitis associated with CVID. Follow-up MRI of the thoracic spine and brain two months later showed a persistent but improved thoracic T2 signal and resolution of T2 signal in the brain. Her numbness improved but did not completely resolve, because of which methotrexate was added. Two years later her symptoms were stable, however, when the methotrexate dose was weaned, her numbness worsened and did not improve despite treatment with high dose glucocorticoids. This case demonstrates the similarities of CVID to sarcoidosis and its rare neurological complications, as well as the potential therapeutic effects of methotrexate.

Poster #33

Category: Clinical Vignette

Institution: Beaumont Hospital – Royal Oak

Program Director: Sandor Shoichet, MD, FACP

Presenter: Abdalla Kara Balla

Additional Authors: Ramy Mando, MD, Adam Hafeez, MD, Richard Bloomingdale, MD, Justin Trivax, MD

An Anginal Aneurysm

Introduction: Saphenous vein graft aneurysms (SVGA) are rare complications that are seen roughly 1% of the time following coronary artery bypass grafting. Other complications associated with SVGA include fistulas, right atrial compression, compression of surrounding arteries, acute coronary syndromes, and rupture.

Case presentation: An 83 years old male who underwent a CABG in 1994 presented with complaints of cough, back pain and exertional dyspnea for three months. Physical exam was notable for an elevated blood pressure of 167/101 mmHg. Cardiopulmonary examination was normal. CT of the coronary arteries revealed an incidental 5.4 x 4.0 cm aneurysm in the mid-body of the SVG compressing the pulmonary artery and left main coronary artery. The findings were confirmed with a diagnostic cardiac catheterization. Two weeks later, the patient underwent percutaneous intervention of the SVG and left circumflex artery and aneurysm repair with insertion of an 8 x 100 Viabhan covered stent. Prior to intervention, there was 50% stenosis noted between the SVG-circumflex with TIMI Grade 2 flow; post intervention, there was 0% stenosis with TIMI grade 3 flow. Patient was discharged home on dual antiplatelets therapy and was asymptomatic at two months follow up.

Conclusion: SVGA are considered an infrequent entity after CABG and requires a high index of suspicion. Definitive diagnosis is usually established with cardiac catheterization. Larger systematic reviews would be helpful in optimizing the management of this life-threatening complication.

Poster #34

Category: Clinical Vignette

Institution: Beaumont Hospital – Royal Oak

Program Director: Sandor Shoichet, MD, FACP

Presenter: Dillon Karmo

Additional Authors: Sohail Farshad, MD. Solomiia Savedchuk MD, Christopher Kanaan MS-3, Alexandra Halalau MD.

A Rare Simultaneous Presentation of Lupus Nephritis, Vasculitis, and Thrombotic Thrombocytopenic Purpura

Thrombotic thrombocytopenic purpura (TTP) is a potentially fatal disorder that requires prompt identification and treatment. The association of TTP with systemic rheumatic diseases such as systemic lupus erythematosus (SLE) and vasculitis has been reported, however, never simultaneously. A 32-year-old African American woman with a history of SLE presented with abdominal pain, vomiting, and a petechial rash. She was found to have lupus nephritis and an initially mild but rapidly progressive microangiopathic hemolytic anemia (MAHA). She was treated with intravenous methylprednisolone 500mg once a day but was not immediately started on plasmapheresis/plasma exchange (PEX) therapy. Within 48 hours her status rapidly declined and the patient expired. Labs later showed an ADAMTS13 activity of less than 10 percent consistent with TTP and anti-neutrophil cytoplasmic antibody (ANCA) was strongly positive for p-ANCA. Autopsy revealed vasculitis in the small vessels of the heart, small and medium vessels of the small and large intestines, and the myometrium, as well as diffuse proliferative membranous glomerulopathy. This case illustrates the rare and simultaneous occurrence of TTP, lupus nephritis, and vasculitis. In addition, the case demonstrates the importance of having a low threshold in initiating PEX therapy in a patient with a history of SLE with the suggestion of TTP while waiting for test results, as a delay in recognition and initiation of management can have fatal complications.

Poster #35

Category: Clinical Vignette

Institution: Beaumont Hospital – Royal Oak

Program Director: Sandor Shoichet, MD, FACP

Presenter: Madhupreet Kaur

Additional Authors: Alexandra Halalau, M.D. and Abhishek Swami, M.D. (both are faculty)

Atypical HUS caused by Interferon Beta Therapy

Interferon beta therapy (IFN β), an immunomodulatory agent used for treatment of multiple sclerosis (MS), has been linked to thrombotic microangiopathies (TMA) such as atypical hemolytic uremic syndrome (aHUS) in 10 previous case reports. A 61 y/o male with history of essential thrombocythemia (ET), chronic lymphocytic leukemia (CLL) and multiple sclerosis (MS), being treated with IFN β , presented with bilateral lower extremity swelling. Upon presentation, he was hypertensive at 172/61mm Hg. Labs revealed hemoglobin of 8.7g/dl, platelets of 192, LDH of 963 and creatinine elevated at 2.70(baseline 1.40). Urinary studies suggested nephritic syndrome. Additional work up showed 3-5 schistocytes and haptoglobin <8. Diagnosis of TMA was suspected despite normal platelet count because of the relative decline from a baseline of 500. Kidney biopsy showed active TMA. IFN β was held. Complement 3 level was reduced at 72 and aHUS was considered once ADAMTS13 was negative. He was treated with eculizumab for a year. Kidney function stabilized and repeat biopsy showed resolution of active TMA. This case is unique due to presence of an unusual combination of diseases in one patient such as ET, CLL and MS, now presenting with additional rare disorder of TMA. Thrombocytopenia is essential component in the diagnosis of TMA, however in this patient, platelets were normal due to existing ET, making the diagnosis difficult. The case highlights TMA as a rare side effect of INFB treatment and the need for high index of suspicion even if platelet count is normal.

Poster #36

Category: Clinical Vignette

Institution: Beaumont Hospital – Royal Oak

Program Director: Sandor Shoichet, MD, FACP

Presenter: Zahra Khaled

Additional Authors: Syed Farrukh Mustafa, Alexandra Halalau

Chikungunya Fever in the Returning Pregnant Traveler

Fever, joint pain and rash in a returning traveler represent a broad differential. Chikungunya is a particular concern for pregnant women because rarely vertical transmission causes severe disease in the newborn. We describe a case where such a patient returning from India tested positive for Chikungunya fever.

A 32 year old South Asian female at 30 weeks of gestation and remote history of Dengue fever, developed fever and right ankle and left knee pain on the eve of returning from India. She did not take pre-travel chemoprophylaxis and reported being exposed to mosquito bites during her stay. She had a temperature of 102.7 F and was tachycardic at 134 bpm. Physical exam demonstrated bilateral wrist tenderness, right inguinal adenopathy and right ankle swelling, erythema and warmth. Labs showed leukocytosis of 14.2 bil/L with neutrophilia. She was treated with cefazolin for right foot cellulitis attributed to insect bite. Blood cultures and malaria testing returned negative but Chikungunya IgM returned positive. She was treated supportively with intravenous hydration and analgesia. Fetal evaluation by obstetrics revealed normal fetal movements and fetal heart tracing category 1. Her symptoms resolved in a few days and she was discharged in a stable condition with an uneventful delivery later.

Chikungunya fever is an important cause of febrile illness in returning travelers to the United States. It can be challenging to diagnose given similarity to other tropical fevers but prominent polyarthralgia is an important diagnostic clue. More focus is needed on potential vaccines for prevention and chemoprophylaxis education.

Poster #37

Category: Clinical Vignette

Institution: Beaumont Hospital – Royal Oak

Program Director: Nancy Crossley, MD, Member

Presenter: Anuja Shikhare

Additional Authors: James Lim, MD; Alexandra Halalau, MD; Brett Holmes, MD

Atypical Presentation of Clostridium Difficile Infection

The absence of diarrhea is an atypical presentation of Clostridium difficile infection which can delay diagnosis and lead to poor outcomes.

An 81-year-old female presented with altered mental status and watery stools for two days. She was recently treated with antibiotics for urinary tract infection and suspected pneumonia. Initial workup showed leukocytosis, elevated pro-calcitonin, and lung opacities. She was started on treatment for healthcare associated pneumonia. Initial abdomen / pelvis computerized tomography (CT) showed large amount of stool with recto-sigmoid wall thickening without obstruction. Patient did not have bowel movement for 2 days after admission and was started on a bowel regimen. She showed initial improvement in mental status, but then developed abdominal pain. Abdominal film showed ileus and a nasogastric tube was placed for decompression. On repeat CT, there was interval progression of recto-sigmoid colon dilatation despite bowel regimen and nasogastric tube decompression. Decompressive flexible sigmoidoscopy was done 2 weeks after admission and yielded stool positive for C. difficile toxin. Oral Vancomycin and intravenous metronidazole were started. Unfortunately, she continued to decline and she was transferred to inpatient hospice 5 days after the C. diff treatment was initiated.

This represents a case of C. difficile infection in which diagnosis was delayed secondary to ileus and absence of diarrhea. System factors, which are in place to prevent undue testing, discourage or prevent testing of C. difficile toxin in absence of active diarrhea. Rectal swab and empiric treatment should be considered in such cases with high index of suspicion.

Poster #38

Category: Clinical Vignette

Institution: Beaumont Hospital – Royal Oak

Program Director: Sandor Shoichet, MD, FACP

Presenter: Priscilla Sigua Arce

Additional Authors: Majd Khasawneh, M.D., Alexandra Halalau, M.D., F.A.C.P

More Than Just Hiccups, Metastatic Cholangiocarcinoma

More than just hiccups, metastatic cholangiocarcinoma

Priscilla Sigua-Arce, M.D., Majd Khasawneh, M.D., Alexandra Halalau, M.D., F.A.C.P.

Hiccups is usually self-limited and benign in nature. It can be triggered by any disturbance in the reflex arc which includes brain stem, phrenic and vagus nerves.

Although rarely present in serious illness, 1% to 9% of advanced cancer patients can have it usually as a side effect of chemotherapy.

A 72-year-old man presented to the office with persistent hiccups for fifteen days, started soon after a surveillance colonoscopy. Trial of chlorpromazine failed to improve his symptoms. Labs showed a cholestatic pattern; computer tomography (CT) of chest, abdomen and pelvis reported hepatomegaly with multiple liver lesions, a nodular lesion in the spleen and multiple non-calcified lung nodules. A CT guided liver biopsy was recommended. Five days later, patient was admitted with intractable hiccups, anorexia and abdominal pain. Carcinoembryonic antigen, alpha-fetoprotein and leukocytes were elevated. Given imaging and laboratory findings, a diagnosis of metastatic disease with indeterminate primary was established. Liver biopsy showed intrahepatic cholangiocarcinoma. Throughout the hospitalization, hiccups persisted without improvement; the patient developed acute kidney injury with uremic encephalopathy requiring hemodialysis and acute diastolic heart failure with pulmonary edema which ultimately lead to multiple organ dysfunction with the patient expiring thirty-three days after the onset of hiccups.

This is the first case reported in the literature of hiccups as presenting symptom of cholangiocarcinoma. This case exemplifies that although hiccups may seem trivial, as it is usually benign, it should be taken seriously particularly when the duration is prolonged and response to physical maneuvers or medications has been poor.

ACP Michigan Chapter, Residents Day 2019

Poster #39

Category: Clinical Vignette

Institution: Central Michigan University – Saginaw

Program Director: Sethu Reddy, MD, FACP

Presenter: Madline Chembola

Additional Authors: Nzolo Uwaje. MD, Smitha Gudipati. MD

A Rare Bug in the Lung- Achromobacter Denitrificans

INTRODUCTION:

Achromobacter denitrificans is a gram negative, oxidase and catalase positive aerobic bacterium. This genus inhabits soil and aquatic environments. Rarely has this bacterium been shown to cause human infections. The first case of A. denitrificans causing pneumonia was in 2014.

CASE DISCUSSION:

55 year old male presented with symptoms of left sided pleuritic chest pain, SOB, productive cough, fever. PMH includes COPD, prostate cancer, hypertension, heroin abuse on methadone, hepatitis C, tobacco and alcohol abuse. Initial vital signs were temperature -102.6, heart rate-140, blood pressure -125/95, respiratory rate- 28, BMI - 15.7, saturation is 90% on 6 L oxygen and patient was having labored breathing. Initial lab values showed hemoglobin of 16.2, WBC count of 14.4, platelet of 236, lactic acid 4.3, procalcitonin 0.78, UDS positive for opiates and methadone, Legionella and streptococcus pneumoniae antigen was negative. CXR showed no focal consolidation or infiltrates. CTA of the chest showed no pulmonary embolism but revealed ill-defined patchy parenchymal opacities in bilateral lower lung fields. Initial blood cultures grew gram-negative bacilli which later turned out to show Achromobacter denitrificans which was sensitive to meropenem. Patient was successfully treated for 10 days.

Echocardiogram was negative for any valvular vegetations.

CONCLUSION:

This patient was at risk for a MDR organism given his chronic alcoholism which could lead to chronic aspiration, but this is a very unique organism that hasn't been identified in the area he presented prior to this encounter.

Poster #40

Category: Clinical Vignette

Institution: Central Michigan University – Saginaw

Program Director: Sethu Reddy, MD, FACP

Presenter: Sharanjit Khaira

Additional Authors: Sukhmanpreet Singh PGY3, MD; Palaniandy Kogulan MD; Naveed Akhtar MD; Ronak Soni PGY4, MD; Madhavi Kanneganti MD

Broken Doorway of the Heart! A Rare Case of Double Valve Gemella Endocarditis Without Bacteremia

Introduction: *Gemella morbillorum* (GM), a gram-positive bacterium, is part of normal human flora that can cause an opportunistic infection. Infective endocarditis (IE) characteristically develops on native-valves, while multiple valve involvement is rare. Herein, we present an extremely rare case of double-valve endocarditis- mitral valve (MV) and aortic valve (AV), caused by GM without bacteremia.

Case: 38-year-old female presented to hospital with four-weeks of progressively worsening nausea/vomiting/abdominal pain, associated with 10-15lbs weight-loss. Patient denied recent-travels, or illicit-drugs use. Physical examination revealed a 3/6 aortic systolic-murmur. Transthoracic echocardiogram showed mobile-vegetation of AV (1.6cm) and MV (1.0cm). CTA chest and CT abdomen/pelvis were unremarkable. Patient was started on ceftriaxone and vancomycin for presumed IE. Blood cultures remained negative throughout hospital-stay. On day-five, she underwent surgical replacement of MV and AV due to severe regurgitation. Valve histopathology showed gram-variant bacilli, however, tissue-cultures remained negative. Vegetative tissue from both valves tested positive for GM via 16-S bacterial PCR. Patient received four-weeks of IV ceftriaxone after surgery with significant clinical improvement.

Discussion: IE is associated with high morbidity and mortality due to heart-failure and embolic-complications (incidence 20-50%). In cases of IE without detectable bacteremia, it can be extremely difficult to establish the etiology of endocarditis.

Although optimal timing for surgical intervention is unclear, studies have shown that in cases of IE without bacteremia, early surgical-intervention along with antibiotics is associated with significantly lower risk of mortality. Hence, it is extremely important for clinicians to keep a high index of suspicion for atypical entities that may cause IE without bacteremia.

Poster #41

Category: Clinical Vignette

Institution: Central Michigan University – Saginaw

Program Director: Sethu Reddy, MD, FACP

Presenter: Sukhmanpreet Singh

Additional Authors: Sharanjit Khaira MD PGY3, Angadbir Parmar MD PGY3, Madhavi Kanneganti MD

Doc! I Can't Move My Arms!- An Atypical Presentation of GBS

Introduction: Guillain–Barré syndrome (GBS) is a potentially life-threatening post-infectious disease characterized by acute ascending areflexic-paralysis with albuminocytologic-dissociation. Upto 25% of patients with GBS develop respiratory compromise, if not treated promptly. Herein, we present an atypical case of GBS linked to Epstein–Barr-virus(EBV).

Case: 57-year-old athlete gentleman presented to hospital with acute-onset weakness of bilateral-upper-extremities (BUE). Patient reported mild upper-respiratory-symptoms about two-weeks-ago. Physical examination revealed 0/5 motor strength in BUE, and 3/5 in bilaterally lower extremity (BLE), without any sensory, cranial-nerve or respiratory compromise. In next 3-4 hours, BLE weakness worsened to 0/5. CT head, MRI brain and MRI cervical spine were negative. Lumbar puncture showed albuminocytologic dissociation with CSF protein elevated at 105(10-60mg/dl), with 0 WBC. EBV antibody to nuclear antigen and viral capsid Antigen IgG were highly elevated. EMG showed delayed distal latency of median-nerve with no proximal stimulation response; consistent with GBS. Patient was started on IVIG therapy for five days, followed by plasmaphereses for another five days, however, he had minimal improvement in his motor function.

Discussion: This represents an atypical presentation of GBS where the initial symptoms were descending, instead of, typically ascending paralysis. Around 0.6-2.2 per 1000 cases of GBS are linked to *Campylobacter jejuni*, however, EBV is one of the rarer causes of GBS. Prompt diagnosis of GBS is important for prognosis, as despite the immunotherapy, there is a 5% mortality rate. Hence, physicians need to have low threshold for this fascinating-yet-challenging condition.

Poster #42

Category: Clinical Vignette

Institution: Central Michigan University – Saginaw

Program Director: Sethu Reddy, MD, FACP

Presenter: Sukhmanpreet Singh

Additional Authors: Sharanjit Khaira, MD PGY3, Shrinivas Kambali MD, Ronald Bays MD

Before It's Too Late! A Rare Yet Fatal Case of Spontaneous Gas Gangrene

Introduction:

Clostridial Myonecrosis(CM) also-known-as Gas Gangrene(GG) is a rare, but fatal soft-tissue infection. Spontaneous CM is typically caused by Clostridium septicum(CS), and has been associated with malignancy. Herein, we present atypical presentation of spontaneous CM secondary to CS.

Case:

67-year-old-male presented to hospital secondary to generalized weakness along with progressive worsening right-leg redness, pain and numbness which started eight-hours ago. Medical history is significant for untreated stage-IV adenocarcinoma of colon with metastases to lungs. Initial vitals were significant for mean-arterial-pressure in 50's requiring vasopressor's. Physical-exam revealed toxic- appearing-male with erythematous, desquamated, tender right-lower-extremity with no crepitus, extending from mid-thigh to mid-calf muscle. Lab work-up showed severe lactic acidosis 17.0(0.5-2.2mmol/L) and leukocytosis 14.3(3.3-11.5K/mcl). Phlegmasia cerulean dolens(PCD) vs GG were primary differential diagnoses, hence patient was started on appropriate antibiotics and subsequently underwent emergent surgical fasciotomy. No thrombus was recovered, however immediately post-fasciotomy, there was protrusion of gas and necrotized muscle, confirming the diagnosis of GG. Patient expired 10-hours after surgery secondary to severe septic shock leading to cardiac arrest. Histopathology confirmed GG was secondary to CS.

Discussion:

CM usually occurs secondary to trauma or surgery, however <10% of cases can occur spontaneously and are associated with CS. In the setting of malignancy, CS gains access to the bloodstream via multiple mechanisms—infection can spread via the bloodstream to skeletal muscle, typically extremities, causing fulminant myonecrosis. Hence, physicians should have high-index of suspicion for spontaneous CM, particularly in patient with malignancy, as early recognition and intervention is the hallmark of this life-threatening disease.

Poster #43

Category: Clinical Vignette

Institution: Central Michigan University – Saginaw

Program Director: Sethu Reddy, MD, FACP

Presenter: Khine Mon Swe

Additional Authors: Phoo Pwint Nandar, Angadbir Parmar, Shaffi M. Kanjwal

How Do We Prevent Lenalidomide Induced Extensive Venous Thromboembolism Even While on Thromboprophylaxis?

Patients with multiple myeloma are more likely to have venous thromboembolism (VTE) than the general population. The treatment itself has been associated with a high risk of VTE. Lenalidomide, an immunomodulator, is currently standard of care in multiple myeloma treatment. Lenalidomide induces a variety of immunomodulatory effects in addition to the direct cytotoxic effect on myeloma cells. Here, we present a case of pulmonary embolism from deep vein thrombosis in a patient who is getting Lenalidomide and thromboprophylaxis for multiple myeloma.

75 years old male presented with chest pain and difficulty breathing. Past medical history includes hypertension, coronary artery disease and diabetes mellitus type 2. On arrival, CTA chest showed pulmonary embolism in segmental branches of the right pulmonary. Patient has no recent long trip or prolonged hospitalization or history of coagulation disorder. Patient has been taking Lenalidomide for more than a year after stem cell transplantation for multiple myeloma. Lower extremities venous ultrasound identified thrombi in multiple veins. The Patient was started on Enoxaparin. As patient developed venous thromboembolism given he has been taking aspirin along with Lenalidomide at home, he was discharged with apixaban for lifelong anticoagulation. Venous thromboembolism is an established side effect of Lenalidomide. Appropriate adjustment or prophylactic measure should be initiated at the same time. Currently, the standard of care is to co-administer aspirin at low risk and LMWH or full dose anticoagulant in the high-risk patient to prevent VTE. However, more studies are needed for the efficacy and safety of different thromboprophylaxis options.

Poster #44

Category: Clinical Vignette

Institution: Garden City Hospital

Program Director: Christopher Doig, DO

Presenter: Nishedh Dave

Additional Authors: Sreeni Gangasani, MD

“Manatee-in-Transit”- A PFO Story

Case Presentation

A 51-year-old male with a PMHx of Hypertension, MI, and TIA, presented for 2-week history of worsening shortness of breath, left arm tingling, and increased fatigue. Prior to admission, patient experienced a pre-syncopal episode. CXR was negative. EKG showed no acute ST elevation. Troponins were 0.307 and 0.301. CT indicated bilateral PE's in the right and left main pulmonary arteries with significant clot burden. TEE revealed a PFO with a clot in transit (image 1), as well as a continuous 5 cm thromboembolus extending from the left atrium to the left ventricular outflow tract (image 2). A bubble ECHO study was falsely negative due to complete occlusion of the PFO by the thrombus. The patient was stabilized and transferred to nearby facility to undergo emergent open cardiac operation with pulmonary embolectomy, thrombectomy, and closure of the PFO. Patient eventually recovered and an IVC filter was placed.

Discussion

Here we described a patient with rare presentation of bilateral PE's and paradoxical in-transit thrombus. The foramen ovale is a biological remnant of the fetal circulation and serves to shunt oxygenated blood from the umbilical veins into the left heart, thus circumventing the non-inflated lungs during fetal development. However, in approximately 25% of patients, the foramen ovale remains open and potentially serves as an inter-atrial shunt, leading to an impending paradoxical embolus traversing and potentially becoming trapped in the PFO as presented in this case. This case shows the catastrophic consequences of PFO in setting with VTE.

Poster #45

Category: Clinical Vignette

Institution: Garden City Hospital

Program Director: Christopher Doig, D.O.

Presenter: Khalid Mohammed

Additional Authors: Christopher Doig, D.O.

Polycythemia - An Unexpected Cause of Rapidly Progressive Necrotizing, Cavitory Pneumonia

Chronic hypoxic conditions can lead to hypoxia-associated polycythemia due to an increase in the levels of erythropoietin. This physiologic response drives the proliferation and differentiation of red blood cell (RBC) progenitors resulting in an increase in RBC mass. Patients with polycythemia have an increased risk of thromboembolic events and hemorrhage.

We present an uncommon case where untreated polycythemia not only lead to pulmonary embolism, but also pulmonary infarction resulting in cavitory *Pseudomonas* pneumonia which rarely occurs in immunocompetent individuals.

A 70 year-old female with history of COPD and chronic tobacco abuse, presented to the hospital for worsening dyspnea on exertion with bilateral lower extremity edema of 1 week duration. CT PE protocol revealed small right pleural effusion, otherwise negative for pulmonary embolism.

She was discharged home 3 days later in stable condition after being treated for polycythemia and pneumonia. Her hemoglobin decreased from 20.4g/dl to 17.4g/dl from phlebotomy done inpatient. She was expected to follow-up with a hematologist for further workup outpatient, however, 3 days after discharge she began developing exertional dyspnea associated with a cough producing brown-sputum. This continued to worsen, eventually leading to readmission to the hospital 9 days after discharge and being placed on positive airway pressure support. Her hemoglobin on admission was 17.5g/dl, essentially unchanged since her last discharge. On arrival she began having hemoptysis with a stat CT PE protocol revealing bilateral pulmonary embolisms with bilateral cavitations in areas concerning for pulmonary infarction, remarkably different from her prior CT scan.

Poster #46

Category: Clinical Vignette

Institution: Genesys Regional Medical Center

Program Director: Barbara Pawlaczyk

Presenter: Joanna Wieckowska

Additional Authors: Kruti Patel, DO; Mark Minaudo, DO

Carcinoid Metastasis with Unknown Primary Tumor Origin

Carcinoid tumors are rare, slow-growing neuroendocrine tumors found throughout the gastrointestinal and bronchopulmonary systems. Within the gastrointestinal tract, the most common site is the small intestine, followed by the rectum, appendix, colon, and stomach. Other less common sites include the gallbladder, kidney, and ovaries. However, in 3% of cases, the primary tumor cannot be found. Most of these tumors with unknown origin are poorly differentiated and aggressive. Because establishing the diagnosis and primary tumor location can be challenging, we present the case of a 60-year old male who was incidentally found to have metastatic carcinoid tumor to the liver during a cholecystectomy without an identifiable primary site. Despite an extensive workup, which included biomarkers, Computed Tomography, OcteScan, DOTATATE PET/CT, and upper and lower endoscopies, primary tumor location has still not been found. As the patient remained asymptomatic with a small burden of disease, observation without medical intervention was recommended and followed. However, early diagnosis is imperative to survival. Therefore, familiarity with the clinical signs, symptoms, and diagnostic modalities of carcinoid syndrome may expedite early detection and diagnosis and affect the overall prognosis. In this case, we will review signs, symptoms, and diagnostic modalities of carcinoid tumors to help improve both detection and mortality.

Poster #47

Category: Clinical Vignette

Institution: Henry Ford Allegiance Health

Program Director: Vivek Kak, MD, FACP

Presenter: Enas Abdallah

Additional Authors: Vivek, Kak

Necrotizing Granulomatous Lymphadenitis: TB or Not TB

Background

The differential diagnosis of Necrotizing Granulomatous lymphadenitis(NGM) is most commonly associated with mycobacterial or fungal infections beside conditions like sarcoid. Viral infections as a cause NGM are extremely uncommon. We report a case of NGM due to Herpes simplex infection.

Case Description

A 73-year old female patient with recent diagnosis of chronic lymphocytic leukemia (CLL), Hypogammaglobulinemia and a known history of non-invasive melanoma, presenting with a 3 month history of left-sided inguinal lymphadenopathy with failed antibiotic treatment. This was associated with fever, chills and weight loss of 15 lbs. in 3 months. A CT of abdomen showed presence of intraabdominal lymphadenopathy leading to concerns of a malignancy. A Lymph node biopsy showed necrotizing granulomatous inflammation that was negative for malignancy or Richter's transformation, but cells showed herpetic inclusion bodies. Diagnosis was confirmed by positive Immunohistochemistry on the lymph node biopsy for Herpes simplex virus 1 and 2. Serum PCR for HSV1 and HSV2 was positive and she was treated with Valacyclovir for 4 weeks which improved her symptoms and led to resolution of her lymphadenopathy.

Conclusion

NGM due to HSV is extremely rare with only herpes simplex induced necrotizing lymphadenitis reported in literature. HSV is a ubiquitous virus and typically disease spectrum ranging from herpes gingivitis, genital herpes or encephalitis. Herpes lymphadenitis can rarely occur and often is associated with a primary mucosal infection. However in immunocompromised hosts it may cause NGM and should be considered in the differential diagnosis for necrotizing lymphadenitis especially in immunocompromised patients.

Poster #48

Category: Clinical Vignette

Institution: Henry Ford Allegiance Health

Program Director: Vivek Kak, MD, FACP

Presenter: Mays Alatiyat

Additional Authors: Yasser Aleech MD

Hemophilus Influenzae Meningitis in Health Care Provider

Hemophilus influenza type b meningitis has decreased markedly following widespread vaccination. However, strains other than type b continue to cause occasional invasive infection (including meningitis) in children and adults.

Here we are presenting a case of 54 years old female patient who works as an occupational therapist in a nursing home who presented to our hospital after she was found to be confused with altered mental status. She was found to be febrile in the emergency room with a temperature of 39.2 rectally. She had a lumbar puncture done on admission that showed significant leukocytosis with white blood cell count in CSF 18,000 with neutrophils predominate. She was started on Vancomycin, Ceftriaxone, and Dexamethasone. Her CSF and blood cultures grew Hemophilus influenzae. Her Antibiotics were adjusted to high dose ceftriaxone for 2 weeks. Her Immunoglobulin level was checked, and they were within normal limits. The patient responded well to the treatment, her mental status improved, and she has a full recovery and was discharged home.

H. influenzae accounted for 7 percent of cases in adults. Only 10 percent of adult H. influenzae meningitis cases were caused by serotype b strains; the remainder were caused by types a, e, and f. in this abstract we present a case of H. Influenzae meningitis in health care provider who was vaccinated for H. influenzae type b

Poster #49

Category: Clinical Vignette

Institution: Henry Ford Allegiance Health

Program Director: Vivek Kak, MD, FACP

Presenter: Faria Ali

Additional Authors: Amritraj Loganathan, MD and Vivek Kak, MD

Normal Pressure Hydrocephalus Masquerading as Chronic Cough

Normal Pressure Hydrocephalus (NPH) combines the triad of gait instability, dementia and urinary incontinence with normal CSF pressure. Very rarely, chronic cough has been shown to be a presenting symptom of NPH. A daily cough lasting for more than eight weeks is defined as a chronic cough, with differential diagnoses including nasal, sinus, gastrointestinal tract diseases (especially gastroesophageal reflux disease), pulmonary causes or rarely of neurogenic origin.

A 69-year-old Caucasian female with a prior history of depression, restless legs and obstructive sleep apnea, presented with a history of non-productive, persistent cough present for the past few months. Workup included normal esophagogastroduodenoscopy, bronchoscopy, pH probe, CT paranasal sinuses and esophagram. Treatments tried were montelukast, pantoprazole, fluticasone, inhalers, chlorpheniramine, promethazine with codeine and benzonatate. Later, she started experiencing memory issues and gait disturbance. TSH, Vitamin B12, RPR were all normal. CT head showed moderate ventriculomegaly suggesting NPH. With the trial of lumbar (Codman) drain, she experienced significant symptomatic relief of her cough and went on to undergo a ventriculoperitoneal shunt.

Coughing is a protective reflex produced by a convergent brainstem neural network and triggered by several inflammatory changes, and/ or inhalation of chemical and mechanical irritants to the airways. Ventricular dilatation might cause loss or impairment of higher inhibitory mechanisms of the cough reflex. Local compression of subcortical fibers and interruption of cortical-basal-ganglia connections by ventricular expansion due to hydrocephalus, may be involved in the generation of chronic cough. The relief of hydrocephalus by shunting diminishes medullary compression and thereby improves cough.

Poster #50

Category: Research

Institution: Henry Ford Allegiance Health

Program Director: Vivek Kak, MD, FACP

Presenter: Ahmed Altibi

Additional Authors: Ahmed Masri, Amer Kadri, Misam Zawit, Raed AlAdham, Leen Nusairat, Faher Almahmoud, Mourad Senussi, Amr Barakat, Adrian Hernadiz

Prevalence of Venous Thromboembolism in Admissions and Readmissions with and Without Syncope: A Nationwide Cohort Study

Introduction:

The Pulmonary Embolism in Syncope Italian (PEIST) Trial reported 17.3% prevalence of pulmonary embolism (PE) in patients admitted with syncope. The aim is to investigate the prevalence of venous thromboembolism (VTE, including PE and deep vein thrombosis (DVT)) in syncope vs. non-syncope admissions and readmissions, and to assess if syncope is an independent predictor of VTE.

Methods: We conducted an observational study of the 2013–2014 Nationwide Readmission Database (NRD). There were 38,655,570 admissions, of whom 285,511 had syncope. We excluded patients <18 years, December discharges, died during hospitalization, hospital transfers and missing length of stay. Multivariable logistic regression analysis was used to evaluate the association between baseline characteristics and VTE in syncope admissions and in all admissions.

Results: In index syncope vs. non-syncope admissions, the prevalence of DVT, PE and VTE were $0.4 \pm 0.06\%$ vs $1.3 \pm 0.12\%$, $0.2 \pm 0.04\%$ vs. $1.2 \pm 0.11\%$, and $0.5 \pm 0.07\%$ vs. $2.1 \pm 0.14\%$ (all $p < 0.001$), respectively. At 30-days, the prevalence of DVT, PE and VTE in syncope vs. non-syncope were $2.2\% \pm 0.14$ vs. $2.1 \pm 0.14\%$ ($p = 0.38$), $1.4 \pm 0.12\%$ vs. $1.2 \pm 0.11\%$ ($p = 0.01$), and $2.6 \pm 0.17\%$ vs. $3.0 \pm 0.17\%$ ($p = 0.99$), respectively. In the overall cohort, syncope occurred in 1.6% of VTE and 1.8% in non-VTE admissions. In a multivariable model, syncope was associated with a lower prevalence of VTE (OR 0.76, 95% CI 0.75, 0.78, $p < 0.001$).

Conclusion: Syncope admissions were associated with a lower prevalence of VTE as compared to non-syncope admissions. Our findings emphasize that a diagnosis of syncope should not trigger an automatic pulmonary embolism workup, rather, should be put into context of patient presentation.

Keywords: Syncope, venous Thromboembolism (VTE), Deep Venous Thrombosis (DVT), Pulmonary Embolism (PE), National Readmission Database (NRD).

Poster #51

Category: Clinical Vignette

Institution: Henry Ford Allegiance Health

Program Director: Vivek Kak, MD, FACP

Presenter: Salhea Asghar

Additional Authors: Tarrar Imran, Luthra kavita

A Case of Systemic AL Amyloidosis Presenting at a Relatively Young Age

Introduction:

Systemic AL amyloidosis is a rare disease occurring due to extracellular deposition of monoclonal immunoglobulin light chains secreted by plasma cell clone forming amyloid fibrils. It affects multiple organs leading to myriad of clinical presentations. Average age for diagnosis is 65 years and less than 10% of cases are under 50.

Case Report:

Our patient is a 45-year-old male with a past medical history of hyperlipidemia who presented with worsening dyspnea and bipedal swelling for 6 weeks. T-wave inversion and ST segment depression was noted in leads V3-V6 on EKG. Bilateral pleural effusions were found on CT chest. Echocardiogram showed EF of 73% with increased LV thickness and patient was diagnosed as new onset Heart failure. However, urinalysis showed proteinuria of > 500 mg/dl and an estimated 24 hr urine protein of 8 grams suggesting nephrotic syndrome. Workup for nephrotic syndrome was negative except for positive free lambda monoclonal protein of 76 mg/dl on urine protein electrophoresis. Renal biopsy was performed that showed amyloid AL deposition with positive Congo red staining. Later, duodenal and bone marrow biopsies also came back positive suggesting systemic amyloidosis. Patient was referred to oncology and is undergoing chemotherapy.

Learning Points:

- Systemic AL amyloidosis, though rare but more common in older population can easily be missed in younger patients unless thoroughly investigated.
- AL amyloidosis should be distinguished from light chain deposition disease and is rarely associated with multiple myeloma.
- Despite available treatment, it has poor prognosis specially in case of cardiac involvement.

Poster #52

Category: Clinical Vignette

Institution: Henry Ford Allegiance Health

Program Director: Vivek Kak, MD, FACP

Presenter: Priyanka Gogte

Additional Authors: Gundapuneni S, Sinka E, Wadhwa A

Patient Presents as “Being Possessed” – Any Differentials!

Introduction

Anti N-Methyl D-Aspartate receptor (NMDAR) encephalitis presents as a multistage illness that progresses from psychosis, memory deficits, seizures and language disintegration into a state of unresponsiveness with catatonic features and autonomic instability with or without an associated tumor.

Case

36-year-old man with no history of psychiatric disorders presented with worsening agitation, hallucinations and suicidal ideation, described as being ‘possessed’, leading to initiation of multiple anti-psychotic medications ultimately requiring intubation for sedation. Autonomic instability including supra ventricular tachycardia, hyperthermia, hypotension and muscle rigidity complicated the clinical course.

Laboratory work up and toxicology were negative for infective etiology or illicit drugs. Initial differential diagnosis included neuroleptic malignant syndrome (NMS). MRI brain was unremarkable. EEG showed "extreme delta brushes", a pattern associated with anti NMDAR encephalitis. CSF autoimmune panel confirmed the presence of antibodies to the NMDA receptor. Paraneoplastic syndrome and seminoma, common associations, were ruled out.

Eight days of IV steroids and five doses of IV immunoglobulins (IVIG) led to decreased agitation allowing extubation after twelve days and transition to a catatonic state. After 4 weeks of rituximab therapy, patient was AOAx3 with mild cognitive impairment and slight dysmetria.

Discussion

Profound psychiatric symptoms can lead to misdiagnosis of primary psychiatric illness. Muscle rigidity and rhabdomyolysis, especially with initiation of anti-psychotic medications leads to a misdiagnosis of NMS. High degree of suspicion, atypical features of cognitive decline and no past psychiatric history prompted EEG and lumbar puncture confirming NMDAR diagnosis. Treatment includes corticosteroids and IVIG. Cyclophosphamide and rituximab are second line therapy.

Poster #53

Category: Clinical Vignette

Institution: Henry Ford Allegiance Health

Program Director: Vivek Kak, MD, FACP

Presenter: Roomana Khan

Additional Authors: Joann Hirth, M.D

HIV-Associated Multiple Primary Anaplastic Astrocytoma

Introduction:

HIV-associated neoplasms including Kaposi sarcoma and B-lymphoma is well documented, however there is limited data describing the rare association with glial pathology, particularly astrocytoma.

Case Description:

A 56-year-old male with viral load undetectable HIV on HAART therapy and liver disease presented with worsening confusion and ataxia and was admitted for acute encephalopathy. Given history of HIV, multiple infectious etiologies were considered. His CD4 count was 245 and CD4/CD8 ratio of 0.5. Imaging of the brain showed multiple lesions involving parietal-occipital lobe, corpus callosum, periventricular white matter, thalamus and temporal lobe. Workup included a non-diagnostic lumbar puncture, negative for infectious etiologies. Although treated empirically, there was no clinical improvement. Thus, he underwent resection of the largest lesion and pathology was consistent with high-grade astrocytoma, suggestive of anaplastic astrocytoma. He was therefore initiated on management of multifocal anaplastic astrocytoma.

Discussion:

HIV-associated malignancies with viral etiologies are a well-known phenomenon, including associations with EBV and CMV (Angeletti, 2008). There is however, limited data describing HIV-associated anaplastic astrocytoma, particularly multiple intracranial lesions. Anaplastic astrocytomas are typically solitary, malignant and locally infiltrating, and <4% of all malignant CNS tumors (Grimm, 2016). Our patient is a rare case of multiple lesions with histopathology of anaplastic astrocytoma in the setting of known HIV-infection. Immunodeficiency and tumorigenesis with viral etiology has been described, but the question remains as to whether HIV infection may predispose patients to additional CNS neoplasms, including astrocytoma.

Poster #54

Category: Clinical Vignette

Institution: Henry Ford Allegiance Health

Program Director: Vivek Kak, MD, FACP

Presenter: Mohammed Khan

Additional Authors: Devin Malik, MD

Cefepime - An Extremely Rare Cause of Disseminated Intravascular Coagulation (DIC)

Introduction:

Disseminated intravascular coagulation (DIC) is a systemic process causing both thrombosis as well as hemorrhage. Common causes of DIC include sepsis, malignancy, trauma, obstetrical complications, and intravascular hemolysis. Antibiotics are not known to cause DIC. We report a rare case of DIC, in which Cefepime was found to be the culprit.

Case:

A 39 year old Caucasian female with history of Diabetes Mellitus Type 1, Peripheral Artery Disease, and End Stage Renal Disease presents with hypotension in the setting of septic shock and was started on intravenous (IV) Cefepime. On day 7 of antibiotic therapy, her hemoglobin dropped from 9.6 g/dL to 4.1 g/dL and her platelets dropped from 145 K/uL to 37 K/uL without any source of bleed found on exam or imaging. She had evidence of coagulopathy with elevated d-dimer, Prothrombin time, INR and Partial Thromboplastin Time with a low Fibrinogen. She had a similar picture of DIC of uncertain etiology three months prior, where she presented with pulmonary emboli after just having completed six weeks of treatment with IV Cefepime. It was now clear that after her sepsis was adequately treated and IV Cefepime discontinued, her DIC was due to the antibiotic. Her coagulopathy resolved within days of discontinuation.

Discussion:

DIC may vary between a chronic, subclinical process to an acute life-threatening emergency that needs to be recognized and treated early to prevent serious complications. This case demonstrates, that although Cefepime is a rare cause of DIC, it should be considered in the differentials.

Poster #55

Category: Clinical Vignette

Institution: Henry Ford Allegiance Health

Program Director: Vivek Kak, MD, FACP

Presenter: Mandeep S. Malik

Additional Authors: Housam Sarakbi, MD; Richard Santos, MD, PhD

Warfarin for Headaches?!

Background:

Headaches have been extensively reported in Antiphospholipid syndrome (APS)/ Antiphospholipid antibodies (aPL)-positive patients. Headaches associated with APS are often untreatable, poorly responding to analgesics or narcotics and occurs for years before the diagnosis of APS. Conventional imaging studies are usually negative. Many therapeutic agents/strategies such as hydroxychloroquine, B-cell inhibition, complement inhibition and peptide therapy have been proposed. Nonetheless, Heparin followed by Long-term anticoagulation with warfarin remains the cornerstone of treatment.

Case Report:

A 36-year-old Caucasian female with past medical history of Tumid Lupus Erythematosus treated with Hydroxychloroquine, Fibromyalgia, remote history of Irritable Bowel Syndrome, With history negative for Thrombosis, miscarriages, fetal death or preeclampsia presented with severe headaches, 8/10 intensity for the last 4 years. Headaches reported as stabbing, occasionally localizing to right side. Patient underwent extensive workup including a normal Lumbar Puncture and multiple normal MRI brain. Blood work showed Lupus Anticoagulant positivity with positive Dilute Russel Viper Venom Test (dRVVT). The rheumatologist started the patient on Warfarin Therapy for Headaches associated with APS with INR goal of 2-3, which significantly relieved the symptoms. Later, warfarin was discontinued by the neurologist, who the patient saw for a follow up, resulting in worsening of the headaches. The headaches resolved again on restarting the Warfarin Therapy.

Learning Points:

1. Headaches, especially migraine are common in APS and aPL-positive patients.
2. The pathogenesis of APS headaches is unclear, but could be related to platelet dysfunction.
3. APS patients with severe refractory migraine show great response to anticoagulation therapy.

Poster #56

Category: Clinical Vignette

Institution: Henry Ford Health System – Detroit

Program Director: Odaliz Abreu Lanfranco, MD, FACP

Presenter: Guneet Ahluwalia

Additional Authors: Allan Brazier, Tushar Shetty, Alexis Haftka- George MD

Serum Sickness Type Reaction from Infliximab Infusion

A young female with a history of ulcerative colitis (UC) presented with erythematous, painful metacarpal joints and jaw pain; with associated symptoms of fatigue, chills, and dyspnea. Additional history included Crohn's disease status post-proctocolectomy, primary sclerosing cholangitis, and hypothyroidism. Physical exam showed a fatigued female with bilateral metacarpal joint arthralgias and erythema along with shoulder weakness. She was diagnosed with UC 2 years prior and failed previous treatments; therefore, she was given infliximab 9 days before her presentation. She had previously received infliximab 12 years prior for her Crohn's disease. Prior to initiating treatment she had no antibodies to infliximab. Laboratory findings were negative for antinuclear antibodies and weakly positive for anti-histone antibodies. She recovered within 36 hours from IV hydration and supportive care.

Recognizing tumor necrosis factor- α 's role in the inflammatory response, inhibitors have been effective treatments in various rheumatologic conditions. Infusion reactions with infliximab are the most common adverse effects and can be subdivided into acute or delayed infusion reactions. Acute reactions represent type 1 hypersensitivity reactions mediated by immunoglobulin E, although true anaphylactic reactions to infliximab are uncommon. Delayed infusion reactions resemble type 3 hypersensitivity reactions, usually between 1-14 days after start of treatment. Immune complexes can cause systemic effects such as acute serum sickness, resulting in fever, pruritic rash, and arthralgias.

Infusion reactions can occur with or without preexisting antibodies to infliximab. Although there are recommendations for dampening infusion reactions, prevention is not guaranteed. Clinicians should monitor patients for 1-3 weeks after infliximab infusions.

Poster #57

Category: Clinical Vignette

Institution: Henry Ford Health System – Detroit

Program Director: Odaliz Abreu Lanfranco, MD, FACP

Presenter: Yusuf Alalwan

Additional Authors: Firas Askar, Indira Brar

HSV Acute Retinal Necrosis – A Painful Threat to Vision

Introduction

Ocular Herpes Simplex (HSV) is a serious infection with variable clinical manifestations ranging from isolated blepharitis and keratitis to vision-threatening uveitis and acute retinal necrosis (ARN). The presence of keratitis is a valuable diagnostic sign, however, when absent, the differential is wide, encompassing autoimmune and idiopathic etiologies. Early recognition and initiation of therapy are keys to prevent vision loss.

Case Description

A 27 year-old healthy 30-week pregnant female presented to the emergency with 3 days of right eye pain, photophobia and blurry vision. Ocular exam showed periorbital swelling, panuveitis, disc edema, phlebitis, and focal retinitis with macular hemorrhages. She was started empirically on intravenous Acyclovir, and received intravitreal Ganciclovir and Foscarnet injections. Aqueous and vitreous fluid PCR were HSV-2 positive; other infectious and rheumatological etiologies were ruled out. Despite maximal therapy, her vision deteriorated to Count Fingers within 36 hours, and over days her ARN progressed to retinal detachment, requiring surgical management. Despite aggressive measures, her visual acuity only marginally improved.

Discussion

HSV panuveitis and ARN are rare but can occur even in young, immunocompetent hosts. Risk factors associated with HSV ocular infections include preceding neurosurgery, older age and high-dose corticosteroids. High index of suspicion is key to correct diagnosis. In cases of clinical uncertainty, ocular fluid PCR has high sensitivity. The sequela of misdiagnosing such aggressive and potentially treatable infection can be vision-threatening.

Poster #58

Category: Clinical Vignette

Institution: Henry Ford Health System – Detroit

Program Director: Odaliz Abreu Lanfranco, MD, FACP

Presenter: Hussayn Alrayes

Additional Authors: Georgi Fram M.D., Bobak Rabbani M.D.

Biventricular Coronary-Cameral Fistula - A Rare Cause of Non-ST Elevation Myocardial Infarction

Introduction: Coronary-cameral fistulas are rare vascular anomalies described as abnormal communications between a coronary artery and a cardiac chamber. The incidence is 0.09 to 0.5% of all patients undergoing angiocardiology, with only 35% of these fistulas originating from the left coronary artery. Although a majority of patients are asymptomatic, some can present with anginal chest pain.

Case Presentation: A 63-year-old male presented with gradual onset intermittent right-sided chest pain for 2 months. The pain occurred at rest and worsened with exertion. His physical exam was remarkable only for pectus excavatum. EKG revealed biphasic T waves in V2-V6 and T-wave inversions in leads I, II, AVL, and V2-V6. Troponin levels were 0.11, 0.11, and 0.12 ng/mL. Chest x-ray was unremarkable. A transthoracic echocardiogram revealed mild left ventricular hypertrophy with an ejection fraction of 60-65%. Coronary angiography demonstrated coronary-cameral fistulas from the left anterior descending artery to the left and right ventricles.

Discussion: Coronary-cameral fistulas are usually caused by congenital aberrancies but can be acquired after trauma or invasive cardiac procedures, both of which our patient denied experiencing. Small fistulas are usually asymptomatic and incidentally found on angiography, but may still require treatment as they can lead to left-to-right shunts, LV dysfunction and endocarditis. Smaller fistulas can be treated with calcium channel blockers or β -blockers, with larger fistulas requiring surgical intervention. Our case highlights a unique cause of non-ST segment elevation myocardial infarction in a patient expected to have atherosclerotic coronary artery disease, but found to have coronary-cameral fistulas.

Poster #59

Category: Clinical Vignette

Institution: Henry Ford Health System – Detroit

Program Director: Odaliz Abreu Lanfranco, MD, FACP

Presenter: Ivan Columbus Morales

Additional Authors: Indira Brar M.D.

From Local Symptoms to Disseminated Disease: Disseminated Tuberculosis Presenting as Epididymoorchitis

Introduction: In the United States, most tuberculosis cases are associated to reactivation of disease in recent migrants. A significant number of cases are associated with extrapulmonary manifestations and dissemination. Both associated with high of morbidity and mortality rates.

Case Description: A 25-year-old male without significant history presenting to the ED with progressive right scrotal swelling and pain associated to contralateral back pain. Additional symptoms included productive cough and weight loss. He migrated to USA 4 years prior from Mexico, with not known history or exposure to tuberculosis.

In the Emergency Department he was afebrile, hemodynamically stable; physical exam revealed right scrotal swelling and left lower back tenderness. Initial work up was unremarkable. A testicular ultrasound showed right epididymoorchitis. A chest radiograph done because of cough demonstrated bilateral diffuse reticulonodular pattern suggestive of miliary tuberculosis. A subsequent CT body showed similar lung involvement, left psoas muscle abscess and L1-L2 vertebra involvement. A percutaneous drainage of the abscess was performed, fluid and sputum acid fast bacilli (AFB) smears and cultures were positive for *Mycobacterium tuberculosis*. Patient started on RIPE (Rifampin, Isoniazid, Pyrazinamide, Ethambutol).

Discussion: This case illustrates the potential for disseminated tuberculosis with multiorgan involvement to present without significant clinical instability and unremarkable symptomatology in an immunocompetent host without exposure history. It is always important to add tuberculosis as a probable diagnosis in undifferentiated syndromes in patients with recent migration from developing countries.

Poster #60

Category: Clinical Vignette

Institution: Henry Ford Health System – Detroit

Program Director: Odaliz Abreu Lanfranco, MD, FACP

Presenter: Nicholas Coriasso

Additional Authors: Scott Kaatz, D.O., MSc., Fei Fang, PhD, M.D. candidate, Louise Welsh, M.D. candidate

Acute Encephalopathy from Tacrolimus Toxicity – Not Always a PRESing Issue

64 year old male status post renal transplant in 2013, currently on immunosuppressive therapy with prednisone, everolimus, and tacrolimus was admitted with significant changes in his mental status and personality. Vital signs were normal. He was only alert and oriented to person and place, but not to time or situation. His personality changes included manic behavior which involved leaving his family and spending one million dollars at an expensive hotel. Serum creatinine was elevated to 3.1 mg/dL with a previous baseline of approximately 1.7 mg/dL. Head CT was negative for intracranial pathology. MRI of the brain was negative for acute infarction, hemorrhage, or evidence of posterior reversible encephalopathy syndrome (PRES). His family stated that he had taken a large amount of tacrolimus prior to coming into the hospital. A twelve hour FK506 trough level was found to be 25.9 ng/mL (reference range: 5.0 – 19.9 ng/mL), and tacrolimus was discontinued. Lumbar puncture was unremarkable for bacterial or viral etiologies. Once FK506 levels fell to a therapeutic range, tacrolimus was re-initiated. However, the patient's mental status did not improve over the course of 7 days. Ultimately, tacrolimus was discontinued indefinitely, and he was admitted to an inpatient psychiatric facility. During his course, his mental status improved, and he was discharged home to his family. This case describes tacrolimus-induced encephalopathy without evidence of PRES. Previous studies demonstrated resolution of tacrolimus-induced PRES with dose reduction of immunosuppressive medications. Our patient did not demonstrate mental status improvement until tacrolimus therapy was discontinued altogether.

Poster #61

Category: Clinical Vignette

Institution: Henry Ford Health System – Detroit

Program Director: Odaliz Abreu Lanfranco, MD, FACP

Presenter: John Gietzen

Additional Authors: Mayur Ramesh, MD

Severe Clostridioides Difficile Infection in an Atypical Place

Background: Clostridioides difficile (C. Diff) is one of the most common nosocomial infections. It often occurs when there has been a disruption in the normal colonic flora following antibiotic use. Infectious colitis complicates hospital stays, prolongs hospitalizations and can lead to increased morbidity and mortality if not promptly recognized and treated. Patients with severe colitis can develop pseudomembranous disease and toxic megacolon necessitating colectomy. Cases have been published recognizing C. Diff enteritis in patients with a total colectomy however few cases of pseudomembranous enteritis have been reported.

Case: We present a case of a 60 year-old African American male with history of total colectomy for ulcerative colitis who presented with dizziness, multiple pre-syncopal episodes and diarrhea. C. Diff was positive and he was started on oral vancomycin. After two days his stooling nearly stopped and he developed abdominal pain with distension. A CT abdomen revealed high-grade small bowel obstruction and pneumatosis of several small bowel loops. He became febrile, tachycardic and hypotensive with a lactate of 6.1. Tigecycline and Cefepime were added to oral vancomycin and he was admitted to the intensive care unit. Pouchoscopy was performed which revealed pseudomembranous enteritis. Cefepime was stopped and Tigecycline and vancomycin were continued for ten days. The patient was discharged on an oral vancomycin taper and received three stool transplants outpatient without surgical intervention.

Conclusions: This is one of first cases of pseudomembranous enteritis reported. It should be recognized that patients without a colon can develop C. Diff infection and pseudomembranous disease.

Poster #62

Category: Research

Institution: Henry Ford Health System – Detroit

Program Director: Odaliz Abreu Lanfranco, MD, FACP

Presenter: Miriam Jaziri

Additional Authors: M. Jaziri, Y. N. Alalwan, A. C. Haftka-George, J. Miller

Effectiveness of Nurse-Driven Protocol for Blood Pressure Management

Background

There are still many barriers to optimizing blood pressure control in clinic patients, especially in those with limited access to health care. Past research has shown that team-based approaches are effective in improving blood pressure control in the outpatient setting. This study compared a team-based nurse-driven with a traditional physician-driven approach in clinics with a disproportionately high number of medically underserved patients.

Methods

This was a retrospective case-controlled study including all adults (>18 years) enrolled in the nurse-driven protocol MUPD with SBP >140 and/or a DBP >90 that presented at a Henry Ford clinic between 1/2015-9/2017. The control was a matched cohort who only followed up with their physicians. Blood pressures at 6 months and 1 year following enrollment were obtained. Categorical variables were compared using chi-square tests. Crude and adjusted odds ratios were obtained using generalized estimating equations with a logit link function presence of blood pressure control as the dependent variable.

Results

The rate of controlled blood pressure (BP) at 6 months was significantly higher in MUPD patients (61% versus 45%, $p < 0.001$), as was the rate of medical management change compared to control (30% versus 21%, $p < 0.001$). Patients with at least one MUPD visit had 1.48 times the odds of having controlled BP in later visits compared to control.

Conclusions

Nurse-driven clinic visits seem to be more effective in controlling blood pressures in the primary care setting than traditional physician visits. This is also true in outpatient settings with a high proportion of underserved patients.

Poster #63

Category: Clinical Vignette

Institution: Henry Ford Health System – Detroit

Program Director: Odaliz Abreu Lanfranco, MD, FACP

Presenter: Sharmeen Mahmood

Additional Authors: Hadi Mohammed, D.O.; Junior Uduman, M.D.

A Vacuum That Cleans Hearts

Right sided infective endocarditis (RSIE) causes significant morbidity and mortality among intravenous drug abusers. Given the acuity and severity of their illness, often medical therapy is insufficient to improve disease burden. AngioVac is a percutaneous vacuum-based device designed to remove intravascular thrombi. Here, we present a successful case of Angiovac removal of a tricuspid valve septic vegetation in a non-surgical candidate with significant disease burden from RSIE. A 28-year-old Caucasian male with a history of active intravenous heroin use presented with several weeks of fatigue, fevers, and muscle weakness. On physical exam, the patient was toxic appearing and grossly edematous. A transthoracic echocardiogram (TTE) demonstrated a tricuspid valve (TV) vegetation measuring 4.4 × 2.2 cm. Blood cultures grew methicillin-sensitive staphylococcus aureus (MSSA) and he was started on intravenous nafcillin. The patient was admitted to the ICU due to increased work of breathing requiring intermittent non-invasive positive pressure ventilation. Due to his unstable condition, he was deemed to be a poor surgical candidate. Despite adequate anti-microbial coverage, patient had clinical evidence of right heart failure and persistent septic emboli from large TV vegetation. Consequently, percutaneous vacuum-assisted debulking of TV was pursued, following which his cardio- respiratory status improved. Surgical valve replacement is anticipated following a six week course of IV nafcillin. This case demonstrates that Angiovac may provide a safe and effective alternative to surgery and can act as an adjunct to antibiotic treatment. Furthermore, it may present a temporizing measure to improve hemodynamic instability prior to surgery.

Poster #64

Category: Clinical Vignette

Institution: Henry Ford Health System – Detroit

Program Director: Odaliz Abreu Lanfranco, MD, FACP

Presenter: Sunjay Modi

Additional Authors: Ryan Woolley MD, Sadaf Chaugle, Kajali Mishra MBBS, Ira Wollner MD

Newly Diagnosed Autoimmune Hepatitis in a Patient Presenting as a Pancreatic Head Mass

Introduction: Autoimmune hepatitis is a condition with a wide variety of presentations, ranging from patients being completely asymptomatic to being in fulminant liver failure. It is commonly diagnosed with abnormal LFTs, acute hepatitis, or acute liver failure. As hepatocellular carcinoma, cirrhosis and fulminant liver failure are potential sequelae of autoimmune hepatitis, it is important to include in a differential of abnormal liver profile.

Case Description: A 64-year-old patient presented with a three-week history of painless jaundice, subjective fevers, nausea, vomiting and a five-pound weight loss to clinic.

Patient returned one week later with worsening jaundice and was found to have a worsening liver profile and elevated CA 19-9. LFTs and total bilirubin were elevated at that time, and the patient underwent an ERCP/EUS, showing an ill-defined mass in the head of the pancreas. Biopsy at that time was negative for malignant cells, but showed a predominance of small lymphocytes. Complete work-up showed positive ANA and anti-smooth muscle antibody. MRCP at this time was suggestive of cholangitis, and liver core biopsy showed an inflammatory infiltrate consistent with autoimmune hepatitis. The patient was started on IV Solumedrol, and the liver profile dramatically improved with five days of treatment.

Discussion: This case illustrates an unusual presentation of autoimmune hepatitis, as painless jaundice and initial workup with findings of an ill-defined pancreatic mass making a diagnosis of malignancy more plausible. It demonstrates the difficulty in diagnosis of autoimmune hepatitis and reminds the physician to maintain a broad differential until all relevant tests are complete.

Poster #65

Category: Clinical Vignette

Institution: Henry Ford Health System – Detroit

Program Director: Odaliz Abreu Lanfranco, MD, FACP

Presenter: Vidhya Nair

Additional Authors: Diego Cabrera Fernandez, Vijayalakshmi Donthireddy

Novel Phenotype of Hemolytic Anemia with Simultaneous Mutations of SPTA1 c.6531-12C>T and SLC4A1 Pro868Leu

Case: A 33-year-old male presented with dizziness and near syncope. He also endorsed worsening exercise intolerance, dark colored urine, and night sweats. On evaluation, hemoglobin was noted to be 6.1, Ultrasound of the abdomen showed splenomegaly. Anemia work up revealed a low haptoglobin <30, reticulocytosis, hyperbilirubinemia and high LDH. Peripheral smear showed elliptocytosis without fragmented red blood cells. These findings were consistent with non-immune hemolytic anemia. The patient was transfused packed red blood cells and hemoglobin improved to 9.7 prior to discharge from the hospital.

With the diagnosis of elliptocytosis, he underwent splenectomy which showed reactive splenomegaly. Genetic testing revealed mutations of SPTA1 c.6531-12C>T and SLC4A1 Pro868Leu.

Impact:

Mutations in the anion exchanger SLC4A1 Pro868Leu has been shown to result in disturbances that can disrupt membrane ion equilibrium leading to acanthocytosis. Like this channel, SLC4AE, is involved in ion exchange and connects to other proteins that compose the cytoskeleton of red blood cells, stabilizing the structure¹.

Mutation of SPTA1 c.6531-12C>T is associated with a worse phenotype of hemolytic anemia in patient's red cell membrane abnormalities. The SPTA1 homozygous mutation showed signs of disruption at the cellular level whereas the heterozygous parents were absent of abnormalities clinically².

There are no cited cases of these two simultaneous mutations. Together these two heterozygous mutations in the same individual could lead an observable phenotype. This information can provide a hypothesis for future research involving red cell membrane disorders and novel mutations that impact red cell membrane stability.

Poster #66

Category: Clinical Vignette

Institution: Henry Ford Health System – Detroit

Program Director: Odaliz Abreu Lanfranco, MD, FACP

Presenter: Fortune Ojeanor

Additional Authors: James McCord, MD, Senior Staff Cardiologist, Henry Ford Hospital Detroit.

An Unusual Pairing: Wellens Syndrome Due to Myocardial Bridging

Introduction

Myocardial bridging as a cause of chest pain can be explained by mechanical compression of an epicardial coronary artery during systole which may result in ischemia.

Case Presentation

81-year-old female with past medical history of hypertension, and hyperlipidemia presented to the emergency room with worsening exertional angina of one-week duration. Her vital signs were stable, but EKG showed Wellens pattern in V2, V3, V4, and V5. 3 sets of troponins were elevated 140 ng/L, 290 ng/L and 290 ng/L. Wellens pattern on EKG is highly specific (89%) for critical left anterior descending artery (LAD) stenosis. Coronary angiography revealed normal left main, left circumflex, and right coronary artery. However, showed significant mid- LAD myocardial bridging.

Discussion

It occurs when a coronary artery tunnels through the myocardium rather than coursing on top of it. This section of the artery usually gets compressed during ventricular systole. Symptoms are likely caused by myocardial ischemia and may include angina, arrhythmias or sudden cardiac death. It is generally confined to the mid LAD, but less frequently in the circumflex artery and RCA. First line management utilizes medical treatment with beta blockers and non-dihydropyridine calcium channel blockers. Therapeutic benefit results from an increase in diastolic time, with a decrease in cardiac contractility and compression of the tunneled artery. In refractory cases, surgical myotomy, coronary artery stenting, or CABG can be considered.

Conclusion

Severe bridging of the coronary arteries can produce myocardial ischemia, coronary thrombosis, or myocardial infarction which may manifest as angina.

Poster #67

Category: Clinical Vignette

Institution: Henry Ford Health System – Detroit

Program Director: Odaliz Abreu Lanfranco, MD, FACP

Presenter: Shivani Sharma

Additional Authors: Thushara Paul, Yaser Alkhatib

Hyperammonemic Encephalopathy: A Tale of an Innocent Liver

We describe a rare case of Multiple Myeloma presenting with hyperammonemic encephalopathy. A 76 year-old Caucasian lady was admitted with sudden onset altered mental status. Initial work up included normal Computed Tomography of the head and diffuse background slowing on EEG consistent with metabolic etiology. Her CSF analysis was normal. Ammonia level was elevated at 180 mcg/dL despite the lack of underlying liver disease as evidenced by normal liver enzymes and imaging. She had normocytic anemia with hemoglobin level of 9 g/dL and thrombocytopenia at 90 K/mcL. Kidney function and calcium levels were normal. Further work up for normocytic anemia revealed a large IgG lambda monoclonal protein at 1.8 g/dL. She had normal iron studies, vitamin B12, folate, and no hemolysis or bleeding. Due to suspicion for Multiple Myeloma, patient was started on pulse steroids. Bone marrow biopsy confirmed Multiple Myeloma with 61% plasma cells. There was a modest improvement in her Ammonia level to 90 mcg/dL with Lactulose, however there was no significant change in her mental status. Patient's clinical situation continued to deteriorate, and she had cardiopulmonary arrest, resulting in anoxic brain injury. Eventually, she passed away before initiating treatment for Multiple Myeloma. In very few occasions, hyperammonemic encephalopathy can be the presenting symptom of Multiple Myeloma. The pathophysiology of its occurrence is poorly understood. In the right setting, Multiple Myeloma should be considered in the differential diagnosis for patients presenting with hyperammonemia without underlying liver disease.

Poster #68

Category: Clinical Vignette

Institution: Henry Ford Health System – Macomb

Program Director: Amitha Aravapally, MD, FACP

Presenter: Gurinder Pal Gakhal

Additional Authors: Rita Kassab MS III, Kyle Medley MS III, Hayk Papukhyan MD, Ali Mrad MD, Liz Wilson MD

Torsades De Pointes in the Setting of Bariatric Surgery

Torsades de pointes is a polymorphic ventricular tachycardia that occurs in conjunction with a prolonged QT interval. Typical symptoms are nonspecific such as chest pain, palpitations, nausea, dizziness and dyspnea. Risk factors for developing torsades include processes that lengthen the QT interval, including electrolyte imbalances, medications, and congenital syndromes.

We report a case of a 48 year old female status-post roux-en-y gastric bypass surgery that developed QT prolongation and subsequent torsades de pointes. Post-operatively, the patient developed daily episodes of nausea and vomiting. The patient was prescribed ondansetron as an antiemetic. Subsequently the patient developed heart palpitations and diaphoresis, which prompted an emergency department visit. Upon arrival, lab work showed a potassium of 2.3 mmol/L, and subsequent EKG showed torsades de pointes with a corrected QT interval of 638 ms. Ondansetron was promptly stopped, potassium was replaced, and the patient received IV magnesium. As a result, normal sinus rhythm was achieved. It is postulated that the combination of gastric bypass induced electrolyte abnormalities, and usage of ondansetron led to QT prolongation and ultimately torsades de pointes.

Patients with recent gastric bypass surgery are more susceptible to electrolyte abnormalities mainly potassium due to the malabsorptive nature of the procedure. This case report describes a patient who had several risk factors for torsades including usage of Ondansetron and gastric bypass induced hypokalemia. Therefore clinicians should be cautious when prescribing antiemetics that prolong QT intervals post gastric bypass for nausea management as it can predispose patients to develop torsades de pointes.

Poster #69

Category: Clinical Vignette

Institution: Henry Ford Health System – Macomb

Program Director: Amitha Aravapally, MD, FACP

Presenter: Nabih Hammoud

Additional Authors: Ali Imtiaz, DO, Cassandra Rodd, MS4

A Rare Case of PML-IRIS in AIDS Patient Following ART Therapy

Progressive Multi-Leukoencephalopathy (PML) is a severe demyelinating disease of the white matter in the CNS that is caused by reactivation of JC Polyomavirus in HIV/AIDS patients. It manifests with subacute neurologic deficits including motor dysfunction, gait ataxia, and visual symptoms such as hemianopia and diplopia. Initiation of ART therapy has been associated with new onset of PML in patients with recovery of CD4+ T-cell count.

A 53 year-old female with recent diagnosis of AIDS with CD4+ count <100 presented to the ER with loss of consciousness. On exam, the patient showed decreased visual acuity, left homonymous hemianopia and right upper quadrantanopia. Initial MRI of the brain demonstrated areas of vasogenic edema and ring enhancing lesions in bilateral parietal occipital lobes. Extensive workup including brain biopsy demonstrated inflammatory infiltrates composed of lymphocytes, macrophages and plasma cells including bi-nucleate cells with no definitive viral inclusions. These findings were suggestive of PML-IRIS. However, JC virus PCR was negative and can be explained by plausible ART-induced recovery of the immune system. Patient was treated with high dose steroids and subsequently discharged with continuation of ART therapy.

The incidence of IRIS is dependent on the likelihood of opportunistic infections. Based on retrospective studies, the incidence of IRIS is 7.6% and is most commonly seen within 6-8 weeks from initiating ART therapy. Most IRIS patients with JC virus may experience improvement or stabilization of clinical symptoms after 3-6 months of continued ART, but some may experience fatal outcomes related to IRIS despite good virologic response to ART

ACP Michigan Chapter, Residents Day 2019

Poster #70

Category: Clinical Vignette

Institution: Henry Ford Health System – Macomb

Program Director: Amitha Aravapally, MD, FACP

Presenter: Colin Leffert

Additional Authors: Mahnoor Khan, Niluka Weerakoon

Evan's Syndrome Diagnosed in Healthy 61 year old Male After Complaint of Rash

Evans syndrome is a rare condition which involves autoimmune hemolytic anemia and autoimmune thrombocytopenia, either seen concurrently or in succession. Occasionally, immune leukopenia can also be seen. It is driven by an underlying autoimmune process which is currently not fully understood. One hypothesis is the generation of antibodies against surface antigens on RBCs and platelets, however the connection is not clear. This is most commonly seen with Warm IgG antibody hemolytic anemia, but can be seen with Cold IgM antibody. Children are commonly affected, and the syndrome is frequently seen in association with common variable and other immunodeficiency syndromes. Treatment remains high dose prednisone initially as well as consideration for IVIG. Rituximab has been trialed in recent years with unclear impact on outcome and mortality. Allogeneic stem cell transplant remains the only curative therapy to date. We herein, present the case of a 61 year old male with no past medical history who was diagnosed with Evan's syndrome after presenting to his primary physician for petechial rash.

Poster #71

Category: Clinical Vignette

Institution: Henry Ford Health System – Macomb

Program Director: Amitha Aravapally, MD, FACP

Presenter: Ali Mrad

Additional Authors: Mahnoor Khan D.O., Prashant Patel M.D.

Insulin Infusion Therapy for Hypertriglyceridemia-Induced Pancreatitis

Hypertriglyceridemia-induced pancreatitis (HTGP) causes 1 to 14 percent of all cases of acute pancreatitis and. HTGP usually presents in patients with uncontrolled Diabetes Mellitus. Insulin lowers serum triglyceride level by enhancing lipoprotein lipase activity and inhibiting hormone-sensitive lipase in the adipocytes. We are presenting a case of HTGP that significantly improved with insulin infusion therapy.

A 37-year-old female with a history of uncontrolled Type 2 Diabetes Mellitus presenting with severe epigastric pain, nausea and vomiting. The patient was using Metformin for Diabetes, and Fenofibrate for Hypertriglyceridemia. Initial workup revealed elevated Lipase level. Computed Tomography of the abdomen showed Acute Pancreatitis. The patient was started on vigorous intravenous fluid replacement, and pain control regimen. The pain was uncontrolled even with intravenous opioids. Lipid profile was obtained later on admission day and revealed strikingly elevated triglyceride level at 2219. The patient was immediately started on an insulin drip with D5 % infusion. Within 24 hours, the triglycerides level dropped to less than 500. The pain resolved with minimal pain control, and the patient was able to tolerate oral intake.

Early clinical recognition of HTGP is important to provide appropriate therapy and to prevent further episodes. A lipid profile should be obtained in the emergency department stay for patients presenting with acute pancreatitis symptoms. Initiation of insulin drip beside the vigorous Intravenous fluid therapy is an efficient treatment. Strict glycemic control in patients with diabetes and hypertriglyceridemia is a major step to prevent HTGP.

Poster #72

Category: Clinical Vignette

Institution: Henry Ford Health System – Macomb

Program Director: Amitha Aravapally, MD, FACP

Presenter: Niren Naidoo

Additional Authors: Adithya Peruri MD, Alan Mundakkal, Jayanthi Chandrasekaran MD

An Atypical Response to Epinephrine

Epinephrine and epinephrine related medications have been widely studied and their side effect profiles have been well documented. Rare reactions can occur due to administration of EpiPen and it is critical to document and explore the cause of such reactions. We present a case report on a patient experiencing a unique reaction to EpiPen administration which we suspect is due to vasospasm.

A 38-year-old caucasian female presented after a bee sting and subsequent EpiPen self-administration. She had no past medical history except for anaphylactic reaction to a bee sting in her childhood, and had undergone desensitization with an allergist. En route to the hospital, she developed: chest pressure, palpitations, facial droop, dysarthria, and decreased strength. The patient's vital signs were within normal range. Blood work was notable for hypokalemia, hyperglycemia and lactic acidosis. CT head with angiography was unremarkable. Neurology was consulted and her MRI brain showed no evidence of acute stroke. Within three hours of hospital admission her symptoms had resolved. The patient was monitored overnight, and subsequently discharged the next day with no residual deficits.

The EpiPen is widely used for immediate relief of impending anaphylaxis. We believe this patient's angina and TIA-like symptoms were secondary to non-specific vasospasm given the alpha-adrenergic mechanism of epinephrine. A literature review showed limited information on such reactions after EpiPen injection. It is imperative that physicians are aware of such potential adverse effects in order to enhance patient care.

ACP Michigan Chapter, Residents Day 2019

Poster #73

Category: CQI/EBM

Institution: Henry Ford Health System – Macomb

Program Director: Amitha Aravapally, MD, FACP

Presenter: Adithya Peruri

Additional Authors: Amitha Aravapally, MD; Niluka Weerakoon, MD

Effective ABIM Board Preparation for Internal Medicine Residents

Henry Ford Macomb Internal Medicine Residency was primarily DO graduates who took the American College of Osteopathic Internists (ACOI) Exam at the completion of residency. In 2016, when we received our initial ACGME accreditation, the residents transitioned to take both the ABIM (American Board of Internal Medicine) and ACOI exams and the ABIM pass rate was 66%. However we note, not all residents chose to take the ABIM that year. We initiated additional board preparation primarily for PGY 3 to help with transition from ACOI to ABIM exams and were able to achieve only 64% pass rate in 2017. Decision was made overhaul our style of board preparation and also involved all IM residents. In 2018, our pass rate went up to 87.5%.

We believe the improvement in board pass rates correlated to the changes in board preparation format, which changed focus from passive to active learning. Residents were required to take written weekly tests of assigned topics. Resources utilized, but not limited to included UWorld, Board Vitals and MKSAP literature and questions. We recognized our top scorers from each year of residents, and would not allow delinquency of more than 3 tests per month. For ambulatory topics, we utilized PEAC modules with an 80% pass rate minimum on modules. We expect a continued improvement in our scores for this upcoming year. We believe this is an opportunity for us to share an effective resident training methods with other residency programs on ways to improve board pass rates.

Poster #74

Category: Clinical Vignette

Institution: Henry Ford Health System – Macomb

Program Director: Amitha Aravapally, MD, FACP

Presenter: Saher Quraeshi

Additional Authors: Fackler, J. DO, Munasinghe, R. MD

MSSA: It's Everywhere!

Intro: A rare case of Methicillin Sensitive Staphylococcus Aureus (MSSA) meningitis and bacteremia in a previously healthy lady with no risk factors or obvious source of infection.

Case: 49 y/o female presented with symptoms of back pain for 4 days and confusion for 2 days. On initial evaluation she was tachycardic, hypotensive and febrile. Due to concern for CNS infection empiric antibiotics for meningitis were initiated. However she rapidly deteriorated and needed intensive care treatment with vasopressors for septic shock. She underwent repeat lumbar puncture, CSF studies concerning for bacterial meningitis. The patient had continuous generalized pain and lower extremity weakness. Imaging with spine CT, brain and spine MRI were unremarkable. Subsequently patient's CSF and blood cultures were positive for MSSA. Cardiology was consulted, TEE was negative for endocarditis. Patient subsequently developed painful erythematous areas of swelling over both forearms and L-gluteal region. CT imaging revealed subcutaneous abscesses which were drained by surgery. Abscess cultures revealed MSSA. With continued antibiotic therapy patient's condition improved but was deconditioned and needed further rehabilitation.

Discussion: Staphylococcus aureus is a common cause of bloodstream infections however meningitis caused by S. aureus is rare as it has poor penetration across the blood brain barrier. Spontaneous, nonsurgical meningitis caused by S. aureus has a high morbidity and mortality necessitating prompt treatment with intravenous antibiotics. Usually there is a primary foci such as skin, lungs, or urinary tract, however it is not uncommon for no primary focus to be identified such as in our case.

Poster #75

Category: Clinical Vignette

Institution: Henry Ford Health System – Macomb

Program Director: Amitha Aravapally, MD, FACP

Presenter: Saumeet Shah

Additional Authors: Jay Patel

Hemophagocytic Lymphohistiocytosis

Hemophagocytic Lymphohistiocytosis is a rare, aggressive and life threatening condition characterized by excessive immune activation. In view of a variable clinical presentation, lack of specificity of the clinical and laboratory findings and outcomes limited by delay in identification warrants discussion to help in this challenging diagnosis.

A 57 year old female initially presented for a CT of the chest after failed outpatient treatment for pneumonia; imaging denoted diffuse lymphadenopathy, she followed up with Hematology/Oncology, having two fine needle aspirations with inconclusive results. Approximately 2 months later she presented to the ED with progressive shortness of breath, hypoxia and chest pain associated with fatigue and cough. Physical exam was significant for only bilateral crackles at the lung bases. She was diagnosed with a subsegmental PE after imaging, pneumonia and lactic acidosis, and was subsequently admitted to the MICU and started on broad-spectrum antibiotics and heparin. General surgery was consulted for excisional biopsy of the lymph node, resulting in a T Cell Lymphoma with underlying B Cell Lymphoma. In post-op she became tachycardiac, tachypneic and hypoxic. Over the next 5 days, she became anemic, thrombocytopenic, febrile, hypercalcemic, hyperuricemic and hypofibrinogenemic, and developed splenomegaly with worsening lactic acidosis. HLH was ultimately identified with a severely elevated Ferritin level and elevated IL-2 (CD25) receptor, at which time she was also exhibiting tumor lysis syndrome and hemodynamic instability; subsequently leading to the patients' death.

Although rare, this case illustrates the necessity for early identification of HLH and initiation of treatment, especially in the setting of an unclear clinical picture delaying diagnosis.

Poster #76

Category: Clinical Vignette

Institution: Henry Ford Health System – Macomb

Program Director: Amitha Aravapally, MD, FACP

Presenter: Lovepreet Singh

Additional Authors: Dr. Nikhil Ambulgekar

Management of Life Threatening Hyperkalemia in ESRD

Hyperkalemia is a life-threatening condition especially in patients with ESRD. Severe Hyperkalemia can lead to cardiac arrhythmias and sudden death if not acted on promptly. We present a case of a 64 y.o. F with PMHx ESRD on HD, IDDM, HTN, CAD, MI, CVA who presented w cc AMS. Initial EKG revealed wide complex arrhythmia- a sinusoidal wave pattern. Labs were significant for K of 9.9, BUN 102, Cr 14.8. Cardiology was consulted and had recommended calcium to stabilize cardiac membranes, and vascular surgery for placement of emergent Quinton catheter for dialysis. In the ED patient was given 2g calcium chloride, 10u Insulin w D50, vascular surgery placed Quinton catheter and nephrology was consulted for HD, patient was transferred to ICU for further monitoring and treatment of severe hyperkalemia. This case demonstrates hyperkalemia with EKG changes requiring prompt intervention. We will demonstrate which EKG findings are associated with different potassium levels. This particular case patient was diagnosed w ESRD and on HD MWF but was unable to fully undergo entire scheduled dialysis on Friday due to fistula malfunction, when the patient arrived for HD on Monday her AV fistula was completely malfunctioning therefore didn't undergo any dialysis, was to follow up with vascular surgery the following day but became altered and was brought to the ED. In the operating room fistulogram was preformed which revealed 100% occlusion of left subclavian which was successfully ballooned open, 80% stenosis of left cephalic vein which was stented.

Poster #77

Category: Clinical Vignette

Institution: Henry Ford Health System – Macomb

Program Director: Amitha Aravapally, MD, FACP

Presenter: Jordan Siu

Additional Authors: Saher Quraeshi MD, Rajika L Munasinghe MD

Haemophilus Influenzae Meningitis in Adult Female with Atraumatic Cerebrospinal Fluid Leak and History of Pseudotumor Cerebri

Intro: CSF rhinorrhea is caused by a defect in the skull base occurring from iatrogenic and accidental trauma, intracranial tumors, congenital defects, and spontaneously. We report an unusual case of Haemophilus influenzae meningitis in a lady with atraumatic CSF rhinorrhea and history of pseudotumor cerebri. In adults, Haemophilus influenzae is responsible for approximately 7% of cases of acute bacterial meningitis.

Case: 42-year-old female with medical history significant for pseudotumor cerebri, 5 weeks of persistent rhinorrhea and cough, presented with 1-day history of headaches associated with eye discomfort, neck pain and stiffness, fevers, chills, diarrhea, difficulty ambulating and maintaining posture. A lumbar puncture was indicative of bacterial meningitis and CSF culture resulted Haemophilus influenzae. A swab of the nares was positive for beta 2, indicating a CSF leak. The patient was discharged on intravenous Ceftriaxone and followed up with her primary care provider upon return to Chicago.

Discussion: A CSF leak secondary to pseudotumor cerebri was the suspected route of meningeal infection. Several studies note an association between pseudotumor cerebri and CSF rhinorrhea. Literature investigating the use of prophylactic antimicrobials in patients with basilar skull fracture and CSF leak remains controversial. Most CSF leaks resolve within 7 days, those lasting longer than 7 days have increased incidence of bacterial meningitis and warrant evaluation by neurosurgery/surgical intervention. Third generation cephalosporins are the treatment of choice for H. influenzae meningitis.

Poster #78

Category: Clinical Vignette

Institution: Henry Ford Health System – Macomb

Program Director: Amitha Aravapally, MD, FACP

Presenter: Emily Wittenberg

Additional Authors: Racano A. DO, Ramireddy, S. MD, Weerakoon, N. MD

A Rare Presentation of Systemic Lupus Erythematosus with Lymphadenitis

A 26 year old African American female presented with the chief complaint of persistent fever and a single painful axillary lymph node for two weeks. This is a unique presentation of systemic lupus erythematosus (SLE).

She presented with a fever and a single painful yet mobile axillary lymph node. Initial concern for an infectious etiology led to initiation of broad spectrum antibiotics. Despite three days of antibiotics, she continued to have fevers. Concern for malignancy led to an excisional lymph node biopsy. Additional lab testing that was pending prior to lymph node biopsy subsequently came back positive for ANA (antinuclear antibody) titer >1:1280 in homogeneous pattern, anti-ds DNA antibody positive, and anti-Smith antibody positive, thus pointing towards SLE.

Lymph node biopsy was unusual showing histiocytic necrotizing lymphadenitis (HNL), a histologic feature most commonly associated with Kikuchi-Fujimoto Disease (KFD). Few case reports show an association between HNL and SLE [2, 3]. Given the strongly positive ANA and antibody markers, KFD was deemed less likely and more consistent with SLE. Due to variability of presentations, Lupus can often be a difficult diagnosis. She met three American College of Rheumatology (ACR) criteria for classifying a SLE diagnosis when four or more criteria are needed [1]. However none of these criteria include lymphadenopathy. Lymphadenopathy is seen in 12-59% of patient with SLE, however is often generalized and painless [4,5,6]. In patients who do not meet ACR criteria, SLE should still be investigated, if suspected, as patients may be presenting in an atypical fashion.

Poster #79

Category: Clinical Vignette

Institution: Hurley Medical Center/MSU – Flint

Program Director: Ghassan Bachuwa, MD, FACP

Presenter: Ahmed Abdalla

Additional Authors: Saadia Shafi MD, Sai Chintalapati, MD, Ragheed Al-Dulaimi, MD, Trailokya Naith Pandit MD, Adiraj Singh MD

Hemoperitoneum: A Rare Presentation of Acquired Hemophilia A in Middle Age Female

Background: Acquired hemophilia A (AHA) is a rare autoimmune-mediated factor VIII disorder usually affects people aged 60 to 80 years. AHA could be either idiopathic or secondary to rheumatological diseases, malignancies, infections, or medications. The disease can be complicated by a life-threatening bleeding with a high morbidity and mortality.

Case report: A 45-year-old African American female, with no known history of bleeding disorders and not on antithrombotic medications, presented to the hospital with progressively worsening abdominal pain and distention for 2 days following a mechanical fall. On initial evaluation, her vitals were pertinent for blood pressure 93/44 mmHg and Heart rate 95 bpm. Physical exam was remarkable for diffuse abdominal tenderness.

laboratory workup showed anemia (Hb: 9.7 g/dl), with normal platelets count (223 K/UL). APTT was prolonged (46.9 seconds). CT Abdomen revealed a large amount of free fluid in the coelomic cavity, consistent with hemoperitoneum. APPT-based mixing study was performed without complete resolution, indicating the presence of inhibitor. Factor VIII activity was low as 2% with high titer of factor VIII inhibitor 89.6 Bethesda unit (<0.8). Patient was started on activated prothrombin complex concentrates (FEIBA®) 100 unit/kg and underwent emergent exploratory laparotomy. Ruptured right hemorrhagic ovarian cyst was found and the patient underwent right salpingo-oophorectomy. Postoperatively, she was started on a daily combination of prednisone 60 mg plus cyclophosphamide 125mg. Further Workup for secondary causes were negative. Her acquired factor VIII inhibitor is thought to be idiopathic.

Conclusion: In patients presenting with spontaneous bleeding and abnormal clotting assays, physicians should consider acquired coagulopathy as part of the differential diagnoses.

Poster #80

Category: Research

Institution: Hurley Medical Center/MSU – Flint

Program Director: Ghassan Bachuwa, MD, FACP

Presenter: Areeg Bala

Additional Authors: Ragheed Al-Dulaimi, MD, Sowmya Goranta, MD, Shima Sidahmed, MD, Tarek Haykal, MD, Ghassan Bachuwa, MD, Carlos Rios-Bedoya, PhD.

The High Burden of Lung Cancer in the State of Michigan: A SEER- Based Analysis

Background: Lung Cancer is the leading cause of cancer death in Michigan and the United states in general. In this study, we describe the epidemiology of this malignancy and its sub-types in the state of Michigan compared to the national data in the context of demographic and risk factors variability.

Methods: We queried the Surveillance, Epidemiology and End Results (SEER) database for diagnosed patients with lung cancer between 2010-2015 in Michigan (N =19517) and in national data (N =308561). Incidence, prevalence, and 5 years survival rates in Michigan and the US were calculated and compared across time. Kaplan-Meier method and Cox-proportional hazards model were used for survival analysis.

Additionally, prevalence health and social indices were compared using BRFSS data.

Results: Michigan recorded higher adjusted incidence rate (1.89 per 10,000 person ($p < 0.05$) and prevalence 8,736 (0.2261%). 5 years observed survival rate was lower in Michigan than the national data, In addition, Michigan has a higher percentage of current smoker and COPD. Mortality rate was higher in unknown and poorly differentiated cancer types (1.18, 0.37 per 1000 per year) in Michigan compared to national data (1.0069 and 0.417 per 1000 per year). Rt sided lung cancer was more common (55.8%) and carried a better survival(18.13% survived) ($p < 0.001$). In both the US and Michigan, survival trends significantly differed by age, gender, tumor, and lung cancer laterality ($p < 0.001$). Furthermore, in Michigan, higher tumor grade has the strongest association with death (HR = 3.960, $p < 0.001$), while it was not the case in the national data.

Conclusions: Our study highlights divergent trends in Michigan compared to the US and expose points of future intervention to improve cancer prevention and survival.

Poster #81

Category: Research

Institution: Hurley Medical Center/MSU – Flint

Program Director: Ghassan Bachuwa, MD, FACP

Presenter: Sowmya Goranta

Additional Authors: Eduard Drizik MS, Areeg Bala MD, Tarek Haykal MD, Shima Sidahmed MD, Anitha Yelangi MD, Ghassan Bachuwa MD, Trailokya Pandit MD

Does Chemotherapy Affect Survival of Breast Cancer Patients with Recurrence Score 26-30?

Introduction: The Oncotype-DX recurrence score (RS) allows providers to identify hormone receptor positive and HER2-negative breast cancer patients that may benefit from adjuvant chemotherapy (AC). The TAILORx Trial showed no benefit of AC among patients with RS of 11-25. There are, however, limited studies examining any benefit of AC among those with RS of 26-30. We sought to examine the effect of AC on BC-specific survival among these patients.

Methods: We queried the Surveillance, Epidemiology, and End Results database for newly diagnosed female BC patients between 2010-2015. We included patients with T1-T3, hormone receptor positive, HER2-negative, and lymph node-negative BC with RS of 26-30. Patients <40 years, with tumors ≤ 5 mm, and with incomplete records were excluded. Cox Proportional-Hazards Model was done to examine the effect of AC on BC-specific survival.

Results: We included 2,961 patients, of whom 1,669 (56.4%) received AC.

Administration of AC was associated with lower age (56.8 [8.9] vs 61.9 [9.6], $p < 0.001$), Grade III/IV (39.6% vs 30.1%, $p < 0.001$), married patients (66.3% vs 61.1%, $p < 0.001$), and T stage > 1 (31.4% vs 26.8%, $p = 0.03$). AC was not associated with insurance status, race, and histology. Overall 5-year BC-specific survival was 97.3% (96.3-98.3%). After adjustment through cox regression, AC was found to not have an effect on survival (HR:0.53 [0.26-1.09], $p = 0.08$).

Conclusion: AC did not affect BC-specific survival among patients with a RS of 26-30. Further research is warranted to identify other sub-groups that may potentially benefit from AC.

ACP Michigan Chapter, Residents Day 2019

Poster #82

Category: CQI/EBM

Institution: Hurley Medical Center/MSU – Flint

Program Director: Ghassan Bachuwa, MD, FACP

Presenter: Htay Htay Kyi

Additional Authors: Saira Sundus, Huda Marcus, Jason Sotzen, Parker Suit, James Cranford, Julia Moses, Philip McDonald

Directed Intervention to Improve the Rate of Admission Medication Reconciliation in an Acute Care Hospital

Introduction

Prescribing errors result in approximately 1.5 million preventable adverse drug events annually, at a cost of more than \$3 billion. We hypothesized that refinement of the electronic medical record (EMR) and provider education could improve adherence to completion of admission medication reconciliation, thereby potentially limiting prescribing errors. Our goal was to improve the percentage of medication reconciliation completed within 24 hours of admission to at least 90%.

Methods

A prospective interventional study was conducted at a university-affiliated community hospital between January 1, 2017 and September 30, 2018. A total of 8,520 patients were reviewed. A baseline analysis was performed on the pre-intervention data. The project involved three PDSA cycles. A few simple modifications were enacted such as noon conference lectures, emails, mandatory columns on patient lists indicating if medication reconciliation was completed, reminders by case managers, and peer-to-peer reminders to inpatient teams and attending physicians.

Results

The percentage of medication reconciliations completed within 24 hours of admission was lowest for the pre-intervention cycle (62.4%), followed by Cycle 1 (76.7%) and Cycle 2 (77.3%), and was highest for Cycle 3 (80.9%). This association was statistically significant ($p < 0.001$). The percentage of medication reconciliations completed any time prior to discharge were higher and increased in a similar stepwise fashion from the pre-intervention cycle (71.1%) to Cycle 3 (88.4%) ($p < 0.001$).

Conclusion

Our project demonstrates that optimization of the EMR and provider education can readily improve adherence with medication reconciliation, thereby fostering improved patient care.

Poster #83

Category: Research

Institution: Hurley Medical Center/MSU – Flint

Program Director: Ghassan Bachuwa, MD, FACP

Presenter: Shima Sidahmed

Additional Authors: Ahmed Abdalla, MD; Babikir Kheiri, MD; Areeg Bala, MD; Mohammed Salih, MD; Ghassan Bachuwa, MD

Anticoagulants for the Treatment of Venous Thromboembolism in Patients with Cancer: An updated Pairwise and Network Meta-analysis

Background: Cancer-associated venous thromboembolism (VTE) is common. Although low molecular weight heparin (LMWH) is the standard therapy in this setting, little is known with regard to non-vitamin K antagonist oral anticoagulants (NOACs). Therefore, we sought to evaluate the safety and efficacy of various anticoagulants in this vulnerable population.

Methods: Electronic database search was conducted to identify randomized clinical trials (RCTs) that compared LMWH, NOACs, and/or vitamin-K-antagonists (VKA) in cancer patients. We performed frequentist direct and Bayesian network meta-analysis using random-effects model to calculate odds ratios (ORs), 95% confidence intervals (CIs), and 95% credible intervals (CrIs). The primary outcome was VTE (pulmonary embolism and deep-vein thrombosis) recurrence. Secondary outcomes were major bleeding and all-cause mortality.

Results: We identified 13 RCTs with 6,595 total patients (mean age 62.4 ± 12.2 ; 50.4% female; 17.7% hematological malignancies; and 6 months median follow-up). The most common cancer type was colorectal and 48% of the population had metastatic cancer at baseline. NOAC was associated with significantly reduced VTE recurrence compared with VKA (OR=0.58; 95% CI=0.40-0.83; $P<0.01$; number needed to treat [NNT]=40) and LMWH (OR=0.46; 95% CI=0.25-0.85; $P=0.01$; NNT=20). LMWH was associated with significantly reduced VTE recurrence compared with VKA (OR=0.52; 95% CI=0.39-0.71; $P<0.01$; NNT=18). NOACs were associated with significantly reduced major bleeding compared with VKA (OR=0.56; 95% CI=0.35-0.91; $P=0.02$; NNT=64). There were no significant differences identified between the competing therapy with regard to all-cause mortality.

Conclusions: Among cancer patients with VTE, NOACs were associated with significantly reduced VTE recurrence compared with LMWH and VKA, and significantly reduced major bleeding compared with VKA. LMWH was associated with significantly reduced VTE recurrence compared with VKA.

Poster #84

Category: Clinical Vignette

Institution: Huron Valley Medical Center – DMC

Program Director: Jeet N. Pillay, MD, FACP

Presenter: Javier Arce

Additional Authors: Christopher Hendrickson, DO; Tate Bonifer, MD; Jeet Pillay, MD

A Case of Rheumatic Heart Disease and Heart Failure

Acute rheumatic fever (ARF) is a multisystem autoimmune response to untreated or partially treated group A Streptococcus infection. Endocardial involvement particularly affects the mitral and aortic valves. A single severe episode or recurrent episodes of ARF can cause permanent valve damage known as rheumatic heart disease (RHD). Valve repair, if feasible, is preferred over replacement. RHD causes progressive fibrotic leaflet thickening and scarring of chordae, limiting the durability of mitral valve (MV) repair.

The patient is a 74-year-old woman presenting to the emergency department due to worsening cough, shortness of breath, and lower extremity edema. Relevant medical history includes three episodes of ARF as a child causing MV disease, atrial fibrillation (AF), and hypertension. Relevant surgical history includes MV repair in her 40s, MV replacement with mechanical valve at age 58, and dual-chamber pacemaker insertion. Medications include metoprolol, warfarin and furosemide, to which she is noncompliant. Physical examination was relevant for no JVD, negative hepatjugular reflux, irregularly irregular rhythm, mechanical S1 click, diffuse wheezing bilaterally, bibasilar rales, and bilateral lower extremity pitting edema. Electrocardiogram showed AF. Chest X-ray showed mild vascular congestion. Echocardiogram revealed normal ejection fraction. Valvular disease is an important cause of heart failure. The chronicity of the valvular lesion and advanced age, along with a normal ejection fraction on the echocardiogram indicate that the patient has heart failure with preserved ejection fraction. The exacerbation was likely precipitated by non-compliance to furosemide and AF. The symptoms improved with furosemide and the patient was discharged after two days.

Poster #85

Category: Clinical Vignette

Institution: Huron Valley Medical Center – DMC

Program Director: Jeet N. Pillay, MD, FACP

Presenter: Candice Bennett

Additional Authors: Diana Carlson, DO; Tate Bonifer, MD

Pieces of my Heart

Infective endocarditis (IE), an infection of the heart valves or endocardium, is typically bacterial in source. Septic embolization can complicate infective endocarditis with a broad array of sequelae such as cardiac, neurologic, renal, splenic, musculoskeletal, and pulmonary complications that increase morbidity and mortality. IE should be excluded in any patient with *S. aureus* bacteremia.

A 62-year-old female with history of end stage renal disease on hemodialysis (HD) presented to the emergency department with altered mental status, fever, fatigue, and expressive aphasia. Subclavian permacath site was purulent. Blood work revealed leukocytosis and methicillin susceptible *Staphylococcus aureus* (MSSA) bacteremia. Permacath tip culture also grew MSSA. Head computed tomography showed no acute process. She then developed lower extremity paresthesia. Metastatic infection was suspected and brain magnetic resonance imaging demonstrated acute punctate embolic infarcts in bilateral cerebral hemispheres and right cerebellum. Transthoracic echocardiogram (TTE) was negative for vegetation but did not exclude endocarditis. Given dependence on HD and embolic infarcts, transesophageal echocardiogram (TEE) was performed and revealed a large, mobile vegetation of the mitral valve. Cardiac surgery was recommended but declined by the patient. She completed a six-week course of intravenous nafcillin.

When clinical suspicion for IE is high, TEE is warranted despite negative TTE.

Community acquired MSSA bacteremia is the cause of the majority of community endocarditis, and associated with high rates of major embolism. In the US, 7.8% of *Staphylococcus* bacteremia is associated with intravascular catheters. Up to 60% of *Staphylococcus* bacteremia is complicated with IE, increasing mortality rates to 50%.

Poster #86

Category: Clinical Vignette

Institution: Huron Valley Medical Center – DMC

Program Director: Jeet N. Pillay, MD, FACP

Presenter: Tate Bonifer

Additional Authors: Brandon Genson, DO; Stefanie Gibson, DO; Michael Jerger, DO

A Case of Delayed Onset Hypoparathyroidism After Total Thyroidectomy

Hypoparathyroidism is a known complication of total thyroidectomy in the immediate postoperative period, however, for what duration should clinicians consider it on their differential? Associated with hypocalcemia, prolonged QT, hypotension and acute heart failure, this can be both difficult to treat and even life threatening if not identified.

We present the case of a 62 year old female with history of stage IVA, N1b papillary thyroid carcinoma with anaplastic components who underwent total thyroidectomy and tracheostomy seven months prior to presentation. Chief complaints were shortness of breath and hypoxia, found to be due to mucous plugging amenable to suctioning. On resolution of respiratory distress, she became hypotensive requiring vasopressors. Labs revealed hypocalcemia with corrected calcium of 6.7mg/dL, ionized calcium of 0.87mMol/L, intact PTH of 10pg/mL and high urinary calcium. Serial EKGs showed prolonged QTc of over 700ms. Echocardiogram identified ejection fraction of 30-40%, which was previously normal. She was initially stabilized with calcium gluconate and eventually transitioned to daily ergocalciferol and calcitriol which she continued at discharge. Cardiac conduction abnormalities resolved with repletion of calcium.

A literature review showed that hypoparathyroidism usually occurs within the first few days after thyroidectomy and can be transient, permanent, or intermittent. Up to 20% of patients can have transient hypoparathyroidism, but 70% of those will have resolution of symptoms within two months. Our patient presented seven months postoperatively with severe manifestations of hypocalcemia. Late onset hypoparathyroidism is quite rare, but nevertheless important to consider in a post-thyroidectomy patient.

Poster #87

Category: Clinical Vignette

Institution: Huron Valley Medical Center – DMC

Program Director: Jeet N. Pillay, MD, FACP

Presenter: Betsy Joseph

Additional Authors: Jeet Pillay, MD

An Atypical Presentation of Vestibular Migraine

Vestibular migraine, also referred to as migraine-associated vertigo, is a nervous system condition that commonly causes vertigo in people who have a history of migraines. However, it is important to note that vestibular migraines may or may not cause a headache. It can present with a number of symptoms that affect the ears, vision, or balance.

A 35-year-old female presented to the office with dizziness and nausea for 6 weeks. The episodes were intermittent, lasting two minutes to three hours, and resolved spontaneously. She did report associated anxiety with these episodes. Conservative modalities failed to abort or improve her symptoms. She had no prior medical or surgical histories, and took no medication or supplements. Her physical examination was unremarkable. An electrocardiogram demonstrated normal sinus rhythm without any notable abnormalities. Laboratory studies including basic metabolic panel, complete blood count, thyroid stimulating hormone, free T4, magnesium, phosphate, and c-reactive protein were unremarkable. She was initiated on a trial of citalopram without any improvement. Her refractory symptoms prompted her to present to the office numerous times over the course of a few months. An extensive workup including neuroimaging and cardiac studies was unrevealing.

The patient was eventually diagnosed with vestibular migraines at a tertiary medical center. When vestibular symptoms predominate, as in this patient, the treatment of choice is a serotonin-norepinephrine re-uptake inhibitor. Early recognition is crucial in controlling the debilitating symptoms and avoiding a costly workup.

Poster #88

Category: Clinical Vignette

Institution: Huron Valley Medical Center – DMC

Program Director: Jeet N. Pillay, MD, FACP

Presenter: Satinderjit Nijjar

Additional Authors: Laura Kohler, DO PGY-III, Susan Lukas, DO PGY-II, Dr. Diana Carlson, DO

Waking Up Ataxic

Conversion disorder consists of one or more symptoms of altered voluntary motor or sensory function that cannot be medically explained. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning. Conversion disorder is more common in women than in men and can have onset at any age. The diagnosis can often go missed, leading to unnecessary testing, treatment, and healthcare costs.

A 35-year-old male presented to the ED due to an inability to walk for two days. Onset of symptoms occurred shortly after a legal altercation with his son. Upon initial evaluation, he had a wide-based gait with short stride length and no other neurologic findings. However, he was able to move his lower extremities while lying in bed without difficulty. Non-contrast CT of the head, presenting labs, urine drug screen, and MRI of the brain were all interpreted as unremarkable. The following day, his gait improved, and he was able to walk unassisted. This case stresses the importance of obtaining a detailed history, including social stressors, and conducting a thorough neurological exam. It serves as a reminder that we should consider conversion disorder as a differential for patients with acute-onset ataxia.

Poster #89

Category: Clinical Vignette

Institution: Huron Valley Medical Center – DMC

Program Director: Jeet N. Pillay, MD, FACP

Presenter: Jasmin Patel

Additional Authors: Stefanie Gibson D.O., Michelle Dismondy D.O.

A Unique Presentation of Creutzfeldt-Jakob Disease Manifesting as Auditory Impairment

Creutzfeldt – Jakob Disease (CJD) is a fatal spongiform encephalopathy that commonly presents with rapid dementia and ataxia. Notably, there have been rare occasions where CJD has presented initially with auditory manifestations.

This case demonstrates a 62-year-old woman with original complaint of gradual hearing loss. She was evaluated by an otolaryngologist which revealed bilateral hearing loss. Over the next month, she was noted to have memory impairment and gait abnormalities. She had a witnessed syncopal episode and was brought to the hospital. She underwent extensive testing including head computed tomography (CT), bilateral carotid artery ultrasound, cardiac CT for calcium scoring and neck magnetic resonance angiography; all of which were unremarkable. A positive tilt table test and elevated ammonia level were notable. She was diagnosed with neurogenic syncope. A month later, she presented to the hospital with worsening of her previous symptoms. At this time, head CT and electroencephalogram were normal. Magnetic resonance imaging revealed abnormal diffusion weighted hyperintensity and increase FLAIR/T2 signal involving bilateral caudate, nuclei, putamen, and hippocampi. Patient underwent lumbar puncture with results significant for positive 14-3-3- protein, RT -QUIC and T-tau protein, making CJD the likely diagnosis.

This case exhibits an unusual presentation of CJD and the importance of considering this rare disease when assessing auditory symptoms in conjunction with cognitive and cerebellar dysfunction. Prognosis of CJD is death within six to twelve months; however, it is important to increase awareness to not only provide families with answers sooner, but also reduce hospitalizations by early detection.

Poster #90

Category: Clinical Vignette

Institution: Huron Valley Medical Center – DMC

Program Director: Jeet N. Pillay, MD, FACP

Presenter: Eric Snowden

Additional Authors: : Eric Snowden, MD. Michael Jerger, DO. Jasmin Patel, DO. Diana Carlson, DO

Portal Vein Thrombosis in a Patient on Oral Contraceptive Pills

Abdominal pain remains one of the most common reasons to seek medical attention. Pain can manifest as many different subtypes and range in severity from tolerable to debilitating. Biases exist when dictating a differential diagnosis established from subjective pain, however various life-threatening diseases are commonly forgotten. However, we report an unusual case of abdominal pain due to portal vein thrombosis (PVT) in a 43-year-old obese woman with a family history of Factor V Leiden who was recently started on an oral contraceptive pill who complained of constant mild aching epigastric pain that developed suddenly 3 days prior to presentation. Physical exam was remarkable for mild tenderness to palpation in the epigastric region. Abdominal Doppler ultrasonography was negative for gallstones but noted a portal vein thrombosis which was confirmed by CT scan. The patient was treated with intravenous heparin infusion with a diagnosis of acute non-cirrhotic PVT, which was transitioned to oral anticoagulation prior to discharge. The patient was advised to discontinue oral contraceptive pills indefinitely. Subsequent hypercoagulable workup, including Factor V Leiden, has been negative. Early recognition and treatment of portal vein thrombosis are imperative as PVT has the potential to progress to severe complications such as intestinal infarction, multi-organ system dysfunction, or death. It is essential to unmask these fatal diagnoses early in order to prevent these mortalities and morbidities. This case serves as a reminder that all abdominal pain should be thoroughly evaluated irrespective of the severity of symptoms.

Poster #91

Category: Clinical Vignette

Institution: Huron Valley Medical Center – DMC

Program Director: Jeet N. Pillay, MD, FACP

Presenter: Meri Tarockoff

Additional Authors: Hadi Abou-Rass, DO PGY-II, Susan Lukas, DO PGY-II, Dr. Nabil Wehbe, MD

Lithium Toxicity

Encephalopathy, agitation, QT prolongation and diarrhea are all common symptoms of lithium toxicity. The incidence of lithium toxicity in the US is 3000 per year which is one of the rarer overdoses and presents as a challenge to diagnose clinically.

A 57-year-old male was brought into the ED by a family member after he was found running around the house nude and speaking incoherently. Prior to the episode, he was noticed to be fatigued and lethargic for the past day. Additionally, he had decreased oral intake and was becoming increasingly agitated. Upon initial evaluation, EKG showed QT prolongation, while CT of the head was negative for an acute etiology. Presenting labs showed acute renal failure with a BUN 51, Cr 4.30 and blood lithium level of 2.7 mmol/L (normal 1.0-1.2 mmol/L). He had an EEG, which revealed slowing and disorganization of the rhythm - seen with toxic encephalopathy. After a thorough evaluation of all labs and symptoms, he was given aggressive IV hydration with electrolyte replacement to improve clearance of lithium. He ultimately improved without the need for hemodialysis. This case illustrates the importance of conducting a thorough physical exam, and ordering relevant labs to evaluate a patient when a history cannot be provided. Although symptoms seen in this patient can be portrayed in many other common pathologies, it is important to create a broad differential diagnosis.

Acknowledgement of the potential toxic effects of lithium and prompt management are keys to saving lives and preventing long term adverse outcomes.

ACP Michigan Chapter, Residents Day 2019

Poster #92

Category: Clinical Vignette

Institution: McLaren Oakland/MSU

Program Director: Mohamad Ammar Hatahet, MD, FACP

Presenter: Justin Bahooora

Additional Authors: Vasim Lala, Richard Keirn

Hemichorea-Hemiballismus in the Setting of Hyperosmolar Hyperglycemic State

Case Summary: A 68 year old African American female with a past medical history of type 2 diabetes mellitus and CVA with residual deficits presented with complaints of ataxia and slurred speech of roughly 3 to 5 days duration. NIH stroke scale on presentation was 3. Initial ED lab work showed a Glucose of 780 mg/dL. MRI/MRA of the brain showed chronic ischemic changes, but no acute changes. Hospital course showed her to complain of episodic uncontrollable choreiform and ballistic movements of the left upper extremity, but over the next 5 days the involuntary movements in her became more sporadic until finally completely resolving one week after admission as her glucose and sodium levels improved.

Brief Literature Review: Although the exact mechanism is unknown, the prevailing thought is a combination of ischemic and metabolic factors lead to HCHB. As seen with previous case presentations on HCHB, there is a characteristic hyperdensity on T1-weighted MRI in the basal ganglia. This was felt to be due to a reduction of cerebral blood flow, petechial hemorrhage, and depletion of GABA. Treatment of HCHB secondary to HHS is achieved through control of the blood sugar in the majority of cases.

Conclusion: Overall, HCHB is a generally benign condition with a favorable outcome. If one recognizes HCHB in the setting of HHS, one could more easily treat these conditions without an extensive workup.

Poster #93

Category: Clinical Vignette

Institution: McLaren Oakland/MSU

Program Director: Mohamad Ammar Hatahet, MD, FACP

Presenter: Jason Kaplan

Additional Authors: Victor M Hunyadi DO, Michael B DeYoung DO

A Rare Case of Tricuspid Valve Thrombus with Concurrent Pulmonary Embolism

A 60 year old male was admitted to inpatient rehab following an ischemic stroke of the left middle cerebral artery treated with mechanical thrombectomy. While in rehab, the patient developed acute shortness of breath. CT angiography showed a saddle pulmonary embolism with filling defects within multiple segmental and subsegmental pulmonary arterial branches of all lobes with evidence of right heart strain. Subsequent transthoracic echocardiogram exhibited an echodense mobile mass on the tricuspid valve, indicating a thrombus. The patient underwent a successful EKOS catheter directed thrombolysis with a long 135 cm catheter with a 30 cm treatment zone to deliver alteplase directly to the tricuspid thrombus. Follow up transthoracic echocardiogram did not show any mass on the tricuspid valve. The patient improved clinically and symptoms improved on outpatient follow up.

A tricuspid valve thrombus is a rare cardiac mass that mimics a tumor or vegetations seen in infective endocarditis. The most common cause is a thrombus originating from the deep veins or pelvic veins and becoming entrapped in the tricuspid valve. Other etiologies for the thrombus include from minor endocardial injury, or from stasis of blood in the right heart due to pulmonary hypertension. Although rare, tricuspid valve thrombus should be considered in patients with pulmonary embolism. This case demonstrates the effectiveness of EKOS with a long treatment zone catheter in the setting of pulmonary embolism with concurrent tricuspid valve thrombus.

Poster #94

Category: Clinical Vignette

Institution: McLaren Oakland/MSU

Program Director: Mohamad Ammar Hatahet, MD, FACP

Presenter: Kinjel Shastri

Additional Authors: Justin Bahooora, DO. Nick Poponea, DO

The Dark Side of Vaping: Granulomatous Lung Disease Associated with Electronic Cigarette Use

In recent years, the usage of electronic cigarettes has skyrocketed. They are perceived by many as a less harmful alternative to traditional cigarettes, however, mounting evidence suggests that e-cigarettes may not be as safe as popular opinion suggest. In light of this, we present the case of a 43 year old patient who developed acute dyspnea after substituting traditional smoking with e-cigarettes. In the ED, the patient had CTA of his chest, which revealed multiple small, bilateral, pulmonary nodules which were not seen on a CT scan performed one year prior. The patient underwent fiberoptic bronchoscopy with transbronchial biopsy of the right upper lobe, which revealed epithelioid noncaseating granulomas. The contents of e-cigarette vapor include a litany of substances, some of which have been well established causes of diffuse parenchymal lung disease. One such substance in particular - flavoring agents known as diacetyl compounds - appear to be the most egregious offenders. Numerous reports exist in the medical literature implicating diacetyl compounds as the likely etiology for cases of interstitial and inflammatory lung diseases. In our patient's case, he had biopsy-proven granulomatous lung disease, which we suspect arose from his usage of e-cigarettes. This temporal association supports the contention that e-cigarette vapor was the most likely cause of this patient's condition. Given the growing popularity of e-cigarettes, further investigations should be undertaken to study the potential ill-effects of the many substances found in their vapor and, if necessary, to promote their regulation.

Poster #95

Category: Clinical Vignette

Institution: McLaren Regional Medical Center/MSU – Flint

Program Director: Parul Sud, MBBS, FACP

Presenter: Ali Ahmad

Additional Authors: Mustafa Mohamed, Orimisan S. Adekolujo, M.D.

Pseudoephedrine-Induced Acute Coronary Syndrome in a Patient with Aneurysmal Coronary Disease

Background: Pseudoephedrine is an oral decongestant used to treat nasal congestion associated with the common cold and seasonal allergies. However, it has potent sympathomimetic effects through the release of endogenous norepinephrine which can precipitate acute coronary syndrome.

Case Summary: A 38-year-old Caucasian female presented to the ED with acute onset of substernal chest pain pressure at rest, radiating to the left arm and jaw, with dyspnea and nausea, and improvement with nitroglycerin. Her previous history included gastroesophageal reflux disease, nicotine dependence, and a recent episode of sinus congestion treated with oral pseudoephedrine several times daily. Vitals and physical exam were unremarkable except for blood pressure of 167/136. Electrocardiography showed diffuse T wave flattening. Labs revealed a troponin of 0.13 ng/mL which increased to 0.73 ng/mL. Urine drug screen was positive for amphetamine. She was started on aspirin, metoprolol, atorvastatin and heparin, and underwent cardiac catheterization which revealed an aneurysmal left main artery with patent coronary vasculature and left ventricular ejection fraction of 40%. Her symptoms improved and she was subsequently discharged on medical therapy.

Discussion: Pseudoephedrine has been implicated in acute coronary syndrome due to its alpha- and beta-adrenergic receptor activity and through release of endogenous noradrenaline. Its use has been associated with the development of coronary artery aneurysm due to severe hypertension and endothelial damage from vasoconstriction. Both complications were noted in the current patient.

Conclusion: While seemingly benign, the use of pseudoephedrine may pose adverse cardiac effects in relatively healthy individuals. Although available over the counter, patients should be counseled to avoid pseudoephedrine use.

Poster #96

Category: Clinical Vignette

Institution: McLaren Regional Medical Center/MSU – Flint

Program Director: Parul Sud, MBBS, FACP

Presenter: Hafiz Khan

Additional Authors: Mahin Khan, Ali Ahmad, Parul Sud, James Chambers

Anomalous Origin of Left Main Coronary Artery from the Right Sinus of Valsalva Along with Right Coronary Artery

Introduction:

Left main coronary artery (LMCA) originating from the right sinus of Valsalva is defined as anomalous aortic origin of coronary artery (AAOCA). The course of the anomalous LMCA can be complicated by the external compression and results in fatal outcomes.

Case:

A 73-year-old man with history of coronary artery disease presented with angina and found to have ST depressions on the EKG. An outpatient stress test revealed reversible defect in the anterolateral territory and was referred for further workup. EKG in the hospital showed similar changes with troponins elevation of 0.52 ng/mL.

Echocardiogram showed decreased EF of 40-45% along with wall motion abnormalities. Cardiac catheterization revealed LMCA arising from the right sinus along with right coronary artery (RCA) and triple vessel disease (TVD) for which he was recommended CTA and cardiothoracic surgery follow-up for surgical management.

Discussion:

AAOCA can arise from a shared or separate ostium. AAOCA can be divided into multiple types based on their origin, course, or size and number of vessels. The abnormal course is very important as external compression can result in myocardial ischemia, arrhythmias, or sudden cardiac death. The observed prevalence of Anomalous LMCA with interarterial course is around 0.03% (0.01-0.03, $p < 0.001$). CTA and MRA are class I indications to diagnose AAOCA, however, it can also be diagnosed with Echocardiogram or angiography. Surgery is class I recommendation for interarterial LMCA or AAOCA with ischemia.

In view of AAOCA and TVD, our case was referred for CTA and cardiovascular surgery for evaluation and surgical management.

Poster #97

Category: Clinical Vignette

Institution: Mercy Health – Grand Rapids

Program Director: Mark Spoolstra, MD, FACP

Presenter: Shahroz Adil

Additional Authors: Kamran Ilyas, MD, Nasir Khan, MD, Mark Spoolstra MD

A Rare Case of Plasmacytoma in a Healthy Adult

We report a case of solitary plasmacytoma, found incidentally as a right sided iliac mass, in a patient who was consulted by urology for work up of hematuria.

A 75 year old gentleman was seen for recurrent urinary tract infections and hematuria. He past medical history was significant for benign prostatic hyperplasia, TAVR for aortic valve stenosis and atrial fibrillation (on Xarelto). His recurrent hematuria was thought to be precipitated by Xarelto which was stopped, but he continued to have symptoms which led to his referral to urology. He denied any weight changes, pelvic & hip pain. A CT urogram for hematuria showed a right sided iliac bony lesion with areas of central necrosis. CT pelvis showed the same lesion with as concern that this was a sarcoma based on imaging appearance. A core biopsy showed cells that expressed CD-138 suggestive of a plasma cell neoplasm. Further work up to rule out Multiple myeloma included an LDH that was very slightly elevated at 199, beta-2 microglobulin, immunoelectrophoresis, urine and protein electrophoresis, peripheral smear which were all normal. X-ray bone survey was negative for any other bony lesions. Bone marrow biopsy did not show any monoclonal population of plasma cells and Congo red stain was negative for amyloidosis. Radiation therapy resulted in clinical remission.

This case describes the rare presentation of a rare tumor in a rare location. It also illustrates the importance of timely referral to appropriate specialty, although in this case recurrent UTIs and hematuria were not the symptoms of plasmacytoma, but timely referral for those symptoms led to the early diagnosis and treatment of this tumor.

Poster #98

Category: Clinical Vignette

Institution: Mercy Health – Grand Rapids

Program Director: Mark Spoolstra, MD, FACP

Presenter: Kamran Ilyas

Additional Authors: Shahroz Adil MD, Iman Qaiser MD, Nasir Khan MD, Mark Spoolstra MD, Bryan Hull MD

Disseminated VZV Infection Leading to ARDS in Crohn's Patient on Azathioprine

Introduction:

VZV Pneumonia can occur either with either primary infection or latent VZV infections. Viral dissemination to multiple body organs occurs in 10% of patients and is associated with high mortality rate.

Case Description:

49 years Old Male with Crohn's disease on azathioprine chronically presented to the hospital after starting a course of prednisone for radiculopathy with complaints of Headache, neck pain and stiffness, painful and pruritic Left arm rash and Shortness of breath. Patient's rash was consistent with Herpes Zoster in C3, C4 and C5 distribution. Lumbar puncture showed CSF pleocytosis, increased protein and was positive for herpes zoster virus DNA by PCR. Chest X-ray showed disseminated infiltrates. The patient was diagnosed with disseminated herpes zoster with pneumonitis Patient was started on IV acyclovir as well as broad spectrum antibiotics. His azathioprine was stopped. Patient's clinical condition deteriorated and his Chest X ray showed ARDS. Patient was intubated. A bronchoscopy was done and showed multiple herpetic lesions seen mainly in the left main bronchus. The patient was eventually extubated and was discharged to an acute rehab but he developed neuropathic pain and muscle weakness in his left arm.

Discussion:

In immunocompromised patients with cutaneous varicella zoster (VZV) virus infections, viral dissemination must be considered as a life-threatening condition. Pulmonary involvement occurs within a week of illness and has a mortality rate of 18 percent. Treatment must be initiated within 72 hours of onset of illness and involves an anti-viral for a week.

Poster #99

Category: Clinical Vignette

Institution: Mercy Health – Grand Rapids

Program Director: Mark Spoolstra, MD, FACP

Presenter: Sheda Monfared Beheshti

Additional Authors: James Passinault, MD.

A Rare Fatal Case of Salmonella Aortitis Diagnosed with Positron Emission Computed Tomography Scan

Salmonella aortitis (SA) is a rare endovascular infection; diagnosed with contrast enhancing computed tomography (CT) in the early stages. Left untreated it will lead to rupture, with more than 90% mortality rate.

83-year-old male with past medical history of poorly controlled diabetes and a 3.5 cm abdominal aortic aneurysm (AAA) presented with 3 days of chills and fatigue. On arrival, he was febrile, tachycardiac, and tachypneic. Laboratory workup was remarkable for leukocytosis. Initial blood cultures grew Salmonella Dublin. He was started on IV antibiotics. CT abdomen/pelvis with contrast showed a stable 3.5 cm AAA and a new 3.3 cm left iliac aneurysm (LIA) with no evidence of endovascular infection. Repeat blood cultures continued to grow Salmonella Dublin. Transthoracic echocardiogram and trans-esophageal echocardiogram were unremarkable. Infectious bacterial aortitis was suspected. Whole body positron emission tomography (PET) CT showed infection of both aortic aneurysms. Vascular surgery was consulted and recommended aggressive medical treatment, as patient was a poor surgical candidate. At 2 weeks follow up repeat imaging showed rapid worsening of both the AAA and the LIA with the formation of a new small infrarenal aneurysm. Despite aggressive medical therapy he continued to deteriorate rapidly, with significant debilitation and limitation of mobility, and was transitioned to comfort care.

SA is a rare fatal cause of rapidly progressive aortic mycotic aneurysm. It often presents with non-specific symptoms. High index of suspicion is required when treating high-risk population with persistent fever and bacteremia. Increased awareness is required for timely diagnosis and lowering mortality rate.

Poster #100

Category: Clinical Vignette

Institution: Mercy Health – Grand Rapids

Program Director: Mark Spoolstra, MD, FACP

Presenter: Iman Qaiser

Additional Authors: Bryan Hull, Andrew Jameson

Q Fever Hepatitis

A 57-year old man with Crohn's disease and chronic kidney disease with history of living donor kidney transplantation performed 14 years prior to presentation was noted to have elevated alkaline phosphatase level on annual visit. The alkaline phosphatase levels continued to slowly climb over the following year ultimately leading to a cholecystectomy and liver biopsy revealing multifocal granulomatous hepatitis. This was thought to be drug-induced hepatitis and thus amiodarone and statin therapy were stopped. Despite this, he progressively developed intermittent fevers, rigors and fatigue. Ultimate referral to a quaternary care center revealed elevated *Coxiella burnetii* IgG titer of 1:2048 and negative IgM. Antimicrobials were initiated with subsequent improvement in subjective symptoms and liver enzymes. Despite objective improvement, over the next 6 months he developed progressive diarrhea, anorexia, weight loss and weakness. His liver disease progressed to decompensated cirrhosis with MELD score of 26 secondary to granulomatous hepatitis. The combination of cirrhosis and ongoing immunosuppression for his renal transplant lead to an ultimate decision to pursue hospice care.

Attempts to find an epidemiological link to Q fever revealed only that he had a severe pneumonia without an identified organism seven years prior to presentation. More significantly, he would visit state fairs every year where he had exposure to a variety of farm animals.

Due to rarity of Q fever, diagnosis can be delayed leading to adverse patient outcomes. Patients with hepatitis of unknown origin and granulomatous changes on biopsy should have Q fever in the differential diagnosis.

Poster #101

Category: Clinical Vignette

Institution: Mercy Health – Grand Rapids

Program Director: Mark Spoolstra, MD, FACP

Presenter: Zabila Saeed

Additional Authors: Zabila Saeed, MD, Kyle Jurajy, MD, Mark Spoolstra, MD

Radiation Induced Leiomyosarcoma of IVC Two Decades After Treatment for Wilms' Tumor: Interesting Presentation with Extensive DVT

Wilms tumor is the most common renal malignancy in children. Overall five-year survival rates for Wilms tumor have steadily improved to >90 percent in current era, which means that there is an ever growing population of patients susceptible to the late effects of their initial therapy. We report a case of extensive DVT secondary to radiation induced leiomyosarcoma of the IVC. 23 year old female with a history of Wilms tumor s/p chemo-radiation, and nephrectomy at 2 years. Patient presented with worsening right groin and lower extremity pain and swelling of 1 week. On arrival, vitals were stable. CT abdomen and pelvis showed an extensive thrombosis involving the IVC extending into the bilateral common iliac veins, right external iliac vein, portion of the right internal iliac vein, and proximal right thigh with a mass like enlargement around the IVC. She was started on IV heparin. Hypercoagulable work up was unremarkable. CT guided biopsy revealed the diagnosis of grade 2 leiomyosarcoma. She underwent planned resection of a 5-cm retroperitoneal infrarenal IVC leiomyosarcoma as well as bilateral iliofemoral vein thrombectomy. She is currently on Xarelto for anticoagulation. This case raises the important issues of survivorship and risk of late complications in patients treated for Wilms' tumor. In a report from the NWTSG that reviewed the late outcome of 5278 patients treated between 1969 and 1991, there were 43 cases of second neoplasms. Patients and their families need to be educated regarding long-term effects and the importance of lifelong annual follow-up.

Poster #102

Category: Clinical Vignette

Institution: Mercy Health – Grand Rapids

Program Director: Mark Spoolstra, MD, FACP

Presenter: Rehana Siddiqi

Additional Authors: Iman Qaiser MD, Nicholas Schneider MD

Out of Nowhere, Air Everywhere

Free intraperitoneal air is almost always an alarming finding concerning for a perforated viscus. Rarely however, this phenomenon can arise from non-surgical processes. This report presents a case of non-surgical pneumoperitoneum (NSPP) arising from spontaneous pneumomediastinum.

A 67-year-old female with granulomatous polyangiitis and Rituxan-induced pancytopenia presented with azotemia from her rehabilitation facility, where she had been recovering after a recent hospitalization for diffuse alveolar hemorrhage. Surprisingly, she was noted to have submandibular crepitus. Upon extensive CT imaging, subcutaneous emphysema, pneumomediastinum and pneumoperitoneum were discovered. These studies, along with an esophagogram, ruled out pneumothorax and viscus perforation. Up until this point, conservative management had been pursued, however, upon development of tachycardia and abdominal tenderness, emergent laparotomy was performed. Yet, once again, no pathology was identified. The patient was subsequently diagnosed with NSPP secondary to spontaneous alveolar rupture – evidenced by Macklin effect noted on retrospective review of thoracic imaging – with perivascular dissection into the mediastinum, then further into the peritoneum. The patient was treated with broad-spectrum antibiotics due to her immunocompromised state, with significant clinical improvement despite negative infectious workup. NSPP accounts for 10% of pneumoperitoneum cases, and NSPP arising from spontaneous pneumomediastinum, which itself has an incidence of 1/44500, is rarer still. As this case demonstrates, it is critical to distinguish between surgical and non-surgical pneumoperitoneum, as the two necessitate entirely different management strategies. In this case, the patient's recent episode of alveolar hemorrhage in particular increased her risk for alveolar rupture and spontaneous pneumomediastinum, which ultimately resulted in her NSPP.

Poster #103

Category: Clinical Vignette

Institution: Michigan State University – East Lansing

Program Director: Supratik Rayamajhi, MD, FACP

Presenter: Calvin Abro

Additional Authors: Calvin Abro MD, Fawzi Abu Rous MD, Fazal Raziq MD, Khadir Herzallah MD, Abdullah Al-abcha MD, Mukta Sharma MD

A Case of Fatal Malignant Transformation of Enchondroma to Chondrosarcoma

Primary malignant tumors of the chest wall make up approximately <1% of all primary tumors. They are among the rarest cartilage tumors with chondrosarcomas encompassing 15% of the cases. Both enchondromas and chondrosarcomas can present with a slow-growing mass that can be non-tender and later become painful due to lytic bony destruction. Chondrosarcomas may result from malignant degeneration of an enchondroma.

A 74-year-old male with a past medical history of hypertension, type 2 diabetes mellitus, gastroesophageal reflux presented with acute hypoxic respiratory failure. Eleven years prior to presentation he was diagnosed with an enchondroma of the anterior chest and had no follow up despite increased growth of the mass. CT-guided core biopsy of the mass revealed well-differentiated chondrosarcoma. PET/CT scan showed extensive retrosternal, lung, phrenic nerve and pericardial involvement causing mass effect on the heart that was deemed inoperable. The patient underwent one cycle of doxorubicin but developed difficulty breathing soon after. A repeat CT showed the mass was causing compressive atelectasis of the left lung and patient ultimately died despite resuscitation measures.

Although enchondromas are generally regarded as benign, these tumors can malignantly degenerate into chondrosarcomas—necessitating close follow up. The single most important factor that predicted a favorable outcome in patients with primary malignant tumors of the chest wall, was the ability to perform a complete resection of the tumor with survival reaching 80% at 5 years.

Poster #104

Category: Research

Institution: Michigan State University – East Lansing

Program Director: Supratik Rayamajhi, MD, FACP

Presenter: Fawzi Abu Rous

Additional Authors: Abdullah Al-abcha, Layan El-khatib, Shiva Shrotriya, Calvin Abro, Fazal Raziq, Prajwal Dhakal, Supratik Rayamajhi

Diffuse Alveolar Hemorrhage Secondary to Direct Oral Anticoagulants: A Systematic Review of Reported Cases

Introduction:

DOACs include rivaroxaban, dabigatran, apixiban, edoxaban, and betrixaban. Guidelines have recently identified DOACs as the first line treatment in VTE and nonvalvular atrial fibrillation. As the use of these anticoagulants has gradually increased in last few years, the reports of bleeding-related adverse drug events has increased. There are very few data related to diffuse alveolar hemorrhage (DAH) with DOACs, a dreaded complication of any anticoagulant.

Methods:

Using several search terms, we reviewed all cases of DAH associated with DOACs published in English in PubMed and EMBASE in the last 10 years. The bibliography of each article was searched for additional reports. Statistical analysis was performed using SPSS.

Results:

A total of 34 cases were identified. Mean age was 69 ± 15 years; 68% were male, 32% were female. Rivaroxaban, dabigatran, apixaban, and edoxaban were used in 41%, 35%, 21%, 3% of patients respectively. Atrial fibrillation was the commonest indication, 68%. Hemoptysis was the commonest presenting symptom, 74%. DAH was diagnosed with CT (68%), BAL (56%), and both (35%). 53% of the cases required mechanical ventilation. There was a total of 7 (21%) deaths, while 20 (59%) survived.

Conclusion:

Many factors can increase the risk of DAH in patients on DOACs such as Amiodarone and AKI, both of which can increase the blood levels of DOACs. Lung disease can independently lead to DAH. Caution should be taken with the increasing use of DOAC's in management of complex patients requiring anticoagulation. Prompt diagnosis and management is key for survival.

Poster #105

Category: Clinical Vignette

Institution: Michigan State University – East Lansing

Program Director: Supratik Rayamajhi, MD, FACP

Presenter: Abdullah Al-Abcha

Additional Authors: Fawzi Abu Rous MD1, Manoj Rai MD1, Calvin Abro MD1, Ayat Abdelgadir MD1, Fazal Raziq1, Richa Tikaria MD1.

Iliopsoas Abscess as a Presentation of Colon Cancer

Colorectal Cancer (CRC) is generally known to present with signs and symptoms such as weight loss, anemia, blood per rectum, and change in bowel habits. A large number of cases are also discovered during routine screening. However, only a handful of cases present with fistulas and intra-abdominal or extra-abdominal abscesses, such as iliopsoas muscle abscess (IPA).

IPA can be divided into Primary and Secondary. Risk factors and causative agents vary between the two types. Management of secondary IPAs consists of initiation on appropriate antibiotics and/or drainage of the abscess.

A 68-year-old male presented to the hospital with left thigh pain. He has PMHx of hypertension and diabetes. He's never had a colonoscopy. MRI of the left thigh showed an IPA extending to the adductor musculature. Surgical drainage of the abscess was performed, and fluid was sent for cultures. Based on the culture results that showed *Escherichia coli* and *Streptococcus Viridans*, we decided to do CT of the abdomen and pelvis which showed an apple-core lesion in the descending colon associated with colonic perforation and abscess formation. Biopsy of the lesion showed colon adenocarcinoma.

IPA is a rare medical condition that requires early detection and management, as it can lead to sepsis and increased morbidity and mortality. Its association with CRC can be easily overlooked. Cultures growing enteric organisms should raise the suspicion of a GI/GU source of the IPA. In older patients who never underwent a colonoscopy, colon cancer should be on the top of the differential list.

Poster #106

Category: Research

Institution: Michigan State University – East Lansing

Program Director: Supratik Rayamajhi, MD, FACP

Presenter: Ahmad Alratroot

Additional Authors: Varunsiri Atti, Mark Mujer, Khader Herzallah Yehia Saleh, Shiva Shrotriya, Abdullah Al-Abcha

Efficacy and Safety of Figure-of-Eight Suture Versus Manual Pressure for Venous Access Closure

Background: Vascular hemostasis after venous access in cardiovascular procedures remains a challenge. Figure-of-eight (FoE) emerged as an alternative technique to manual pressure. However, its feasibility and safety is unknown.

Methods: A comprehensive search in clinicalTrials.gov, PubMed, Web of Science, EBSCO Services, Cochrane Central Register of Controlled Trials, Google Scholar, and various scientific conference sessions from inception to December 1st 2018 was performed. A meta-analysis was performed using random – effects model to calculate risk ratio (RR) and mean difference (MD) with 95% confidence interval (CI).

Results: Seven studies were eligible and included 1,978 patients, of whom 982 patients received the FoE suture while 996 received manual pressure. There was no difference in the risk of access site pseudoaneurysm (RR: 0.48, 95%CI: 0.13 to 1.73, p= 0.26) and fistula (RR: 0.90, 95%CI: 0.22 to 3.75, p= 0.89) between the two techniques. Compared with manual pressure, FoE was associated with lower risk of access site complications (RR: 0.37, 95% CI: 0.24 to 0.58, 0.65, p< 0.0001) including bleeding (RR: 0.30 95%CI: 0.18 to 0.50, p< 0.00001) and hematoma (RR: 0.41, 95%CI: 0.25 to 0.68, 0.83, p= 0.0005). Time to hemostasis was significantly lower in FoE group compared with manual pressure (MD: -21.04 min, 95% CI: -35.66 to -6.42, p= 0.005).

Conclusion: The results of our meta-analysis showed that there was no difference in the risk of access site pseudoaneurysm and fistula between FoE and manual pressure. FoE was associated with lower lower risk of access site hematoma and bleeding compared with manual pressure. Our results reiterate the safety and feasibility of FoE suture for venous access closure.

Poster #107

Category: Clinical Vignette

Institution: Michigan State University – East Lansing

Program Director: Supratik Rayamajhi, MD, FACP

Presenter: Sherif Elkinany

Additional Authors: Shoaib Shakeel, DO, Michael Masnyj, DO

Massive Hemothorax, a Fatal Complication of Septic Pulmonary Embolism

Introduction

Septic pulmonary embolism is a devastating complication of tricuspid valve infective endocarditis. In this case, we discuss a patient who developed a massive hemothorax as a fatal complication of septic pulmonary embolism

Case Presentation

A 24-year-old female IV drug abuser presented to the hospital with shortness of breath and signs of septic shock. The patient's respiratory status rapidly deteriorated. She was intubated and transferred to the intensive care unit. The patient was resuscitated and started on broad-spectrum antibiotics. Blood cultures grew Methicillin-Resistant Staph Aureus (MRSA). A transthoracic echocardiogram showed large vegetations involving the tricuspid valve. A CT scan of the chest showed extensive multifocal bilateral pulmonary cavitary lesions consistent with septic emboli. Despite being on broad-spectrum antibiotics for 2 weeks, her blood cultures continued to be positive for MRSA. Vegetation debulking using the AngioVAC suction system was attempted but was unsuccessful. During her ICU course, she developed bilateral pneumothoraces requiring bilateral chest tubes. On day 15, the patient desaturated with bright red blood draining into her right chest tube. She rapidly deteriorated and coded. Despite resuscitation efforts, the patient expired

Discussion

Septic embolism is a common complication of endocarditis. In this case, the patient developed pneumothoraces likely secondary to ruptured cavitary lung lesions and eventually a fatal hemothorax. Mycotic aneurysms involving the intercostal arteries with associated massive hemothorax in tricuspid endocarditis is documented in only a handful of case reports. We believe this patient developed hemothorax secondary to a ruptured mycotic aneurysm of an intercostal artery

Poster #108

Category: Research

Institution: Michigan State University – East Lansing

Program Director: Supratik Rayamajhi, MD, FACP

Presenter: Mark Terence Mujer

Additional Authors: Varunsiri Atti, Shiva Shrotriya, Samanjit Kandola, Ardy Fenando, Nisraj Basnet, Supratik Rayamajhi

Concomitant Renal Sympathetic Denervation with Pulmonary Vein Isolation vs Pulmonary Vein Isolation Alone

Concomitant renal sympathetic denervation with pulmonary vein isolation vs pulmonary vein isolation alone among patients with drug-resistant atrial fibrillation and hypertension: a meta-analysis

Background: Currently, there is limited data regarding the impact of adjunctive renal sympathetic denervation (RSDN) with pulmonary vein isolation (PVI) in hypertensive patients with atrial fibrillation (AF).

Methods: A comprehensive literature search for studies comparing RSDN+PVI vs. PVI - alone for AF and history of hypertension until January 1st, 2019 was performed. The results were expressed as risk ratio (RR) for the categorical variables and mean difference (MD) for the continuous variables with 95% confidence intervals (CIs).

Results: A total of 6 eligible (4 randomized and 2 prospective non-randomized) studies consisting of 432 patients (306 paroxysmal AF, 126 persistent AF) were included (RSDN+PVI group-186 patients and PVI group-246 patients). Follow up ≥ 1 year.

Compared with PVI, RSDN+PVI significantly decreased the risk of AF recurrence RR 0.58, 95% CI (0.47 - 0.72, $p < 0.00001$) on follow up. Fluoroscopy [MD +5.53 min. 95% CI (0.76 - 10.31, $p = 0.02$)] and procedure time [MD +34.85 min. 95% CI (23.55 - 46.16, $p < 0.00001$)] was significantly longer with the PVI+RSDN group compared with PVI-alone. There were no significant differences in complications between both groups. Test of heterogeneity was low for all clinical outcomes ($I^2 = 0\%$).

Conclusion: Our meta-analysis demonstrates that RSDN as an adjunct to PVI appears to be safe and improves clinical outcomes in both paroxysmal and persistent AF and history of hypertension

Poster #109

Category: Clinical Vignette

Institution: Michigan State University – East Lansing

Program Director: Supratik Rayamajhi, MD, FACP

Presenter: Fazal Raziq

Additional Authors: Fawzi Abu Rous MD, Calvin Abro MD, Abdullah Al-abcha MD, Heather Laird-Fick MD, Muhammad Haisum Maqsood MD

Non-Convulsive Status-Epilepticus as a Side Effect of Abemaciclib

In the US, breast cancer is the commonest cancer in females and the second leading cause of cancer death in women. ER/PR+ cancers compromise 80% of cases, HER2 20%, and triple-negative 13%. Abemaciclib is a CDK4/6 inhibitor that was approved, in combination with an aromatase inhibitor, as initial endocrine-based therapy for postmenopausal women with hormone receptor-positive, HER2-negative advanced or metastatic breast cancer. Approval was based on the results of the phase-III MONARCH-3 trial. Most common adverse events observed were neutropenia, diarrhea, leukopenia, anemia, and increased ALT. None of the patients had seizures.

A 62-year-old female on Abemaciclib for metastatic right breast cancer (ER 5%, PR 10%, HER2 negative) s/p mastectomy, chemotherapy, radiotherapy and Left partial Scapulectomy, presented with altered mental status 2 months after initiation of Abemaciclib. Brain CT and MRI were negative for stroke. LP was negative for infectious or autoimmune encephalitis. EEG showed non-convulsive status-epilepticus (NCSE). After cessation of the Abemaciclib and initiation of antiepileptic drugs (AEDs), the patient's mental status returned to baseline and was discharged from the hospital. We identified Abemaciclib as a probable cause of the NCSE, an adverse effect that is described for the first time. NCSE is a rare form of seizures in which electrical activity of the brain indicates seizure activity for more than thirty minutes without any convulsive movements. The patient's mental status improved on the AEDs regimen, her cEEG also cleared. Per Salzburg Criteria: the positive response, both electrically and clinically, to treatment proves the diagnosis of NCSE.

Poster #110

Category: Clinical Vignette

Institution: Michigan State University – East Lansing

Program Director: Supratik Rayamajhi, MD, FACP

Presenter: Shilpa Tatineni

Additional Authors: Fawzi Abu Rous MD, Layan El-khatib MD, Abdullah Al-abcha MD, Calvin Abro MD, Fazal Raziq MD, Beenu Kaw MD

Pregabalin-Induced Myoclonus in a Patient with Acute Kidney Injury

One of the most important pharmacokinetic properties of drug metabolites is their excretion from the body. The majority of drugs are eliminated by renal filtration. Pregabalin is a newer generation GABA-analog that has been increasingly used in the treatment of epilepsies, chronic neuropathies and anxiety disorders. The plasma clearance of this medication has been reported to be essentially equal to the creatinine clearance and therefore, injury to the kidney causes accumulation and unmasks its toxic neurologic effects.

A 70 year old female patient presented to the hospital with altered mentation and significant myoclonus in bilateral upper and lower extremities. She has a past medical history significant for Type II Diabetes Mellitus with Peripheral Neuropathy, Bladder Dome Cancer s/p Radical Cystectomy & Ileal Loop Diversion. The procedure was complicated by wound dehiscence and infection managed with IV Clindamycin that was subsequently changed to TMP-SMX. Significant discharge medications included TMP-SMX, K supplements and Pregabalin 100mg TID. Labs on admission had showed Creatinine 2.87mg/dL (Baseline <1.0) and Potassium 7.2mEq/L. Emergent Hemodialysis was performed with subsequent resolution of altered mentation as well as myoclonic jerks.

Dizziness and somnolence are the most common reported neurologic adverse effects of Pregabalin. Myoclonus has been infrequently described especially in the setting of renal failure. However, being a reversible side effect, it can be eliminated by discontinuation of the medication or hemodialysis. In elderly patients with a history of chronic kidney disease, caution should be exercised in the initiation and dosage of Pregabalin.

Poster #111

Category: Clinical Vignette

Institution: Rochester General Hospital, New York

Program Director: Stephen Silver MD, Member

Presenter: Hamza Hassan

Additional Authors: Abdul Rafae MD, Sabita Buddathoki MD, Gaby Razzouk MD

Cotton Fever in Drug Users: Common Street Term Making into the Literature, Puzzling the Physicians

Introduction: Fever in intravenous drug users (IVDU) is challenging and several benign etiologies should be kept in differentials. Cotton fever (CF) is a popular term among IVDU with an incidence of about 5%/year. We present a case of CF in a patient who self-revealed the diagnosis to us after substantial workup was completed.

Case: A 25-year-old woman presented with mental health arrest after injecting cocaine and heroin 2 hours ago. Momentarily, she regained consciousness reporting of chills. Examination revealed temperature 38.7°C, tachycardia 110bpm, track marks on bilateral forearms without erythema/purulence nor any stigmata of infective endocarditis elsewhere. Workup including cell-counts, X-Rays, EKG, and blood cultures were unremarkable. Her urine grew 10^5 E.coli without any urinary symptoms and hence was not treated. The fever self-subsided and she was discharged without any antibiotics. She questioned the providers about a possible diagnosis of CF and endorsed injecting her drug suspension through a 'cotton ball'.

Discussion: CF is a benign self-limiting febrile syndrome reported by IVDU injecting through cotton balls presenting with symptoms of fever, chills, headache, nausea, vomiting, abdominal pain and myalgia. Onset is within 15-30 minutes after injecting and subsides within 12-48 hours. Reported associations are with injecting heroin, hydromorphone, and combination of pentazocine/methylphenidate. Proposed theory include pyrogenic endotoxin released by Enterobacter agglomerans that colonizes cotton. Management is supportive, assuming cultures remain negative with vigilance for withdrawal symptoms. Tailored history for drug use habits, assessment of both overt and occult etiologies can lead to early diagnosis, limit costly evaluations and unnecessary hospitalizations.

Poster #112

Category: Clinical Vignette

Institution: Sinai Grace Hospital – DMC – Detroit

Program Director: Mohamed Siddique, MD, FACP

Presenter: Anand Agarwal

Additional Authors: Paramveer Singh MD (Resident), Ghadeer Fatani MD (Resident),
Ismail Rana PhD, MSc. , Ahmad Ahmad MD and Wasif Hafeez MD

An Atypical Presentation of Clostridial Anaerobic Cellulitis

Introduction:

Clostridium perfringens is a gram-positive anaerobe. Its spectrum of disease can vary from self-resolving gastroenteritis to life-threatening necrotizing fasciitis. A lesser-known and rarely seen disease manifestation is *Clostridium perfringens* induced gangrenous cellulitis.

Case Description:

A 60-year-old gentleman presented with left arm swelling and pain as well as generalized abdominal pain and vomiting which started after eating “fried chicken.” Left-arm duplex confirmed deep venous thrombosis of the left subclavian and internal jugular vein, thought to be provoked by recent intravenous cannulation. We started Heparin drip via the right hand. On day 3, the patient developed multiple tense fluid-filled bullae on the right forearm. The patient was afebrile with no mucosal or genital involvement and a negative Nikolsky sign. A detailed review of the medication list could not determine a culprit. Lactic acid was 4. Blood cultures were drawn, and we took a skin biopsy. We started the patient on pulse steroid therapy. The patient was eventually transferred to a higher medical center for plasmapheresis. On day 5, the biopsy results confirmed toxic epidermal necrolysis and *Clostridium perfringens* grew in the anaerobic bottle of blood culture. Consequently, we adjusted the treatment and the patient received Ceftriaxone and Clindamycin. Gradually, the patient’s skin condition stabilized and lactic acidosis resolved.

Discussion:

Rarely *Clostridium perfringens* manifests as gangrenous cellulitis. The differential includes cellulitis caused by *Vibrio vulnificus* and group A streptococcus. Given the unusual presentation, a high degree of suspicion will aid in early diagnosis and treatment.

Poster #113

Category: Clinical Vignette

Institution: Sinai Grace Hospital – DMC – Detroit

Program Director: Mohamed Siddique, MD, FACP

Presenter: Mohammed Asfhan Ahmed

Additional Authors: Rohan Naik, MD; Ismail Rana, PhD; Marc Feldman, MD; Christina Rose, MD

Wernicke Encephalopathy from Strict Adherence to a Gluten-Free Diet

Introduction: Although Wernicke Encephalopathy (WE) is characteristically associated with chronic alcohol abuse, it may be precipitated through alternative pathways. We present a case of WE secondary to strict adherence to a gluten-free diet.

Case Description: A 31-year-old female presented with distal extremities weakness, blurry vision, and truncal ataxia, which progressively worsened over a week. She denied chronic alcohol use or bariatric surgery but did follow a strict gluten-free diet for the past three months with inadequate oral intake. Examination revealed nystagmus, 1/5 wrist extensions, weak grip strength, 2/5 dorsiflexion and plantarflexion, and truncal ataxia. Laboratory studies showed elevated CRP (63.3) and ESR (81), low serum folate (2.2), and low albumin (3.03). Extensive workup, including infectious, CSF analysis, auto-immune, and metabolic, was negative. MRI-Brain/Stem showed hyperintense T2 signal of the periaqueductal gray matter and mamillary bodies with mild enhancement of the mamillary bodies. She started improving with IV thiamine regimen and was discharged on oral supplements.

Discussion: Thiamine deficiency and WE commonly correlate with chronic alcohol abuse and bariatric surgeries. However, this diagnosis should be plausible in patients without these associations, but with standard exam findings of WE, along with a history of nutritionally deficient diets. Gluten-free products are infamous for lacking the fortification of some nutrients like thiamine, which is widely prevalent in non-gluten-free products. A prompt diagnosis of thiamine deficiency-induced WE followed by supplementation leads to the resolution of debilitating symptoms. Upon ruling-out alternative diagnoses, thorough history-taking and physical exam can deem crucial and circumvent extensive workup.

Poster #114

Category: Clinical Vignette

Institution: Sinai Grace Hospital – DMC – Detroit

Program Director: Mohamed Siddique, MD, FACP

Presenter: Yasir Alsaraf

Additional Authors: Osama Hadid, MD; Marc Feldman, MD, Rana Ismail, PhD, MSc.

Diagnostic Challenge: Malignant Pleural Effusion Due to Carcinoma of Unknown Primary

Introduction:

Cancer of unknown primary (CUP) is a biopsy-proven malignancy in which the primary source is unrecoverable after an extensive workup. It represents a distant metastasis in which host immune defenses have eliminated the primary tumor. CUP accounts for 3-5% of all malignancies.

Case Description:

An elderly woman presented with worsening shortness of breath for more than one-week associated with dry cough. She denied any fever, chest pain, or orthopnea. Past medical history was significant for hypertension and heart failure. On evaluation, she was in acute respiratory distress, tachypneic, and hypoxic with dullness to percussion and diminished breath sound on the RL lung field. CXR revealed unilateral right pleural effusion, later confirmed as exudative PE by thoracentesis. Pathologic examination of pleural fluid was positive for adenocarcinoma. Immunohistochemical (IHC) staining was positive for Cytokeratin7 and ER receptor, however, was negative for Cytokeratin20, mammoglobin, and TTP1, which suggested that the tumor primary source was most likely breast adenocarcinoma. However, further evaluation (breast ultrasound, PET-CT, and MRI scan) to rule out primary sources in breast, lung, and ovaries, turned out negative. Due to poor prognosis, the patient underwent palliative treatment only.

Conclusion:

Even with advanced imaging and IHC staining, the diagnostic yield in identifying the primary source in CUP is only 20-30%. Gene expression profiling with reverse transcriptase polymerase chain reaction (RT-PCR) and DNA microarray increases the diagnostic yield up to 80%. Such a technique offers better identification of the primary source, leading to favorable prognosis and outcome with early aggressive treatment.

Poster #115

Category: Clinical Vignette

Institution: Sinai Grace Hospital – DMC – Detroit

Program Director: Mohamed Siddique, MD, FACP

Presenter: Suganya Chandramohan

Additional Authors: Suganya Chandramohan MD1, Modar Alom, Erika Carter, Wasif Hafeez , Joel.L Appel, Rana Ismail , Malitha Hettiarachchi

A Pernicious Presentation of Pernicious Anemia: Clinical Vignette on an Uncommon Presentation of Vitamin B12 Deficiency

We report an atypical presentation of pernicious anemia [PA] simulating diverse clinical pathologies.

31-year-old female presented with persistent intermittent fevers for the past four years associated with nonproductive cough, abdominal pain, generalized fatigue, dizziness, and unintentional weight loss. Patient admits to similar complaints four year ago requiring hospitalization at different facility, however additional details were unobtainable on admission. On examination, patient was moderately distressed, had severe conjunctival pallor, and diffuses LQ abdominal pain. Pertinent findings included fever, tachycardia, severe pancytopenia (WBC 1.2, Neutrophils 0.2, platelets 72, HB 7.4, MCV 91.5), and normal reticulocyte [0.6%]. Peripheral smear revealed few teardrop cells, nucleated RBCs with giant platelets, without macrocytosis or schistocytes. LDH was elevated (1167), and haptoglobins were low (< 30). Initial treatment with empiric antimicrobial and PRBC transfusions were initiated. Differentials for pancytopenia in lieu of hemolysis are broad, etiologies including infection [HIV, hepatitis, EBV, brucella and bartonella], thyroid disorder [TSH, FT4], endocarditis [Echo] and malignancies [CT abdomen] were eliminated with normal test results. Patients B12 level comeback significantly low [<50]. Medical records obtained from other hospital recorded positive intrinsic factor antibodies. Bone marrow biopsy revealed hypercellular marrow with megaloblastic changes in the myeloid and erythroid precursors. Intramuscular B12 injections were started. Subsequently, blood counts started trending up and defervescence was achieved. Patient was discharged with outpatient weekly B12 injections.

Albeit PA is a benign disorder, untreated deficiency emanates frail hematopoiesis which subsequently aggravates intramedullary hemolysis. PA should be in our differentials when managing patients with pancytopenia and persistent fever.

Poster #116

Category: Clinical Vignette

Institution: Sinai Grace Hospital – DMC – Detroit

Program Director: Mohamed Siddique, MD, FACP

Presenter: Ahmad El Alayli

Additional Authors: Logeswari Neelakandan, Heba Mahmoud, Rana Ismail, Hicham Krayem

Spontaneous Spinal Epidural Hematoma in a Patient on Apixaban for Non-Valvular Atrial Fibrillation

Introduction:

With the rise in the use of direct oral anticoagulants (DOACs), more hemorrhagic complications are being encountered. Since the first description of a case of spontaneous spinal epidural hematoma (SSEH) related to the utilization of DOACs in 2012, there have been few reports describing a similar association. However, no cases so far have reported an association between SSEHs and Apixaban.

Case description:

A 76-year-old lady, with a history of non-valvular atrial fibrillation, presented with a new onset of progressive left lower and upper extremity weakness. She reported back pain and numbness in the left leg up to the knee along with numbness in the left arm up to the shoulder. A CT scan of the neck was suggestive of an epidural hematoma extending from C2-C3 level to C6-C7. As the patient was on Apixaban at the time, surgical treatment was delayed for two days to decrease the risk of intraoperative bleeding. Nine days later she was discharged. Her physical exam was almost unchanged from that on presentation, except for resolution of pain and minimal improvement in motor power in her left lower extremity from 1/5 to 2/5 distally.

Discussion:

Spinal hematomas represent surgical emergencies with earlier intervention portending better outcome. Based on the few case reports that point to DOACs as a potential culprit, it appears that a high suspicion index resulting in earlier SSEH diagnosis and intervention is crucial for improved neurological outcome and recovery. Prompt diagnosis remains a challenge, especially that SSEH can mimic cerebrovascular accidents.

Poster #117

Category: Clinical Vignette

Institution: Sinai Grace Hospital – DMC – Detroit

Program Director: Mohamed Siddique, MD, FACP

Presenter: David Gerst

Additional Authors: Akshay Sharma, MD (Resident); Marc Feldman, MD (Attending)

Sepsis Leading to Catastrophic Limb Ischemia

Introduction: Symmetrical peripheral gangrene (SPG) is an uncommon but severe complication of disseminated intravascular coagulation (DIC) frequently accompanying sepsis. We present a case wherein a patient presenting with severe sepsis eventually required bilateral upper and lower extremity amputations for gangrene, and superficial skin debridement of the penis and scrotum with grafting.

Case Description: A 32-year-old male presenting with malaise, and emesis, then altered mental status (AMS). On arrival, the patient was encephalopathic, in septic shock; febrile (38.6 C), tachycardic (HR 128), hypertensive (BP 181/142 mmHg), tachypneic (RR 48/min), in hypoxemic ventilator-dependent respiratory failure (VDRF). Workup for causes of sepsis as well as AMS revealed septicemia with *Streptococcus pneumoniae*, HIV infection, liver failure, troponin elevation, lactic acidosis, kidney failure, subarachnoid hemorrhage, thrombocytopenia (platelets 17,000), and normal hemoglobin. Blood smear confirmed hemolysis and schistocytosis. High concern for thrombotic thrombocytopenic purpura (TTP) and DIC led to the patient transfer to our facility for the purpose of initiating plasmapheresis. After cardiopulmonary arrest with successful resuscitation three times, inotropes were initiated and were discontinued six days later when evidence of limb ischemia became evident. As the patient improved, he underwent bilateral BKA, bilateral below elbow amputations, and skin debridement of the penis and scrotum.

Discussion: DIC and septic shock precipitated gangrene. There was a lack of evidence of an autoimmune disorder or vasculitis on laboratory investigations and tissue pathology. Unfortunately, this case presented microvascular spasm as a rare complication of inotrope use which led to extensive peripheral gangrene, and eventually to amputations.

Poster #118

Category: Clinical Vignette

Institution: Sinai Grace Hospital – DMC – Detroit

Program Director: Mohamed Siddique, MD, FACP

Presenter: Ronny Hadid

Additional Authors: Authors: Ronny Hadid, MD (Resident); Aji Njie, MD (Chief Resident); Rana Ismail, PhD, MSc

An Oblivious Past HIV Diagnosis Proves Fatal with a Rare Complication of Pneumothorax

INTRODUCTION: HIV/AIDS is a chronic condition that can foster the development of an array of comorbidities— some of which are fatal. Consequential early detection and treatment can be lifesaving. This case presents pneumothorax as a rare but lethal complication; reported only in 1.2% of all hospital admissions among HIV-infected patients.

CASE DESCRIPTION: A 32-year-old African-American male, with unknown past medical history, presented with difficulty in breathing, night sweats, fevers and weight loss. On evaluation, he was tachycardic, hypoxic, tachypneic, and febrile. CXR revealed left lobe atelectasis and pleural effusion. CT thorax w/ contrast showed diffuse ground glass opacification throughout both lungs. Initial respiratory and blood cultures were negative. However, his respiratory status deteriorated and was intubated and put on mechanical ventilation. His HIV test turned out positive with a CD4 count of 14. Initial Pneumocystis pneumonia (PCP) culture was indeterminate though LDH count was elevated at 966. Therapy with Bactrim and Prednisone was initiated. He showed dependence on BiPAP and developed copious secretions and persistent tachycardia. He endured hypoxia on BiPAP and subsequent CXR showed a large right pneumothorax. Following chest tube placement and repeat mechanical ventilation, patient went into asystole and expired.

DISCUSSION: About 15% of HIV patients are unaware of their diagnosis. Treatment for HIV has taken long strides in reducing mortality; however, most deaths occur due to complications of AIDS when patients are oblivious of their diagnosis. Records reveal that this patient was diagnosed with HIV one year ago, but failed to initiate any treatment or follow-up.

Poster #119

Category: Clinical Vignette

Institution: Sinai Grace Hospital – DMC – Detroit

Program Director: Mohamed Siddique, MD, FACP

Presenter: Nabeel Khan

Additional Authors: Jorgena Kostic DO, Courtney Jones MD

Metastatic Renal Cell Carcinoma Causing Upper Gastrointestinal Bleeding

Renal cell carcinoma is the third most common urological malignancy but account for only about 3 % of all cancers (2). Highest incidence in the sixth decade and in men (1). 25-30% of the patients will have metastatic disease at presentation and another 35-50% with local disease will develop metastasis during their illness (5). The most common site of metastasis is lung, soft tissue bone, liver, skin, and CNS (3). RCC metastasis to GI tract is relatively rare and represent only 0.2-0.7% (4).

A 73 y/o African American female with history of CAD and seizure disorder who presented with anemia and was diagnosed with right renal cell carcinoma. She had surgery to remove the cancer. There were some adhesions to the surrounding bowel, but no other metastasis was seen and so no chemotherapy was done. Two months later, patient presented to the hospital with dark stools. Initial endoscopy didn't show any active bleeding but the patient came back with the same complaint two additional times. A repeat endoscopy found a bleeding mass in the second portion of the duodenum. A biopsy of the mass showed metastatic renal cell carcinoma of the clear cell variant.

GI metastasis of renal cell carcinoma is rare but should be suspected in patient with undiagnosed upper gastrointestinal hemorrhage, especially those with history of renal cell carcinoma.

Poster #120

Category: Clinical Vignette

Institution: Sinai Grace Hospital – DMC – Detroit

Program Director: Mohamed Siddique, MD, FACP

Presenter: Jorgena Kosti

Additional Authors: Nabeel Khan, MD; Nitya Manney, MD; Iana Gueorguieva, MD;
Cortney Jones, MD

A Rare Case of Duodenal Carcinoid Tumor Causing Carcinoid Syndrome in the Absence of Liver Metastasis

Introduction: Gastric Carcinoid tumors are neuroendocrine tumors of gastrointestinal tract that typically arise in the appendix, terminal ileum or rectum. Duodenal carcinoid tumors account for less than 3% carcinoid tumors in the United States. Carcinoid syndrome is a typical manifestation of liver metastasis. We present a case of a duodenal primary carcinoid tumor with carcinoid syndrome, in the absence of liver metastasis.

Case Description: A 54-year-old male with a history of: seizures, anemia, chronic kidney disease, paraplegia and ventilator dependency, presented with aspiration pneumonia and MRSA bacteremia. His review of systems was positive for diarrhea, flushing and an erythematous truncal rash with dysesthesia. Colonoscopy showed a duodenal ampullary lesion. Biopsy of the lesion demonstrated carcinoid tumor, characterized by hyperchromatic cells with high nuclear to cytoplasmic ratio. Immunostaining was positive for cytokeratin AE1/3, synaptophysin, chromogranin and CD 56. The proliferative index (Ki-67) was 80%. CT and octreotide imaging were negative for metastatic foci. Decision was made to pursue Endoscopic Ultrasound guided tumor resection.

Conclusions: Duodenal carcinoids are rare. The vast majority behave indolently. By definition, carcinoid syndrome is hallmark of liver metastasis. Vasoactive chemicals must escape first pass liver metabolism and gain direct access to systemic circulation. The pathophysiology of carcinoid syndrome in the absence of liver metastasis remains undefined.

Poster #121

Category: Research

Institution: Sinai Grace Hospital – DMC – Detroit

Program Director: Mohamed Siddique, MD, FACP

Presenter: Samaa Lutfi

Additional Authors: Ronny Hadid, MD (Resident); Samaa Lutfi, DO (Resident); Malitha Hettiarachchi, MD; Rana Ismail, PhD, MSc;

The Benefit of Adding Dexmedetomidine to Benzodiazepam Regimen in Treating Delirium Tremens (DTs)

Introduction: Delirium Tremens (DTs) is a common diagnosis in ERs and inpatient floors. The mainstay of treatment has been benzodiazepines. Refractory DTs often requires high doses of benzodiazepines, which may lead to deleterious effects and lengthier stays. Dexmedetomidine (DEX), an alpha-2-agonist, has been historically used as a sedative with added advantage of uncompromised respiration. Adding DEX to DTs regimen can prevent the need for higher doses of benzodiazepines, thus, avoiding serious complications.

Methods: We searched the literature on PubMed and Ovid Medline using keywords “dexmedetomidine” and “delirium tremens.” Out of 34 studies, only 2 were relevant to our topic.

Results: A randomized double-blind study took 24 subjects: placebo (8), high-dose DEX (8), and low-dose DEX (8). The primary efficacy study outcome measured: total Lorazepam in first 24-hours and cumulative Lorazepam in first 7-days of treatment of alcohol withdrawal symptoms (AWS) in DEX group vs placebo. The 24-hour Lorazepam requirement was significantly lower in DEX group compared to placebo ($p= 0.037$), but not statistically significant in overall 7-days. A second retrospective study compared benzodiazepine therapy alone and in conjunction with DEX. It measured basal benzodiazepine dose and ICU length of stay. Findings showed patients receiving DEX combination required lower benzodiazepine basal dose but there was no difference in length of stay. Both studies showed that high dose DEX exhibited more hemodynamic complications (hypotension/bradycardia)

Conclusion: Adding DEX to Lorazepam regimen in AWS can significantly decrease the need for higher doses of benzodiazepines without compromising control of symptoms, however, does not change overall length of stay. Hemodynamic complications with DEX also need to be considered.

Poster #122

Category: Clinical Vignette

Institution: Sinai Grace Hospital – DMC – Detroit

Program Director: Mohamed Siddique, MD, FACP

Presenter: Hamidreza Moein

Additional Authors: Heba Mahmoud, MD; Rana Ismail, PhD; Mohamed S. Siddique, MD, FACP

“TB or Not TB”- Mycobacterium Avium Masquerading as Tuberculosis

Introduction: Mycobacterium avium complex (MAC) is the most common non-tuberculous mycobacteria (NTM) causing pneumonia. Pulmonary MAC usually affects older nonsmoking white women. Diagnosis lags about 5 years from onset of symptoms. Bronchiectasis and chronic obstructive pulmonary disease are the major predisposing factors for MAC.

Case Description: A 70-year-old gentleman, with history of heavy smoking, homelessness, and incarceration, presented with worsening of a productive cough (chronic for two years) and generalized weakness for the last two weeks. On presentation, he was cachectic, hypotensive, and had bilateral wheezing. His WBC was $9.2 \times 10^9/L$. Initial CXR showed a large cavity in the right upper (RU) lobe. Chest CT scan confirmed a cavitory lesion in the RU lobe with consolidation and cavitation in the lower and the middle lobes, plus mediastinal lymphadenopathy and emphysema. Sputum smear was 4+ for acid-fast bacilli (AFB). The patient was subsequently started on Isoniazid, Rifampin, Ethambutol, and Pyrazinamide. He improved clinically and got discharged to a long-term facility. Interestingly, sputum culture showed MAC, so the treatment was switched to Ethambutol and Clarithromycin.

Discussion: Tuberculosis and NTM can have similar presentations with cavitory lung lesion and AFB+, but differentiation is crucial as they have different management. Unlike tuberculosis, NTM does not require isolation. It is rarely necessary to initiate treatment on an emergent basis before the organism is identified and susceptibility to Clarithromycin is confirmed. For pulmonary MAC, thrice-weekly administration of macrolides or Rifamycin and Ethambutol has been successful. Therapy should be continued for at least 12 months after culture becomes negative.

Poster #123

Category: Clinical Vignette

Institution: Sinai Grace Hospital – DMC – Detroit

Program Director: Mohamed Siddique, MD, FACP

Presenter: Nadia Nasser

Additional Authors: Mohamed Siddique, MD

Hypercoagulable State Secondary to Plasminogen Activator Inhibitor Mutation (PAI-1 Mutation)

Author: Dr. Nadia Nasser, Dr. Rana Ismail

Department of Internal Medicine, Sinai-Grace Hospital/Detroit Medical Center, Wayne State School of Medicine, Detroit, MI

Introduction: Plasminogen activator inhibitor 1 (PAI-1) is responsible for regulating coagulation state and fibrinolytic response through inhibiting mainly tissue plasminogen activators (t-PA); disruption in PAI-1 levels can result in coagulation issues and predispose patients to a cascade of complications. We present a case with PAI-1 mutation- a rare inherited hypercoagulable condition that puts the patient at high thrombolytic risk.

Case Description: A 44-year-old male presented with a PMH of end stage renal disease (ESRD) on hemodialysis (since 2008) and multiple episodes of thrombosed arteriovenous grafts (AV) that required thrombectomies/revisions and Warfarin treatment. He came to outpatient surgery to undergo a thrombectomy of left thigh AV graft at the site of dialysis. During surgery, he became hypotensive which was corrected by IV fluids. Later, he experienced hypotension secondary to sepsis from his LLE graft and was transferred to MICU. Two days later, he coded with PEA and got intubated. His labs on admission showed INR 5, WBC 30.9, Hgb 8.5, and platelets 56,000; thus, Warfarin was withheld. With a history of taking an anticoagulant as an outpatient and an INR= 5, he developed bleeding complications during his stay and became ineligible for further anticoagulants. Patient refused IVC filter.

Discussion: This case illustrates that a possible overactivity of PAI-1 and a reduced t-PA activity (0.0) could lead to a tendency to form clots. This patient had multiple episodes of thromboses of his AV grafts. This congenital dysfibrinolysis with increased PAI -1 is extremely rare; however, 20% are associated with venous thrombosis.

Poster #124

Category: Clinical Vignette

Institution: Sinai Grace Hospital – DMC – Detroit

Program Director: Mohamed Siddique, MD, FACP

Presenter: Logeswari Neelakandan

Additional Authors: Heba Mahmoud, MD (Chief Resident); Nenad Serafimovski, MD; Ramegowda Rajagopal, MD; Rana Ismail, PhD, MSc

Blue Baby Surviving into Senescence – An Able Octogenarian with Unrepaired Tetralogy of Fallot (TOF)

Introduction: Tetralogy of Fallot (TOF), a common cause of congenital heart disease accounts for 10% of heart diseases in the pediatric population. With the dawn of surgical intervention since 1950 and advancing techniques detecting the disease prenatally, it is rare to witness unrepaired TOF in adults. Also, in the events of florid symptomatology and the disease-related complications, without intervention about 66% live to 1 year of age, 49% to 3 years, 24% to 10 years, and only 4% to 30 years of age. So far, after an extensive literature review, only three cases with unrepaired TOF have been reported to survive beyond 80 years.

Case Description: We are reporting a case of an 84-year-old male diagnosed with TOF, completely asymptomatic and acyanotic, with recorded echocardiography showing ventricular septal defect with bidirectional shunt, overriding of aortic root, right ventricle hypertrophy with right ventricular outflow tract obstruction caused by infundibular narrowing and moderately hypoplastic pulmonary valve and supra-ventricular pulmonary artery narrowing. With this medical history, he presented four years later with necrotic testicular tumor requiring surgical intervention. Although the patient was moderate to high risk for surgery, he tolerated a major surgical procedure without any cardiovascular complications.

Discussion: Our case is unique as our patient never required any treatment for his underlying TOF. Patients who survived over 80 years with unrepaired TOF presented with decompensation of the disease itself. With prototypical imaging findings, the compensatory mechanisms and the hemodynamic adaptations leading to longevity in our patient are unclear.

Poster #125

Category: Clinical Vignette

Institution: Sinai Grace Hospital – DMC – Detroit

Program Director: Mohamed Siddique, MD, FACP

Presenter: Lindsey O'Neil

Additional Authors: Apoorva Saoji, MD (Resident); Heba Mahmoud, DO; Rana Ismail, PhD, MSc; Mohammed S. Siddique, MD

Valproic Acid Overdose Induced Hyperammonemic Encephalopathy Treated with Hemodialysis and Levocarnitine

Introduction:

Valproic acid (VA) is a commonly used anti-epileptic and mood stabilizing medication. VA overdose is relatively common and most notably causes encephalopathy, respiratory depression, hypotension, metabolic acidosis, hyperammonemia, hepatotoxicity, seizures, and death. Valproate-induced hyperammonemic encephalopathy (VHE) presents with a rapid neurologic decline, possible cerebral edema, and seizures.

Case Description:

A 41-year-old woman with a known history of depression, drug abuse, and suicide attempts, presented with acute encephalopathy and Glasgow Coma Score of 3; a diagnosis of VA overdose with hyperammonemia ensued. The patient was intubated, and treatment initiated. She was also hypotensive, and an EKG revealed bradycardia with a prolonged QTc interval. First serum toxicology showed a VA level of $> 450\mu\text{g/mL}$ with free VA $> 100\mu\text{g/mL}$. Lab results revealed metabolic lactic acidosis (lactic acid 2.9mmol/L), an ammonia level of $124\mu\text{mol/L}$, and a high CPK of 259U/L . Also, her urine drug screen was positive for cocaine and hepatitis C total antibody. We administered one dose of lactulose, and 3,000-mg of Levocarnitine; her VA level was 744, and her ammonia was $111\mu\text{mol/L}$. She received an additional total 4,000-mg of Levocarnitine, but remained altered and required two runs of hemodialysis before her VA level dropped to 46. The patient's encephalopathy resolved quickly and she was extubated the following day.

Discussion:

VA intoxication and hyperammonemia present with a diverse range of mild to severe symptoms. In our case, the patient presented with significantly altered mental status, hemodynamic instability, and lab abnormalities that quickly improved with the use of Levocarnitine and hemodialysis.

Poster #126

Category: Clinical Vignette

Institution: Sinai Grace Hospital – DMC – Detroit

Program Director: Mohamed Siddique, MD, FACP

Presenter: Mohammad Rahman

Additional Authors: Mahmoud Heba T MD, Siddique Mohamed MD, Ismail Rana PhD

Levamisole: A Familiar Foe

Levamisole is a synthetic immune-modulator that was previously used for cancer treatment but was withdrawn from the market in 2000 due to its severe adverse effects. Currently, it is approved for use as an anti-helminthic agent by veterinarians. Because of Levamisole's physical similarity with cocaine, it is used as an additive to maintain cocaine samples' purity. The presence of Levamisole adulterated cocaine in the United States has led to a spike in several complications in polysubstance abusers, including agranulocytosis, neutropenia, arthralgia, and skin necrosis (also known as Levamisole-induced vasculitis).

Case Description

A 40-year-old woman with a history of polysubstance abuse was admitted multiple times for nonhealing ulcers with central necrosis involving bilateral lower extremities, nasal tip, digits, cheeks, and ears along with intermittent arthralgia. She was initially thought to have Behcet's disease and treated as such without improvement. However, serology testing was suggestive of systemic vasculitis due to the presence of antineutrophil cytoplasmic antibodies (ANCA) and low PR3 (33) with negative myeloperoxidase. Skin biopsy showed thrombotic vasculopathy consistent with features of Levamisole-induced vasculitis which confirmed the diagnosis.

Discussion

The adverse effect of Levamisole was initially identified in 1976 with several cases of leukopenia and agranulocytosis, though the first ever case of Levamisole associated vasculitis reported in 1978. Levamisole chemical interaction with noradrenergic transmission has made it a very favorable adulterant in cocaine use, thereby reigniting a spike of Levamisole complication especially Levamisole-induced vasculitis in polysubstance abusers.

Poster #127

Category: Clinical Vignette

Institution: Sinai Grace Hospital – DMC – Detroit
Program Director: Mohamed Siddique, MD, FACP
Presenter: Sujith Samudrala
Additional Authors: Mohamed Siddique, MD

Exacerbated Thyroid Storm Score After CTPE Procedure

Authors: Dr. Sujith Samudrala MD:, Dr.Njie Aji
Department of Internal Medicine, Sinai-Grace Hospital/Detroit Medical Center, Wayne State School of Medicine, Detroit, MI

Introduction

Thyroid storm is a rare, life-threatening condition characterized by severe clinical manifestations of thyrotoxicosis. In national surveys from the United States, the incidence of thyroid storm was 0.57 to 0.76 per 100,000 persons per year,. In the United States survey, 16 percent of inpatients with thyrotoxicosis were diagnosed with storm.

Case description

39 year old male with past medical history of hyperthyroidism who is non complaint with medications presented to Ed with exertional shortness of breath, bilateral pedal edema. He was found to have heart rate of 157 and ekg revealed atrial fibrillation and flutter with Rvr .He was treated with cardiazem, propranolol 80 mg ,methimazole 20 mg and hydrocortisone 100 mg and potassium iodide drops.Ctpe was ordered and it was negative for PE. Initially his thyroid storm score before Ctpe procedure was 40.Two days after he developed diarrhoe and his heart rate which was initially controlled around 90s started rising to 130s making it difficult to control even with maximum dose of metoprolol requiring addition of digoxin 0.25 mg and thyroid storm score increased to 50.

Discussion

We suspect administration of Iodine contrast led to increase in thyroid storm score from 40 to 50 and we would like emergency physicians to become aware of this situation and advise to stop ordering CTPE until thyroid storm is controlled.

Poster #128

Category: Clinical Vignette

Institution: Sinai Grace Hospital – DMC – Detroit

Program Director: Mohamed Siddique, MD, FACP

Presenter: Zubair Siddiqui

Additional Authors: Jennifer Wollack, MD; Akshay Sharma, MD; Heba Mahmoud, MD; Rana Ismail, PhD, MSc; Malitha Hettiarachchi, MD.

Pheochromocytoma - A Rare Cause of Cardiomyopathy

Introduction: Pheochromocytoma is a rare neuroendocrine tumor of the medulla of the adrenal gland that secretes an excess of catecholamines. It has an incidence of 0.8 per 100,000 person-years. It presents as headache, palpitations, and sweating, along with episodic hypertension. Rarely it is associated with cardiomyopathy due to the toxic effects of catecholamines on cardiomyocytes. We present a rare case of cardiomyopathy due to pheochromocytoma.

Case Description: A 42-year-old Haitian woman with a family history of premature cardiac death presented to the hospital with complaints of exertional dyspnea and palpitations for two weeks. The patient reported a history of chronic headaches and occasional sweating. On presentation, she was hypertensive and tachycardic with bibasilar crackles. EKG showed sinus tachycardia. Chest x-ray showed pulmonary vascular congestion. She was started on diuretics and anti-hypertensives. 2D-echo revealed LVH and severe systolic dysfunction with an EF of 25%. Cardiac catheterization showed non-obstructive CAD. CT-Thorax was negative for pulmonary embolism but revealed an incidental adrenaloma. MRI confirmed a 7x5.6 cm left adrenal gland mass. Urine metanephrines were > 7000 pg/ml suggesting pheochromocytoma. She was started on Prazosin and underwent uncomplicated left adrenalectomy with the removal of the adrenal mass. The patient was discharged on the 7th-day postop with medications to optimize heart failure.

Discussion: Cardiomyopathy is a rare complication of pheochromocytoma and is reversible if recognized early and treated appropriately. It is caused by catecholamine-induced cardiotoxicity and microvasculature dysfunction. Cardiomyopathy usually resolves with surgical resection of the tumor

Poster #129

Category: Clinical Vignette

Institution: Spectrum Health/MSU – Grand Rapids

Program Director: Talwnda Bragg, MD, FACP

Presenter: Ojobumijo Agbaji

Additional Authors: Angelea Heider, MD ; Aparna Das, MD; Stephanie Burdick, MD

A Hungry Heart: A Unique Case of Malnutrition- Induced Cardiac Tamponade

Cardiac tamponade is the accumulation of a large amount of fluid in the pericardial space that leads to compression of chambers of the heart. The most common etiologies of tamponade are malignancy, infection, and uremia. Although malnutrition has been known to cause some degree of pericardial effusion, it is only rarely recognized as cause of tamponade physiology requiring intervention. This unique case features a relatively healthy young patient who presented in obstructive shock caused by malnutrition-induced cardiac tamponade.

A 19 year old man presented with progressive weight loss and weakness. He was bradycardic, hypotensive and acrocyanotic. BMI was 13. History revealed weight loss of 40 pounds in 6 months. Initial labs showed pancytopenia, hypoglycemia and lactic acidosis. Echocardiogram was consistent with tamponade physiology. The patient underwent pericardiocentesis, the resultant fluid analysis was bland. Extensive work up for infectious, metabolic, malignant and auto-immune causes revealed no etiology for his pericardial effusion. After a psychiatric evaluation he was diagnosed with major depression causing anorexia and poor nutritional intake. Appropriate supportive management was instituted with resultant improvement symptoms. The patient was discharged to a psychiatric unit for depression management.

While there are few cases of malnutrition related pericardial effusion, only one case of anorexia-induced cardiac tamponade was reported in 2012 to the best of our knowledge. These reports suggest significant morbidity and mortality in this patient population if left untreated. Our case illustrates that in addition to exploring a broad differential of pericardial effusion, malnutrition should be considered as a potential etiology.

Poster #130

Category: Clinical Vignette

Institution: Spectrum Health/MSU – Grand Rapids

Program Director: Talwnda Bragg, MD, FACP

Presenter: Rayhaan Akram

Additional Authors: Capel, Brett; Thabet, Barakat

Allergic Heart – Idiopathic Hypereosinophilic Syndrome or ANCA-neg EGPA?

Hypereosinophilic syndrome (HES) is characterized by hypereosinophilia and eosinophilic tissue infiltration. Eosinophilic granulomatosis with polyangiitis (EGPA) is a vasculitis of small-med arteries that also shares features of peripheral eosinophilia and extravascular eosinophils. Despite overlap of clinical features, management of these conditions differs and therefore presents a challenge to clinicians.

A 59-year-old male with history of asthma presented with new-onset chest tightness, shortness of breath and peripheral edema. Patient denied any rash, neuropathy or sinus involvement. Labs revealed elevated troponin and leukocytosis with eosinophilia.

Coronary catheterization was normal. Standard therapy for congestive heart failure was started and he was discharged with plans for outpatient follow-up. Shortly after discharge, he developed sudden fatigue, dyspnea, and profound hypotension. He was urgently transferred to a tertiary center. Labs revealed hypereosinophila (23 x10⁹/L). Echocardiogram showed markedly reduced ejection fraction at 16%. Endomyocardial biopsy and BAL from bronchoscopy showed presence of eosinophils with no granulomas. Laboratory work-up including parasitic serologies, Vit B12, tryptase, ANCA, and myeloproliferative molecular testing were unremarkable. Patient was started on high-dose steroids with subsequent reduction of peripheral eosinophilia. However, he continued to have very low cardiac output. Unfortunately, patient had a prolonged cardiac arrest and was placed on ECMO. He subsequently developed bowel pneumatosis and family elected comfort-care measures.

In a patient with history of asthma who presents with hypereosinophilia and organ damage with no laboratory evidence regarding etiology, it is challenging to differentiate between idiopathic HES and ANCA-neg EGPA. Do these share a common pathogenesis, and does one progress into another?

Poster #131

Category: Clinical Vignette

Institution: Spectrum Health/MSU – Grand Rapids

Program Director: Talwnda Bragg, MD, FACP

Presenter: Brett Begley

Additional Authors: Ojobumijo Agbaji, Reda Girgis.

Pulmonary Venous Occlusive Disease, Unexpected Numbers in a Rare Disease: A Case Series

Pulmonary venous occlusive disease is a rare form of pulmonary hypertension without any proven medical therapies other than lung transplant. The estimated incidence is 0.1-0.5 per million individuals. Risk factors include chemotherapy, organic solvents, cumulative tobacco exposure, connective tissue disease, and EIF2AK4 gene mutations in heritable cases. In this case series, we describe six patients who presented with signs and symptoms of right heart failure and severe hypoxemia. All were clinically diagnosed with PVOD, including one with explant pathology, with each having at least 2 of the radiographic features on high resolution computed tomography imaging and severe impairment (<50%) of DLCO on PFT. Mean pulmonary artery pressure was 49.8 mm Hg \pm 7.9 and pulmonary vascular resistance of 11.15 Wood units \pm 3.70. All patients had a poor outcome, except for one who improved on upfront triple combination therapy and remains stable 15 months from the time of diagnosis. These patients were seen over approximately 24 months at a center serving a population of just over 1 million, which far exceeds the expected number of observed cases at our center. This case series highlights the poor prognosis of the disease as well as the challenge of treatment with pulmonary vasodilators. The relatively large number of cases seen over a short period of time raises the possibility of a common environmental factor in our geographic area.

Poster #132

Category: Clinical Vignette

Institution: Spectrum Health/MSU – Grand Rapids

Program Director: Talwnda Bragg, MD, FACP

Presenter: Brett Capel

Additional Authors: Dr. Barakat Thabet, Dr. Rayhaan Akram

Angioedema, Relapsing Polychondritis or a Combination of Both?

Angioedema and relapsing polychondritis can present with similar physical features of swelling or inflammation. Angioedema often results from an underlying inflammatory process. Despite their clinical similarities, no prior association could be found via pubmed between angioedema and relapsing polychondritis.

A 59 year old man referred to rheumatology with recurrent ear swelling and pain with associated swollen lips. The patient recalled the first occurrence of symptoms at 15 years of age with an episode of swelling of his neck, throat, and tongue. He had another couple episodes in his 20s but the episodes ceased until 3-4 years ago when he noted recurrent episodes of lip, facial, and hand swelling. Other associated symptoms throughout that time included episodes of pain and swelling of ankles, knees, arches, TMJ, and costal cartilage.

Angioedema was confirmed 4 years ago when labs revealed low C1 inhibitor and low C4. The oral angioedema had been successfully controlled with danazol and as needed icatibant for flares. However, the patient only reported slight response of the ear inflammation with icatibant requiring treatments with prednisone. Due to frequent exacerbation this had progressed to daily prednisone dependence with onset of ear pain and swelling with weaning of prednisone.

Despite recommendations, the patient was unable to undergo ear biopsy for definitive diagnosis and continues to wean prednisone. This case brings to light the association between angioedema and relapsing polychondritis. Not only can angioedema mimic features of relapsing polychondritis it can also be a result of the chronic underlying inflammatory process.

Poster #133

Category: Clinical Vignette

Institution: Spectrum Health/MSU – Grand Rapids

Program Director: Talwnda Bragg, MD, FACP

Presenter: Patricia Choi

Additional Authors: Nicholas Hartog

More Than Meets the Eye: Cartilage-Hair Hypoplasia

Cartilage-hair hypoplasia (CHH) is a type of autosomal recessive metaphyseal chondrodysplasia caused by a variant in the ribonuclease mitochondrial RNA-processing (RMRP) gene that manifests with light-colored hypoplastic hair, dwarfism, various impairments in cellular immunity, and a propensity towards malignancy. A 29-year-old male with history of undefined skeletal dysplasia presents for evaluation of recurrent sinopulmonary infections, pancytopenia, hypogammaglobulinemia, neutropenia and perirectal abscess. Bone marrow biopsy showed normocellular marrow, granulocytic hypoplasia, lymphoid aggregates, scattered hemophagocytic macrophages and scattered Epstein Barr encoding region positive cells. Labs revealed an absolute neutrophil count of zero, lymphopenia, hypogammaglobulinemia (low IgG, IgA, and IgM levels). He is 1.44 meter and has thin hair and nails. Bone survey showed generalized demineralization and symmetric chronic hypertrophy of distal femoral condyles. Next generation sequencing revealed compound heterozygous variants in RMRP (n.-13-6dup[promoter] and n.215A>G[non-coding]) consistent with a diagnosis of CHH. His current treatment includes IgG replacement and G-CSF.

Unique aspects of this case include neutropenia, skeletal dysplasia, and lymphopenia which are not common features of CVID. The presence of atypical symptoms in a primary immunodeficiency patient should trigger aggressive workup for monogenetic cause, even in adult patients. Because of the molecular diagnosis, this patient is receiving personalized treatment and being evaluated for potential hematopoietic stem cell transplant. Monogenetic forms of immunodeficiencies can be identified in adult patients and diagnosis should be pursued when necessary as they can significantly alter the treatment of the patient.

Poster #134

Category: Clinical Vignette

Institution: Spectrum Health/MSU – Grand Rapids

Program Director: Talwnda Bragg, MD, FACP

Presenter: Marldine Nganteh

Additional Authors: Gloria Kyomuhendo MD, Kathryn Driza DO

Heparin Induced Thrombocytopenia (HIT) in the Setting of Autoimmune Diseases

Heparin Induced Thrombocytopenia (HIT) type II is an immunoglobulin G mediated autoimmune disorder of heparin therapy. The diagnosis of HIT can be delayed in patients who have baseline thrombocytopenia due to autoimmune diseases.

A 54 year old woman with a past medical history of non-ischemic cardiomyopathy, paroxysmal atrial fibrillation on Coumadin, Sjogren's syndrome, Systemic lupus erythematosus, end stage renal disease on dialysis, and previous valvular repairs, presented with dyspnea and palpitations. She was hemodynamically unstable in atrial fibrillation which prompted cardioversion. Physical exam was notable for a mitral valve click and bilateral pedal edema.

On presentation, INR was 9.8. Coumadin was held and 10mg of vitamin K was administered. Hospital day 2, INR was 2.9, Coumadin was resumed. Hospital day 3, INR was 1.9. Given her history of mechanical mitral valve replacement and paroxysmal atrial fibrillation, she was started on a Heparin. Her platelets decreased by more than half by day 5 for which Heparin was discontinued. 4T-score showed intermediate possibility of HIT. Heparin dependent antibody was positive at 3.2. Serotonin release assay was also positive. She was placed on Argatroban for anticoagulation and eventually transitioned to Coumadin.

There appears to be a correlation between developing HIT in the presence of autoimmune disease. The association between comorbid autoimmune diseases is well known, however the association between HIT and autoimmunity needs to be further characterized. This could lead to a potential change in management of anticoagulation in patient's suffering from autoimmune disorders and reducing the risk of HIT.

Poster #135

Category: Clinical Vignette

Institution: Spectrum Health/MSU – Grand Rapids

Program Director: Talwnda Bragg, MD, FACP

Presenter: Pranay Pandrangi

Additional Authors: Adnan Kassier, Nagib Chalfoun

Did Supraventricular Tachycardia Cause the Syncop?

Cardiac causes are the most common life-threatening conditions associated with syncope. A thorough history is essential to determine accurately the underlying cause of syncope.

Patient was a 65 year old female with past medical history of hypertension who presented to us with chief complaint of shortness of breath and palpitations. She had stable vital signs and physical exam except for tachycardia. Electrocardiogram documented SVT with typical right bundle branch block (RBBB). She did not respond to Adenosine, but she converted spontaneously few minutes later. Upon further questioning, patient admitted having frequent episodes of pre-syncope and syncope in the last few months, she was diagnosed with seizures and started on Levetiracetam with no benefit. Family history was positive for a cardiac pacemaker in her brother due to an abnormal heart rhythm, and sudden death in her son at 20 years of age without any diagnosis. Patient underwent electrophysiology (EP) study and were able to induce SVT with RBBB morphology during atrial pacing, suggesting the presenting rhythm was supraventricular. However, aggressive atrial pacing or ventricular stimulation resulted in ventricular tachycardia (VT) of a left bundle branch morphology with superior axis. She became unstable with her VT with low blood pressures requiring cardioversion on multiple attempts. Thus procedure was aborted.

Giving patient history of repeated syncope and unstable VT on EP study, ischemia and structural heart diseases needed to be ruled out. Coronary angiography revealed severe right coronary artery disease the required stenting. MRI was unremarkable. Implantable cardiac defibrillator was then placed.

This case reiterates the importance of taking a detailed history and keeping a wide differential diagnosis when evaluating a wide complex tachycardia.

Poster #136

Category: Clinical Vignette

Institution: Spectrum Health/MSU – Grand Rapids

Program Director: Talwnda Bragg, MD, FACP

Presenter: John Sisson

Additional Authors: Dr. Brian Howard

A 36 Year Old Man with a Rapidly Enlarging Neck Mass

Anaplastic thyroid cancer (ATC) is the rarest form of thyroid malignancy (1 case per million persons annually), but also the most rapidly progressive. It is uniformly fatal, with the usual time course from diagnosis to expiration being on the order of months. Fewer than 10% of cases affect those younger than 50 years old, and it affects men at a 1:4 ratio relative to women. Thus, this is an exceedingly rare case. It serves as an opportunity to learn about ATC, its evaluation, and management options.

The case involves a 36 year old gentleman with no medical history but a family history significant for multiple various malignancies, who presented after 3 weeks of progressive left-sided neck pain and swelling. His exam was significant for a 5 cm mass in the left-anterior portion of his neck, plus rightward tracheal deviation. Imaging was concerning for a primary thyroid cancer with local and distant metastases. Subsequent biopsy diagnosed ATC. A multidisciplinary team was assembled at Spectrum Health, but he was ultimately discharged to the University of Michigan for further evaluation. There he underwent palliative tracheostomy, but subsequently suffered a respiratory arrest 2 days later and expired, just 5 weeks after symptom onset.

This case provides an opportunity to review the evaluation and management of ATC so that we may more efficiently mobilize the appropriate resources for an affected patient, including experimental treatments and/or palliation. We will also discuss research that will hopefully yield successful treatments for this devastating disease.

Poster #137

Category: CQI/EBM

Institution: Spectrum Health/MSU – Grand Rapids

Program Director: Talwnda Bragg, MD, FACP

Presenter: Lauren VanDam

Additional Authors: TaLawnda Bragg

Admitting Team: A Dynamic Solution for Inpatient Academic Medicine Services Challenges

In the wake of substantial structural and philosophical change in an Internal Medicine residency program, process problems arose on inpatient academic medicine services that would require novel solutions to address. Challenges included maintaining patient caps with the introduction of an additional team without alteration of admitting practices or overnight cross-coverage, hospital admission model transition, prolonged periods of protection from patient admissions, high ratio of intern-to-senior residents, and difficulty maintaining consistent academic experience for all learners including medical students. The PDSA model of quality improvement was used to guide the resident-driven process which was coordinated with hospitalist group administration and program leadership. Ultimately, a small, flexible, supplementary admitting team was created from the existing resident pool with the goal of resolving multiple problems and quickly adjusting to new demands.

By staggering hours of operation and removing rounding responsibilities from the new team, much of protected time was eliminated and admissions from multiple sources could be directed to the resident teams, which relieved the burden on the overnight cross-coverage. The secondary focus on education allowed for the creation of a weekly board review session managed by the admitting team, increased opportunity for individualized feedback and teaching for interns, and informal lectures to maintain medical student engagement.

After a successful limited trial the previous academic year, the admitting team was rolled out July 2018. With continuous reassessment and revision, it has resulted in significant improvement in patient volume and educational opportunities, and demonstrated that the dynamic design could be applied to similar challenges.

Poster #138

Category: Clinical Vignette

Institution: St. Joseph Mercy – Ann Arbor

Program Director: Patricia McNally, MD, FACP

Presenter: Aparna Bhat

Additional Authors: Rachana Ramesh Amberker, Rishin Handa, Arwa Mohamed Hosni

A Rare Case of Unexplained High Fever, Rash and Thrombocytopenia

Hemophagocytic lymphohistiocytosis (HLH) is a syndrome of uncontrolled immune activation. It is predominantly a childhood disease and rare in adults. It presents as a febrile illness with multiorgan involvement. It is divided into primary (familial) and secondary HLH (due to underlying conditions). A 33-year-old critically-ill female was admitted to Medical ICU with fever, fatigue, myalgias, skin rash and polyarthralgia's of one-week duration. Exam revealed non-tender cervical lymphadenopathy, hepatosplenomegaly and a non-raised blanching, diffusely scattered maculopapular rash. Initial work-up revealed leukocytosis, anemia, and thrombocytopenia with low fibrinogen and elevated triglycerides. Infectious and malignancy work-up was negative but with lactic acidosis. Rheumatological work-up revealed markedly elevated inflammatory, including ESR, CRP and ferritin. Bone marrow biopsy showed hemophagocytic histiocytes. Further work up showed absent NK cell activity, low sCD25 level and negative genetic testing for PRF, STX11, SH2D1A, BIRC4 mutations, flow cytometry for cell surface expression of perforins, and granzymes-b proteins. Based on these features, she fulfilled 8/8 diagnostic criteria for HLH secondary to Adult-onset Still's disease. She was treated with rituximab with appropriate clinical response. The greatest barrier to a successful outcome is a delayed diagnosis, which is challenging in disease processes that are rare, have variable clinical presentation, and lack specific clinical and laboratory findings. Prompt recognition is paramount and without early treatment, this disorder is aggressive and quite often fatal.

Poster #139

Category: Clinical Vignette

Institution: St. Joseph Mercy – Ann Arbor

Program Director: Patricia McNally, MD, FACP

Presenter: Alexandre Carvalho

Additional Authors: Rami Bzeih, DO; Rebecca Daniel, MD; Eghosa Idumwonyi, MD

Idiopathic Retroperitoneal Fibrosis and its Diagnostic Masquerade

Ormond's Disease or Retroperitoneal Fibrosis (RPF) is a uncommon disorder with incidence of 1.3 per 100,000 person-years. RPF typically presents with lower back, abdominal or flank pain that later demonstrates ureteral obstruction and kidney impairment. Its radiologic appearance often mimics lymphoma.

A 56 year old veteran with hypertension, bipolar disorder, tobacco history presented with bilateral leg pain and pitting edema. CT/MRI imaging demonstrated retroperitoneal mass encasing and compressing the right ureter and IVC concerning for hematologic malignancy. FDG-PET scan displayed low uptake suggesting a chronic inflammatory process which is atypical for lymphoma. Bone marrow and open peri-aortic mass biopsy was negative for malignancy. Extensive lab testing was negative for IgG subclasses, ANA, SPEP, RF, Anti-Jo, RPR, TB, His, HIV or abundant tissue histiocytes. His brother was diagnosed with Erdheim-Chester disease, which was also excluded during work-up.

After an extensive hospitalization he was diagnosed with Idiopathic RPF and underwent right percutaneous nephrostomy tube and J-J stent placement, and was initiated on Prednisone 60mg with significant improvement. Subsequently he was treated with a 4 week taper followed by immunomodulation with mycophenolate for 6-12 months.

This case illustrates the importance of keeping a broad differential without anchoring on malignancy. Idiopathic RPF should be actively investigated if the evidence demonstrates a benign process. Morbidity and potential mortality may result from extensive and prolonged invasive testing. An empiric trial of steroids after biopsy should be considered to improve symptoms and quality of life.

Poster #140

Category: Clinical Vignette

Institution: St. Joseph Mercy – Ann Arbor

Program Director: Patricia McNally, MD, FACP

Presenter: Suha Mokhtar

Additional Authors: Ola alsous MD, Usman Khokhar MD

Primary Mural Endocarditis, a Rare Presentation of a Known Disease

Infective endocarditis is a well-known complication of intravenous drug use (IVDU). Its incidence had been increasing over last years, up to 12% of hospitalizations in 2013. 30-70% of those cases affect the tricuspid valves. Mural involvement could be seen as a secondary complication. However, primary mural endocarditis is considered extremely rare.

We present a case of a 26 year old female with known history of IVDU presented with fever and sepsis. CT chest showed lung cavitory lesions. Blood cultures were positive for *Staphylococcus aureus*. Appropriate antibiotics were initiated. Initial transthoracic echocardiogram (TTE) revealed an intra-cavitary mobile mass in the right ventricle. Subsequently a transesophageal echo (TEE) was done, which showed a large 2.6x2.4 cm irregular, multi-lobular mass attached to the right ventricle free wall. No valvular abnormalities or structural defects were detected. Her course was complicated with leukoclastic vasculitis and pauci-immune glomerulonephritis. There were no further embolic events. She improved significantly after one week course of intravenous antibiotics therapy. Subsequent echo showed significant reduction in vegetation size with no valvular damage.

Primary mural endocarditis is a rare entity. Only 19 cases had been reported since 1986, six of which are in IVDUs, and interestingly only one IVDU case was right sided. Echo is considered the standard diagnostic modality; however cardiac MRI had also been used. There are no surgical management guidelines for non-valvular endocarditis. Clinicians need to be aware of it and work together in an interdisciplinary team to individualize treatment plan based on risk factors and clinical course.

Poster #141

Category: Clinical Vignette

Institution: St. Joseph Mercy – Ann Arbor

Program Director: Patricia McNally, MD, FACP

Presenter: Sanjana Nagra

Additional Authors: Dr. Swathi Jallipalli, Dr. Twylla Tassava

Not Just Another Drug Induced Rash

Cutaneous leukocytoclastic vasculitis is caused by the deposition of immune complexes throughout the cutaneous small vessels of the body. There are multiple pathologic etiologies however the incidence of rituximab induced vasculitis is extremely rare with very few reported cases.

A 46-year female with medical history of stage 1AE MALT Lymphoma of the parotid glands, Rheumatoid Arthritis and Sjögren's syndrome presented with a new rash and fevers. She received her second infusion of Rituximab for MALT Lymphoma 5 days prior to the eruption of her rash. However, her rash progressively worsened prompting her to seek medical care. Physical examination revealed a non-blanching, non-palpable petechial and morbiliforme eruption of the upper and lower extremities. Labs were significant for thrombocytopenia and neutropenia. Patient was evaluated by hematology/oncology that night who felt this was a drug induced rash and recommended initiation of topical steroids. The following day, dermatology performed a skin biopsy that eventually revealed leukocytoclastic vasculitis. Patient's rash improved with topical triamcinolone and she was discharged from the hospital. Patient's Rituximab therapy was discontinued per hematology/oncology and dermatology recommendations with complete resolution of her rash and lab abnormalities within 1 month of her last infusion.

This case illustrates a very rare adverse effect of rituximab induced leukocytoclastic vasculitis. It is imperative to recognize this as a drug induced adverse reaction as extracutaneous manifestations including end organ damage may develop with continued exposure to the offending agent.

Poster #142

Category: Clinical Vignette

Institution: St. Joseph Mercy – Ann Arbor

Program Director: Patricia McNally, MD, FACP

Presenter: Rachana Ramesh Amberker

Additional Authors: Dr Namrata Singh

Unique Manifestation of Sjogren's Syndrome

Sjogren's syndrome is systemic autoimmune disease characterized by lymphocytic infiltration of exocrine gland typically lacrimal and salivary gland resulting in xerophthalmia and xerostomia. Despite the fact that exudative pericardial effusion is very rare manifestation of SS, a diagnosis should be considered in the absence of any clear etiology for exudative pericardial effusion in patients even without typical sicca symptoms. 87 year old female presented with few weeks of progressive chest discomfort, dyspnea on exertion, fatigue, poor appetite, unintentional weight loss, abdominal discomfort. A week prior was admitted for confusion, CXR showed retro cardiac opacity and was treated with antibiotics for possible pneumonia. Medical history significant for hypothyroidism, HTN, HLD, Type 2 DM for which was on appropriate treatment. Family history, social history were unremarkable. Exam was significant for muffled heart sounds, pericardial frictional rub, +JVD, mild RUQ tenderness, bilateral fine crackles at lung bases. Routine workup showed normocytic anemia otherwise CBC with diff, CMP, UA, TSH were WNL. Imaging revealed moderate size pericardial effusion with inflamed pericardium, mild pulmonary fibrosis with interstitial edema. Echo confirmed moderate to large size free flowing pericardial effusion. Pericardiocentesis was performed with 500cc cloudy yellow fluid removal. Analysis showed exudative fluid with 2700 WBC, 90% neutrophils, elevated LDH but negative cultures and AFB staining. Rheumatological work up showed elevated CRP, positive ANA 1:2560, positive SSA and SSB, low C3 and C4, polyclonal gammopathy. Lip biopsy showed extensive focal lymphocytic infiltration confirming diagnosis of Sjogren's syndrome. She was treated with steroids and subsequently initiated on hydroxychloroquine.

Poster #143

Category: Clinical Vignette

Institution: St. Joseph Mercy – Ann Arbor

Program Director: Patricia McNally, MD, FACP

Presenter: Zeyad Sako

Additional Authors: Timothy W. Bodnar M.D., Jerome D. Winegarten M.D.

Pheochromocytoma Metastatic to the Paranasal Sinuses Treated with Pembrolizumab

Introduction

Pheochromocytomas are neuroendocrine tumors of the chromaffin system typically involving the adrenal glands. The classic teaching that 10% of pheochromocytomas are inherited has been debunked. As many as 50% of these tumors are associated with inherited mutations. Approximately 100–200 new cases are diagnosed every year in the United States. When metastatic, the most frequent locations are bone, lymph nodes, liver, lung and brain.

Case description

A 67-year-old male was diagnosed with dopamine-secreting pheochromocytoma in 2010. He initially underwent right-sided adrenalectomy, and later developed metastasis to the chest wall which was surgically resected. In 2016 he developed sinus pressure which was later discovered to represent metastatic pheochromocytoma centered in the left paranasal sinuses. The tumor grew outward, causing displacement of the left orbit. Localized resection options were felt too morbid to consider and he spent three years being treated only by a naturopathic physician. As his tumor progressed he developed recurrent severe epistaxis and agreed to repeat evaluation. Genomic and molecular testing was suggested as this was not previously completed and his tumor was found to overexpress PDL-1. Immunotherapy with Pembrolizumab was felt to be appropriate and with 2 cycles significant tumor reduction was noted. The metastasis was not found to be secreting dopamine nor any other catecholamine in excess.

Discussion

Metastatic pheochromocytoma can be challenging to treat, even when not dealing with catecholamine excess. Our case illustrates both a very unusual location of metastatic disease as well as a potential new targeted therapy.

Poster #144

Category: Clinical Vignette

Institution: St. Joseph Mercy – Ann Arbor

Program Director: Patricia McNally, MD, FACP

Presenter: Momena Sohail

Additional Authors: Steven Allen MD, Shellenberger A. Richard DO (Attending).

A Unique Presentation of Cutaneous Vasculitis on Bilateral Breast Tissue

Introduction

Cutaneous vasculitides are small or medium vessel vasculitis involving the skin traditionally presenting as purpuric or petechial lesions on the lower extremities. Cutaneous vasculitis of the breast is only reported in a few case reports, usually associated with underlying malignancy. We report a case of a young woman with bilateral breast vasculitis without malignancy.

Case description:

21-year-old healthy Caucasian woman presented with progressive left-to-right spreading of bilateral breast discoloration, tenderness, and swelling despite oral antibiotic therapy. Exam revealed markedly tender, enlarged, and edematous bilateral breasts with a focus of purpura on the right breast and reddish-purple discoloration involving 90% of the left breast. Concerning findings for malignancy, notably inflammatory breast cancer, included flattened nipples and periareolar peau d'orange with underlying 10 x 10 cm mass to palpation on the left. Antibiotics were broadened while awaiting biopsy results. Core biopsy of the left breast mass and right breast skin biopsy revealed medium vessel and small vessel leukocytoclastic vasculitis, respectively. She was treated with methylprednisolone with subsequent improvement in symptoms. Oncologic workup was negative.

Discussion:

Cutaneous vasculitis has varied clinical manifestations posing a diagnostic challenge for clinicians as it may mimic infection initially. Accurate identification and diagnosis of cutaneous vasculitis relies upon early biopsy and is of vital importance due to its association with multiple underlying disorders including malignancy which necessitates appropriate work up. Documentation of unique presentations of vasculitides help clinicians in their identification, prompt earlier biopsy for accurate diagnosis and prevent unnecessary antibiotic use and investigations.

ACP Michigan Chapter, Residents Day 2019

Poster #145

Category: CQI/EBM

Institution: St. Joseph Mercy – Ann Arbor

Program Director: Patricia McNally, MD, FACP

Presenter: John Wei

Additional Authors: Corey Dean, MD, Adrienne Rosa, Afnan Ammar, MD,

Educating Patients on Advanced Care Planning

Advanced Care Planning (ACP) is an instrumental but underutilized part of our health information documentation for multiple reasons: Uncomfortable subject matter, anticipated time investment, and the need for documentation being witnessed. Our project proposes the shared medical appointment (SMA) as the means to disseminate information regarding ACP, allowing group discussion to normalize the uncomfortable subject matter, reducing time commitment on individual health care providers, and allowing for the presences of unrelated witnesses for documentation. To best tailor these SMAs to our patients, our team is also piloting “curriculumms”, with 2 subsets of classes aimed at patients who already possess a firm understanding of advanced care planning, and those who do not and are likely to benefit from more intensive discussion and question/answer sessions.

We have taken our residency clinic’s preexisting advanced directive completion percentage as a baseline of 9% completion. Through two classes, and 8 patients, we show an increase in completion rate in this population at 25%.

This study is currently limited by our sample population, and the time and effort required to run these SMAs. We believe that our class size can be scaled up to take better advantage of our resource utilization and allocation in each class. Thusfar, our narrow-focus, high-intensity pilot study to evaluate the effectiveness of the SMA and education in increasing our proportion of patients with completed ACP has shown improvement by measurement of percentage completion.

Poster #146

Category: Clinical Vignette

Institution: St. Joseph Mercy – Oakland

Program Director: Benjamin Diaczok, MD, FACP

Presenter: Israa Al ghuri

Additional Authors: Ilesha Arfeen , Katie Zechar

Severe Cryptosporidium Diarrhea in Familial Mediterranean Fever Patient: Coincidence or Colchicine Effect?

Human Cryptosporidiosis is disease caused by parasitic infection of the epithelial cells of the GI tract. In healthy individuals the disease is self-limited, however immunocompromised hosts can present with severe prolonged illness with up to 25 L/day of watery stool.

Case presentation

A 53-year-old female with a PMHx of Familial Mediterranean Fever on colchicine 1.2 mg per day who presented with nausea, vomiting, abdominal pain and diarrhea for 5 days. She reported 8-15 watery non-bloody bowel movements per day. Stool samples tested positive for Cryptosporidium. Pt denies any hx of recent travel, swimming in freshwater lakes, hiking or outdoor activities, or consumption of fish or shellfish, or fresh berries. However she reports that her dog was experiencing diarrhea. HIV testing was negative. She was treated with paromomycin 750 mg TID for * 5 days and her symptoms resolved.

Discussion:

The pathogenesis of Cryptosporidium is not well understood. The immune response associated with cryptosporidiosis involves cellular and humoral components. The T-lymphocyte cellular responses are important in controlling infection, as evidenced by the increased disease severity in HIV-infected patients with CD4 counts less than 100 cells/microL. Colchicine on the other hand is microtubule inhibiting agent used for the management of FMF and gouty arthritis. Recent study evaluated the effect of colchicine on cellular immune responses in mice concluded that colchicine suppresses the cellular immune responses in mice.

Poster #147

Category: Clinical Vignette

Institution: St. Joseph Mercy – Oakland

Program Director: Benjamin Diaczok, MD, FACP

Presenter: Faiza Amin

Additional Authors: Mark Kandary, MD

Symmetric Peripheral Gangrene Associated with Staphylococcal Bacteremia and Endocarditis

INTRODUCTION

Symmetric peripheral gangrene (SPG) is defined as distal ischemic damage in two or more sites in the absence of major occlusive disease. The mortality rate of SPG is high with a very high frequency of limb amputations. We present a case of SPG secondary to staphylococcal bacteremia and endocarditis.

CASE

A 59 year old male with non ischemic cardiomyopathy and ICD implant presented to our hospital with generalized weakness, malaise and vomiting. The patient was tachycardic and hypotensive on admission with a purpuric rash on lower extremities. Initial labs demonstrated white count of 12,900/mcL, platelet count of 31,000/mcL, BUN 82 mg/dL, creatinine 4.99 mg/dL. The patient was started on nafcillin and rifampin after blood and urine cultures grew methicillin sensitive staphylococcus aureus; a transthoracic echocardiogram was negative for vegetations. Levophed was initially required for septic shock but was weaned off on day 6. On day 8, he had loss of peripheral pulses in his lower extremities with patchy mottling of both feet eventually progressing to dry gangrene. DIC and MAHA were ruled out. Gentamicin was added. A TEE demonstrated vegetations along the ICD wire in the right atrium. CT chest was negative for pulmonary emboli. His pulses eventually recovered after adjusting antibiotics. Patient underwent laser lead extraction with removal of vegetations. After source removal, thrombocytopenia and kidney function normalized.

DISCUSSION

Bacteremic seeding can result in SPG; underlying mechanisms include extracellular toxins causing platelet damage and aggregation and vasospasm from staphylococcal alpha toxin.

Poster #148

Category: Clinical Vignette

Institution: St. Joseph Mercy – Oakland

Program Director: Benjamin Diaczok, MD, FACP

Presenter: Sahla Hammad

Additional Authors: Mayuri Kulkarni MD, Rovin Saxena MD, Mihaela Batke MD

Recurrent Pancreatitis Due to Celiac Disease

INTRODUCTION

Celiac Disease (CD) is a disorder characterized by small bowel mucosal inflammation, villous atrophy, and crypt hyperplasia that occurs with exposure to dietary gluten. CD has extraintestinal manifestations such as pancreatobiliary disease. Postulated mechanisms include reduced gallbladder emptying due to impaired cholecystokinin release and pancreatitis due to malnutrition. We present a case of recurrent pancreatitis due to underlying CD.

CASE

24-year-old lady presented with epigastric abdominal pain radiating to the back, associated with nausea and vomiting. Physical examination revealed exquisite tenderness in her epigastrium. Her lipase was 1,417 U/L. Ultrasound of the abdomen showed a dilated pancreatic duct. She underwent magnetic resonance cholangiopancreatography which showed an enlarged pancreas with peripancreatic inflammation. She subsequently underwent esophagogastroduodenoscopy and duodenal biopsy which showed duodenitis with intraepithelial lymphocytes and villous blunting. Tissue transglutaminase (TTG) IgA antibody level was 77 U/mL. She instituted a gluten free diet, and her symptoms resolved. Follow up 3 months later showed continued resolution of her symptoms. Her TTG-IgA antibodies decreased significantly after one year.

DISCUSSION

A number of epidemiologic studies have reported an increase in incidence of pancreatitis in CD patients when compared to the general population. CD should be suspected in patients with pancreatitis in the absence of other common risk factors such as alcohol intake, medications, cholelithiasis, trauma, and hypertriglyceridemia. CD should also be considered in the etiology of papillary stenosis.

Poster #149

Category: Clinical Vignette

Institution: St. Joseph Mercy – Oakland

Program Director: Benjamin Diaczok, MD, FACP

Presenter: Bilal Khan

Additional Authors: Geetha Krishnamoorthy, MD

Unexpected Etiology of Atrial Fibrillation, a Pharmaco-Phytobezoar of the Esophagus

INTRODUCTION:

Pharmaco-phytobezoar, a mass of food particles and medications, are rare and usually found in the stomach. Usually formed due to alterations in motility or anatomy of gastrointestinal tract, but relative insolubility of enteric-coated tablets also contributes.

CASE DESCRIPTION:

A 93-year-old woman with dementia, presented with persistent vomiting. Vomiting occurred shortly after each meal, was frothy, with food particles in it. Patient was more confused from her baseline and weaker, going from ambulatory to inability to get up without assistance. Examination: Drowsiness, dry mucous membranes, new-onset atrial fibrillation (AF). Despite antiemetics, hydration and electrolyte replacement, vomiting persisted and anatomic obstruction was suspected. Endoscopy revealed a large foreign body, comprising of food material and intact tablets lodged in the lower part of esophagus. Due to inability to retrieve after considerable effort, the object was pushed into the stomach, relieving the obstruction. Subsequently, vomiting and AF resolved. Patient later expired due to esophageal perforation.

DISCUSSION:

Identification of pharmaco-phytobezoar proved to be challenging due to patient's mental status, and absence of typical symptoms of dysphagia. Early esophagogastroduodenoscopy is both diagnostic and therapeutic, treatment ranging from object retrieval to pushing the object into the stomach. Additional monitoring may be needed, related to release of active ingredients and procedural complications. There are a few case reports of esophageal mass compressing the left atrium (LA) causing AF. Though AF is a common arrhythmia, new onset AF in a patient without hypertension and its resolution after removal of the bezoar makes us consider LA compression as the etiology.

Poster #150

Category: Clinical Vignette

Institution: St. Joseph Mercy – Oakland

Program Director: Benjamin Diaczok, MD, FACP

Presenter: Nadia Khosrodad

Additional Authors: Justin Khine, Jeff Maclean, Fnu Abhishek

Multiple Ring-Enhancing Lesions – Aspergillus, Toxoplasmosis, or Syphilis: A Case Report

Introduction

Other than acute cerebrovascular accidents, multiple ring-enhancing lesions are among the most common lesions encountered in neuroimaging. Etiologies of ring-enhancing lesions range from neoplastic, inflammatory, infectious, autoimmune, to vascular diseases. As there is no singular radiographic feature that can differentiate between these etiologies, a comprehensive clinical picture of the patient, with attention to immunocompetency state, is pertinent.

Case Report

A 63-year-old African American male with past medical history of diabetes presented to the ED with altered mental status and unequal pupil sizes. He was empirically treated for community acquired pneumonia and imaging of his head revealed ring-enhancing lesions in the left frontal lobe and in the left basal ganglia. Extensive laboratory workup was done and he was diagnosed and treated for syphilis. Brain biopsy of the ring-enhancing lesions showed toxoplasma cysts, and cultures were notable for *Aspergillus fumigatus*. Although he was HIV negative, his CD4 count stayed between 87-204 cells/mm³.

Discussion

When radiographic imaging uncovers intracerebral abscesses, the etiologies and their risk factors must be explored with patient history and clinical data in mind. Several possible etiologies exist in this case, each of which could independently develop into a ring-enhanced brain lesion.

This case of multiple ring-enhancing cerebral abscesses showed varied microbial origins in a patient with idiopathic lymphocytopenia. Through exhaustive testing, biopsies, and cultures, the mainstay of management was predicated on the brain biopsy and positive syphilis results.

Poster #151

Category: Clinical Vignette

Institution: St. Joseph Mercy – Oakland

Program Director: Benjamin Diaczok, MD, FACP

Presenter: Ambreen Malik

Additional Authors: James Gibson MD, Brian Markle MD, Geetha Krishnamoorthy MD

Drug Induced Liver Injury Due to Rivaroxaban

Drug Induced Liver Injury due to Rivaroxaban

Ambreen Malik MD, James Gibson MD, Brian Markle MD, Geetha Krishnamoorthy MD

The use of rivaroxaban has increased in the past few years. After its widespread use, drug induced liver injury (DILI) is being reported. Most cases start within 1-8 weeks of use and is most often hepatocellular.

It usually resolves within 4 weeks of stopping rivaroxaban. Reported incidence is 1.5-3%, a rate like warfarin associated DILI. We report a case of DILI due to rivaroxaban. A 32-year-old male with thrombophilia, on rivaroxaban for 13 months, presented with vomiting, abdominal distension and pain. Examination: Ascites and jaundice. Laboratory evaluation: Hyperbilirubinemia (7mg/dL), elevated aspartate aminotransferase (135U/L) and alkaline phosphatase (170 IU/L), normal alanine aminotransferase. Ultrasound: Liver steatosis. Viral serology, autoimmune panel: Negative. Rivaroxaban was stopped before endoscopic retrograde cholangiopancreatography, which was unremarkable. Patient's liver enzymes started trending down. He was discharged on rivaroxaban, with a diagnosis of acute hepatitis due to viral syndrome or diastolic heart failure. One week later, he presented with similar complaints. Liver enzymes were higher than at discharge. Liver biopsy: Acute hepatitis with balloon degeneration of hepatocytes and cholestasis. DILI by Rivaroxaban was suspected, and it was stopped. Patient was started on warfarin. Liver enzymes at 2 weeks follow up were noted to be trending down. CIOMS RUCAM scale is a scoring system to establish causality for DILI. His score was 10, consistent with 'highly probable'. This case illustrates the importance of early recognition of DILI by rivaroxaban. DILI warning may have to be added to rivaroxaban, and physicians should be aware of rivaroxaban as a cause of DILI.

Poster #152

Category: Clinical Vignette

Institution: St. Joseph Mercy – Oakland

Program Director: Benjamin Diaczok, MD, FACP

Presenter: Mohamed Mandeel

Additional Authors: A. Abdou, V. Hannosh, G. Krishnamoorthy

RNA Polymerase III Antibody Positive Systemic Sclerosis with Cystic Interstitial Lung Disease and Pulmonary Hypertension

INTRODUCTION

Systemic sclerosis (SSc) is a multisystem autoimmune disease. Interstitial lung disease (ILD) and pulmonary hypertension (PH) lead to most deaths. Antibodies in SSc: Anti-Scl-70, associated with ILD, anticentromere(ACA), associated with PH, and RNA polymerase III antibody (RNAP), associated with renal crisis and increased risk of malignancies. RNAP is least associated with ILD and PH. We present RNAP positive SSc, with ILD and PH.

CASE PRESENTATION

A 27-year-old female presented with progressive dyspnea. Examination: Oxygen saturation: 80%, tachycardic, tachypneic, normal blood pressure, facial and finger skin thickening, loud P2, bibasilar crackles. CT chest: Bilateral diffuse thin-walled cysts, interstitial thickening, perihilar ground glass opacities. Echocardiogram: Normal left ventricular function, right ventricular pressure: 50 mmHg, moderate pericardial effusion. Right heart catheterization: Pulmonary artery pressure: 54/26 mmHg, consistent with PH. Pericardiocentesis: Hemorrhagic lymphocytic effusion. Laboratory studies: Normal serum chemistries, positive RNAP, negative ACA/anti-Scl-70. Diagnosis: Diffuse SSc with ILD, PH and pericardial effusion. Due to recurrent pericardial effusion, thoracoscopic pericardial window, lung biopsy (nonspecific interstitial pneumonia) were done. Patient sent to tertiary care center.

DISCUSSION

SSc is diagnosed using American College of Rheumatology criteria. A score ≥ 9 is definite SSc. Our patient's score: 19. Lung biopsy is not needed for diagnosis. Unique features: RNAP with ILD/PH, and diffuse thin walled cysts, usually seen in lymphangiomyomatosis, and some other ILD, but not in SSc. Current treatment of SSc ILD: Mycophenolate mofetil. PH is treated as well. Transplant is done for end-stage lung disease. Treatment decisions in our patient should consider increased malignancy risk with RNAP.

Poster #153

Category: Clinical Vignette

Institution: St. Joseph Mercy – Oakland

Program Director: Benjamin Diaczok, MD, FACP

Presenter: Bashar Maskoni

Additional Authors: Maskoni, B MD. MBA, Jena, N MD, Cosma, C MD.

Apixaban May Paralyze You?

Introduction

The development of spontaneous non-traumatic spinal epidural hematomas due to novel oral anticoagulants is rarely reported. We present a case of spontaneous non-traumatic spinal epidural hematoma with significant neurological deficit, as a result of Apixaban therapy.

Case

A 75-year-old lady with a history of atrial fibrillation on Apixaban therapy presented with sudden onset of severe neck pain and right sided weakness. She denied any fall or spinal trauma. Neurologic examination revealed left sided facial droop and right hemiplegia. Sensation/reflexes were intact. CT scan of the head was negative. Spinal CT showed cervical spondylosis and neural foraminal stenosis. MRI of brain and spine showed fluid collection in the epidural space below C2-C3 to C6-C7 causing significant compression of the spinal cord. Apixaban was discontinued. Patient underwent immediate evacuation of the spinal epidural hematoma, with C3-C7 laminectomy/fusion. Postoperatively she showed partial improvement of her neurological deficit and was transferred to the rehabilitation unit.

Discussion

Spontaneous non-traumatic spinal epidural hematomas secondary to anticoagulation usage are extremely rare. Patients typically present with pain within the associated spinal level and neurological deficits. MRI of the spine is the most accurate and preferable method of diagnostic imaging. Management remains to be controversial since these hematomas are still rare, but typically, emergent surgical evacuation of the hematoma is required along with discontinuation of the associated NOAC. Physicians should be aware that spinal epidural hematomas with significant neurologic deficits can occur spontaneously in patients on Apixaban therapy, in the absence of trauma or neurosurgical intervention.

Poster #154

Category: Clinical Vignette

Institution: St. Joseph Mercy – Oakland

Program Director: Benjamin Diaczok, MD, FACP

Presenter: Swathi Muthyam Mogulla

Additional Authors: Sudhir Chiluka MD., Peter Sabbagh MD., Sruthi Vellanki MD., Geetha Krishnamoorthy MD, FACP (member)

The Scent of Strawberries That Led to the Resolution of Hypersensitivity Pneumonitis

Introduction:

E-cigarette (vaping) is currently a National epidemic. Reported pulmonary complications due to vaping include eosinophilic pneumonia, lipoid pneumonia, hypersensitivity pneumonitis (HP), bronchiolitis obliterans, diffuse alveolar hemorrhage, and acute respiratory distress syndrome. We present a case of HP from vaping.

Case Presentation:

A 48 year old woman with cirrhosis, with transjugular intrahepatic portosystemic shunt (TIPS) came with progressive dyspnea and dry cough. She reported that she quit smoking. Examination: Afebrile, normal blood pressure, no tachycardia, respiration rate: 24/min, pulse oximetry: 80%, a few basal crackles. Chest X-ray: Right lower lobe atelectasis. Complete blood count: normal. Oxygen and antibiotics were started. CT scan: No pulmonary embolism. Arterial blood gas on 3L oxygen: pH: 7.45, PaCO₂: 43.1 mmHg, PaO₂: 59 mmHg, A-a gradient: 115.4. Echocardiogram with bubble study: No hepatopulmonary syndrome. Her bathroom always smelled of strawberries, and nurse saw her vaping. Repeat review of CT chest: Mosaic attenuation and air trapping, consistent with HP. She stopped vaping and methylprednisolone was started, with quick resolution of symptoms and hypoxemia.

Discussion:

HP occurs due to inhalation of organic antigens. Acute HP presents with dry cough, dyspnea, fever, and hypoxemia. Leukocytosis may occur, eosinophilia is not seen. Chest X-ray frequently shows fine reticulonodular pattern. High resolution CT scan can show ground glass opacities, mosaic attenuation on inspiratory and air trapping on expiratory images. Treatment: Remove offending agent, steroid if persistent or progressive symptoms. Since early removal of the offending agent is needed, detailed exposure history is important. Physicians should be aware that vaping may cause HP.

Poster #155

Category: Clinical Vignette

Institution: St. Joseph Mercy – Oakland

Program Director: Benjamin Diaczok, MD, FACP

Presenter: Olusola Ogundipe

Additional Authors: Geetha Krishnamoorthy, MD, FACP

Twiddler Doo Dah, Twiddler Eh! My Oh My the Shocks Are in My Armpit!

Introduction

Lead dislodgement is a rare complication of implantable cardioverter defibrillator (ICD), and presents as perforation, arrhythmia or inappropriate pacing of adjacent structures. We present Twiddler syndrome, due to dislodgement of ICD lead with subsequent stimulation of adjacent nerves.

Case Presentation

A 54 year old gentleman with atrial fibrillation and ischemic cardiomyopathy who had a dual function ICD/pacemaker inserted 1 year prior to current hospitalization, presented to us with palpitations and twitching, paresthesia and electric shock-like sensation when lying on his left side. He had been diagnosed and treated as neuropathy, myoclonus and focal seizures without relief. On examination, he was hemodynamically stable, with atrial fibrillation (140 beats/minute). His ICD pocket appeared normal.

Electrocardiogram showed atrial fibrillation without any pacemaker spikes. Chest radiograph and comparison to previous studies revealed device migration with the lead wrapped around the ICD generator. Electrophysiology consult was sought for device reimplantation.

Discussion

Twiddler syndrome is due to deliberate or accidental manipulation of the pulse generator within its pocket. This results in dislodgement of its lead(s), stoppage of ventricular pacing, and subsequent sensing of myopotentials from adjacent structures, usually phrenic nerve, causing diaphragm pacing leading to abdominal pulse like sensation or stimulation of brachial plexus causing rhythmic twitching of left arm. Careful evaluation of Chest x-ray can identify lead malposition. Patients with ICD who develop muscle twitching in the chest, neck or upper limbs, or sensation of abdominal pulsations could have lead dislodgment secondary to Twiddler syndrome, and Chest x-ray should be done.

Poster #156

Category: Clinical Vignette

Institution: St. Joseph Mercy – Oakland

Program Director: Benjamin Diaczok, MD, FACP

Presenter: Pramod Kumar Ponna

Additional Authors: Mayuri Kulkarni MD; Rovin Saxena MD; Benjamin Diaczok MD;
Geetha Krishnamoorthy MD

Hepatic Double Trouble: A Case of Combined Hepatocellular Carcinoma and Cholangiocarcinoma

INTRODUCTION:

Combined Hepatocellular carcinoma and Cholangiocarcinoma (cHCC-CC) accounts for < 1% of all liver malignancies and is difficult to diagnose pre-operatively. We present a case of cHCC-CC diagnosed by imaging, tumor markers and biopsy.

CASE PRESENTATION:

A 61-year-old man with advanced cirrhosis due to hepatitis C and alcohol, was admitted for hepatic encephalopathy. His alpha-fetoprotein (AFP) was elevated at 17,771 ng/mL. MRI abdomen revealed a 2 cm mass that showed early enhancement and rapid wash-out consistent with HCC in the right lobe and 2 lesions in the left lobe that showed hyperenhancement in post contrast images which was not consistent with HCC. CA 19-9 level was elevated at 54.3 U/mL. Biopsy of the left lobe lesion showed Cholangiocarcinoma. Metastatic work up (CT chest, MRI brain, bone scan) was negative. Patient and his family chose comfort care due to the poor functional status and need for hepatectomy.

DISCUSSION:

There are 3 types of cHCC-CC: In type A, HCC and CC are seen at different sites in the liver, as in ours. Type B consists of juxtaposed HCC and CC that mingle with ongoing growth and type C has both within the same tumor. Imaging shows HCC features of arterial enhancement and washout and CC features of irregular surface and late enhancement. The presence of both elevated AFP and CA 19-9 should lead to the suspicion of cHCC-CC. Hepatectomy is the only curative treatment for cHCC-CC and transplant is contraindicated. Survival after resection for cHCC-CC is worse than HCC.

Poster #157

Category: Clinical Vignette

Institution: St. Joseph Mercy – Oakland

Program Director: Benjamin Diaczok, MD, FACP

Presenter: Jiries Qaqish

Additional Authors: Nadia Khosrodad, Nihar Jena, Ben Diaczok

The Run Away Clinical Pathway Train. Why Is It So Hard to Jump Off?

INTRODUCTION:

Clinical Pathways (CP's) have been in use for over two decades. CP's have streamlined patient care, reduced medical errors, and length of stay. CP's sets are embedded in electronic medical records and are easy to implement. Unfortunately, once activated, there is no efficient process to discontinue a CP. We present a patient, initially felt to have a stroke, continue to undergo neurologic testing despite an alternative diagnosis.

CASE:

A 51-year-old lady, an inpatient in a psychiatric hospital, became unresponsive and slumped into her chair. Staff did not observe seizure activity. In the ED she was able to ambulate, but was ataxic. Stroke was considered and the stroke CP was activated. Subsequent evaluation revealed poor oral intake, positive orthostatics (148 / 87 - 108 / 89) and tachycardia. Dehydration was diagnosed. The patient's symptoms resolved with hydration. A CT angiogram and carotid Doppler revealed a 90% stenosis of the RICA. At this time the suspicion of stroke was quite low. A false positive finding was suspected. Because of the significance of the finding, a four-vessel angiogram was completed revealing no hemodynamically significant carotid disease.

DISCUSSION:

Early detection of stroke is vital to a favorable outcome. Physicians have a low threshold for ordering stroke CP's. Once activated, CP's are difficult to stop, requiring individual stop orders for each component. Our patient underwent unnecessary testing because the stroke CP was not stopped once a non-neurologic diagnosis was made placing the patient at risk for acute kidney injury, bleeding and stroke.

Poster #158

Category: Clinical Vignette

Institution: St. Joseph Mercy – Oakland

Program Director: Benjamin Diaczok, MD, FACP

Presenter: Mohammed Salih

Additional Authors: Mohammed Salih, MD., Chirine El-mokdad MD, Monica Nicola MD FACP, Arezo Amirikia, MD, Geetha Krishnamoorthy, MD, FACP

Painful Diplopia and Ophthalmoplegia Due to Orbital Myositis

Introduction:

Orbital myositis is a rare idiopathic inflammatory disorder of the orbital muscles and presents as a subacute painful diplopia. We present a case of orbital myositis.

Case Description:

A 31-year-old healthy man presented to the hospital due to diplopia, and painful eye movements.

Examination: Vital signs, physical examination, including neurological examination were normal. Eye appeared normal with normal pupillary response. Horizontal movements of both eyes were limited. There was pain with upward, medial and lateral gaze. Diplopia was present with downward gaze and he described the images as one above the other. Serum chemistries, thyroid stimulating hormone, complete blood count, and sedimentation rate were normal. C-reactive protein: 1.18 (normal: 0-.0.9). Antinuclear antibody was positive (1:320) without clinical features of SLE, creatinine kinase normal, negative Lyme serology. Magnetic Resonance Imaging (MRI) of the brain and orbits showed thickening and edema of bilateral medial rectus, left lateral rectus, and right inferior rectus muscles. Prednisone was started, and after 3 days, pain decreased, and eye movements improved. At 2 weeks, there was complete resolution.

Discussion:

The pathogenesis of Orbital myositis isn't well understood. There are 2 major types: Limited Oligosymptomatic Orbital Myositis (LOOM), and Severe Exophthalmic Orbital Myositis (SEOM) with chemosis, ptosis and proptosis. The diagnostic study of choice is MRI of the orbits, which shows edema and swelling of the involved muscles. Disorders that may have similar eye findings (thyroid orbitopathy, ocular myasthenia gravis, sarcoidosis, Lyme disease) should be excluded. Orbital myositis responds to steroid, immunosuppressive agents may be needed.

Poster #159

Category: Clinical Vignette

Institution: St. Joseph Mercy – Oakland

Program Director: Benjamin Diaczok, MD, FACP

Presenter: Anup Kumar Trikannad Ashwini Kumar

Additional Authors: Sruthi Vellanki MD ACP associate ; Kelash Kumar MD ACP associate, Dr. K Patel (Department of Cardiology)

Cryptogenic Stroke - Double Closure of a PFO

Introduction

Patent Foramen Ovale closure has been proven a safe and effective procedure with low complication rates and good procedural success. The presence of residual shunt can be expected in 5% of all patients undergoing PFO closure

Case

A 58-year-old male presented with left-sided weakness and slurred speech. He received TPA and CT head at 24 hours post tPA showed acute to subacute infarct involving right medial pons. As part of stroke workup, Transthoracic echocardiogram was done which showed positive intra-cardiac shunt [PFO]. TTE was followed by trans-esophageal echocardiogram showed no evidence of thrombus or appendage within the left atrium. Bubble study showed positive intracardiac shunt. The patient was considered for PFO closure in view of large PFO noted on echocardiogram. The patient underwent PFO closure with the successful deployment of Amplatzer septal occlude 35 mm. He was discharged on dual-antiplatelet therapy. Repeat Echocardiogram 9 months post-procedure showed intra-atrial septum occluder device in well-seated position but repeat Bubble study showed a positive intracardiac shunt. Peri-Operative a large intracardiac shunt was measured on a sizing balloon and a second Amplatzer septal occluder 25 mm was successfully deployed to close the PFO.

Conclusion

Persistent residual shunting can happen from incomplete initial transcatheter closure attempt and lack of epithelization around the device. Optimal treatment strategy remains unknown and may include antiplatelet, surgical removal of the present device and PFO closure or transcatheter procedure re-intervention. Our case report shows successful Re- intervention to close an incompletely closed PFO with an amplatzer device.

Poster #160

Category: Clinical Vignette

Institution: St. Joseph Mercy – Oakland

Program Director: Benjamin Diaczok, MD, FACP

Presenter: Sruthi Vellanki

Additional Authors: Anup Kumar Trikannad Ashwini Kumar, MD,MS; Sruthi Vellanki, MD; Pratik Bhattacharya, MD

PRES: For a Diagnosis

Posterior Reversible Encephalopathy Syndrome(PRES) presents with seizures, headache, altered mental status or visual disturbances, associated with posterior cerebral white matter edema on neuroimaging. PRES is a benign and reversible condition.

A 78-year-old man with a history of hypertension, colon cancer that underwent colectomy and was started on FOLFOX therapy for 12 weeks. He was admitted to the hospital on being found unresponsive. CT head showed no acute intracranial hemorrhage. The blood pressure at the time of admission was 200/92mm Hg. Complete blood count, complete metabolic panel, urine drug screen: normal. Serum creatine was elevated from baseline. EEG: generalized slowing. Imaging of the brain with an MRI: edema of the white matter in the posterior portions of the cerebral hemispheres especially in the bilateral parietooccipital area suggestive of PRES. The patient recovered within 1-2 weeks of intensive control of blood pressure.

Systematic review shows an association of FOLFOX with PRES and there is no clear explanation for the pathophysiology of chemotherapy as an association with PRES. PRES is usually benign and is fully reversible within days to weeks after removal of the inciting factor and with good blood pressure control. PRES is diagnosed with brain MRI. Numerous factors can trigger the syndrome, most commonly: acute elevation of blood pressure, abnormal renal function, and immunosuppressive therapy. In this case, hypertension and renal failure can be a trigger for this syndrome.

In summary, PRES is an entity not very well known, and the delay in diagnosis leads to worse clinical recovery. A patient subjected to chemotherapy on FOLFOX may present with PRES symptoms which clinicians might need to consider.

Poster #161

Category: Clinical Vignette

Institution: St. Mary Mercy Hospital – Livonia

Program Director: David Steinberger, MD, FACP

Presenter: Hira Irfan

Additional Authors: Kirby S, Pansare R, Mohindra A, Mohindra R, Steinberger D

A Rare Case of Primary Cutaneous B-cell Lymphoma, Leg Type

Primary cutaneous B-cell lymphoma leg type (PCLBCLLT) comprises of 20% of primary cutaneous lymphomas (PCL). It is crucial to differentiate it from the other two types of PCL as prognosis and management differ significantly.

An 86 year-old Caucasian male presented with an incidental 4 mm erythematous, smooth, firm papule with overlying telangiectasia on right ankle near the Achilles tendon. Shave biopsy revealed large atypical lymphocytes positive for CD20, CD45, BCL2, BCL6, and MUM-1. CT scan of abdomen and pelvis revealed an enlarged right inguinal lymph node and a solid mass inferior to the right liver lobe. PET CT scan revealed FDG avid mass in right parapharyngeal area, right posterior flank and right groin lymphadenopathy. Bone marrow biopsy was hypercellular with trilineage maturation and small abnormal B-cell clone without morphologic evidence of lymphoma. MRI of ankle and peripheral blood smear was normal. Diagnosis of PCLBCLLT was made, however, patient refused further workup.

PCLBCLLT has strong expression of BCL2 and MUM1. Characteristic features include presentation on legs, older age at diagnosis, intermediate prognosis and frequent relapses with extra-cutaneous progression to viscera. Multiple skin lesions have relatively poor survival rates. R-CHOP with or without radiotherapy is the recommended first line treatment in PCLBCLLT with poorly documented outcomes. Adding Rituximab to anthracycline-containing chemotherapy has shown better short-term outcomes. As a rare evolving disease with poor prognosis, we highlight that PCLBCLLT can present as a relatively benign cutaneous lesion. Careful diagnostic evaluation is necessitated due to poor treatment response compared to other PCL subtypes.

Poster #162

Category: Clinical Vignette

Institution: St. Mary Mercy Hospital – Livonia

Program Director: David Steinberger, MD, FACP

Presenter: Vijay Jarodiya

Additional Authors: Chirag Kher, Gunjan Shah

Urosepsis is Difficult to Stomach!

Introduction: Gastric ischemia is a rare condition associated with poor prognosis typically presenting with abdominal pain, GI bleed and altered mentation and may be caused due to states of shock. We present a rare case of gastric ischemia due to urosepsis.

Case Presentation: A 70 year-old male with past medical history of peripheral vascular disease, chronic Foley catheter and dementia presented with altered mentation, hypotension, tachycardia and decreased urine output. The Foley catheter was replaced revealing purulent urine. Initial labs revealed acute kidney injury, lactic acidosis, and leukocytosis. CT abdomen pelvis without contrast revealed gastric pneumatosis with adjacent left upper quadrant portal venous gas and branching portal venous gas throughout the liver. Esophagogastroduodenoscopy was performed which showed proximal gastric ischemia and necrosis from the midbody to the fundus; biopsies revealed acute hemorrhagic gastritis, and gastroenterology recommended resection. General surgery was consulted who recommended conservative management. Patient improved clinically while receiving antibiotic therapy, intermittent nasogastric tube suction, intravenous proton pump inhibitor therapy and parenteral nutrition. Repeat imaging showed resolution of portal gas and gastric pneumatosis and repeat EGD showed resolution of gastric ischemia.

Discussion: Gastric ischemia is a serious condition which is under-recognized clinically. Etiologies include systemic hypotension, vasculitis or disseminated thromboembolism. Gastric pneumatosis or portal venous gas on imaging suggest ischemia; EGD with biopsy is the diagnostic gold standard. Gastric ischemia is either managed surgically or medically with fluid resuscitation, nasogastric tube placement to prevent gastric distension and acid reduction along with antibiotics for patients with gastric pneumatosis.

Poster #163

Category: Clinical Vignette

Institution: St. Mary Mercy Hospital – Livonia

Program Director: David Steinberger, MD, FACP

Presenter: Kara Kaplan

Additional Authors: Harmesh Naik, MD

A Tale of Two Cancers: Synchronous Primary Gastrointestinal Malignancies

Introduction: Colorectal cancer is the third most common type of cancer worldwide and the second leading cause of cancer death. In contrast, carcinoids have an incidence of 1-2 cases/100,000 people. Synchronous malignancies are uncommon but are more prevalent regarding carcinoid tumors.

Case description: 61-year-old male with a 40-pack-year history and unexplained weight loss was admitted with complete small bowel obstruction with stable vitals. No prior colonoscopy. No family history of malignancy. During exploratory laparotomy, he was incidentally noted to have carcinomatosis with extensive tumor burden and had an ileocecectomy with primary anastomosis. He was diagnosed with T4aN2aM1 stage 4 ileocecal valve adenocarcinoma and a synchronous Stage 2 T3N0Mx terminal ileal well-differentiated carcinoid. CEA level was elevated to 56.4 ng/mL. Mutational analysis was unremarkable. Once the patient has an improved health status, he will begin palliative chemotherapy.

Discussion: Upon diagnosing a primary malignancy, a thorough screening for a second primary malignancy must be completed to prevent a late stage diagnosis. Up to 36-42% of patients with a carcinoid tumor have a second primary malignancy which is more aggressive (most commonly in the gastrointestinal tract), compared to 2-8% with other primary malignancies. This case continues to raise the question of common links that lead to synchronous tumors, as both cancers are known to have different predisposing factors. There remains an underlying possibility of a genetic or other cause, and more research is needed to lead to better screening and treatment of synchronous malignancies.

Poster #164

Category: Clinical Vignette

Institution: St. Mary Mercy Hospital – Livonia

Program Director: David Steinberger, MD, FACP

Presenter: Danekka Loganathan

Additional Authors: Gunjan Shah

Rare Cause of Portal Vein Thrombosis

Hormone therapy is the mainstay adjuvant therapy for patients with estrogen receptor positive early stage breast cancer. Anastrozole is generally considered to have lower risk of venous thromboembolism compared to tamoxifen, albeit not negligible.

81-year-old female with history of breast cancer on anastrozole presented to the hospital with high-grade fever. Physical exam was significant for RUQ tenderness. Her labs were significant for elevated transaminases, ALP and direct hyperbilirubinemia without leukocytosis. US abdomen showed enlarged gallbladder with stones. MRI was positive for portal vein thrombosis in the main portal vein and extending into right portal vein, with possible central anterior segment of right liver lobe infarct. She had no history of liver disease or venous thromboembolism. There is no clinical or radiological evidence of recurrence of malignancy. Patient was started on anticoagulation and was discharged on apixaban. APLA testing is pending and hypercoagulability workup was otherwise negative. It was concluded that the portal vein thrombosis was secondary to anastrozole due to lack of alternative etiologies.

To our knowledge, our case of hepatic portal vein thrombosis suspected to be secondary to anastrozole therapy is the first to be reported in the medical literature. A case report suggesting a causal association between pulmonary embolism and anastrozole in a patient with no prior VTE and negative hypercoagulable workup was published in 2006 by Lycette et al. It is particularly important to consider the causative role of Anastrozole in patients with otherwise unexplained venous thromboembolism in unusual vascular beds as seen in our patient.

Poster #165

Category: Clinical Vignette

Institution: St. Mary Mercy Hospital – Livonia

Program Director: David Steinberger, MD, FACP

Presenter: Rahul Pansare

Additional Authors: Kalyani Movva, Marc Mastropaolo

Who Let the Dogs Out? A Rare Presentation of an Uncommon Bacteremia

Introduction: *Capnocytophaga canimorsus* results in rare but serious infections including bacteremia with high case fatality rate of upto 31%. It is commonly seen in immunocompromised or asplenic individuals. We present an immunocompetent male presenting with *capnocytophaga* arthritis and bacteremia where diagnosis was nearly missed.

Case presentation: 52-year-old male with past medical history of Hypertension and recent prison release 8 days prior, presented to the ED with fever of 101.3 Fahrenheit and right non-traumatic hip pain. Labs were significant for elevated ESR, CRP but no leukocytosis. Hip X-ray showed osteoarthritis. Patient was discharged home from the ED without antibiotics after blood cultures were drawn. Fifteen days later, cultures grew *Capnocytophaga* and he was requested back to the hospital. He complained of left wrist pain with accompanying swelling, tenderness and restricted motion. Labs showed uptrending ESR. Arthrocentesis revealed WBC >100,000/cu.mm and he was treated with IV vancomycin and piperacillin-tazobactam. TEE ruled out endocarditis. He later recalled having an injury to his left hand with subsequent blister formation and bloody discharge prior to his first ED visit. He acknowledged contact with pet dogs at home. He also recalled having diffuse erythematous ring-like lesions prior to the second ED visit. MALDI-TOF mass spectrometry confirmed *Capnocytophaga canimorsus*. Patient was prescribed ceftriaxone to complete 4 weeks of antibiotics.

Discussion: *Capnocytophaga canimorsus* is a fastidious bacteria requiring prolonged incubation periods. This case emphasizes the importance of obtaining pet history and following up on cultures in suspected cases. Annular erythema maybe an important clue pointing towards *Capnocytophaga* bacteremia.

Poster #166

Category: Clinical Vignette

Institution: St. Mary Mercy Hospital – Livonia

Program Director: David Steinberger, MD, FACP

Presenter: Nupur Shah

Additional Authors: Harmesh Naik, David Steinberger

An Unusual Presentation of Pure Ductal Carcinoma In-Situ in a Male

BACKGROUND:

Male breast cancer is rare, < 1% of all breast cancers. Ductal carcinoma in-situ (DCIS) in male is even rarer, 0.1% of all breast cancers. This is a rare case report of DCIS in a male with no palpable breast mass, normal breast ultrasound and mammogram and negative BRCA1 and BRCA2 genes.

CASE:

75-year-old male with no family history of breast or ovarian cancer presented with left-sided bloody nipple discharge for 6 months. Physical examination did not show any palpable breast mass. Ultrasound breast and mammogram were normal. Due to persistent bloody nipple discharge, patient was advised to undergo excisional biopsy, which revealed low-grade, stage 0 DCIS. Breast tissue was positive for estrogen receptor and blood test was negative for BRCA1 and BRCA2 genes. Patient underwent left sided mastectomy due to limited breast tissue. Post-operative course was uneventful and he was started on oral tamoxifen regimen for 5-years.

DISCUSSION:

DCIS is a precursor to invasive breast cancer. Because of its rarity in males, strong genetic predisposition is suspected and 80-90% cases have abnormal mammogram, both of which were absent in our case. Men usually present at a later age with more advanced disease at diagnosis. Therefore, symptoms suspicious for breast cancer needs to be evaluated by mammogram. For cases with negative mammogram but strongly suspicious symptoms, excisional biopsy should be considered to diagnose DCIS, which can be occasionally missed with mammogram and ultrasound and this can prevent its progression to invasive breast cancer by providing appropriate and timely management.

Poster #167

Category: Clinical Vignette

Institution: St. Mary Mercy Hospital – Livonia

Program Director: David Steinberger, MD, FACP

Presenter: Mansi Singapori

Additional Authors: Ramesh Mohindra, MD; Amit Mohindra, MD; John Harb, MD;
Cheryl Vandewege, FNP-BC

Rare Case of Late Relapse of Testicular Cancer After 20 Years

Introduction:

Late relapse of testicular cancer (LRTC) is commonly defined as recurrence at least 2 years after successful initial treatment. It is rare, with an incidence of 2.6% in testicular cancer patients.

Case Presentation:

A 47-year-old male with past medical history of left testicle orchiopexy, successfully treated non-seminomatous testicular cancer diagnosed in 1999 presented to an outpatient office for evaluation of hematuria of 2 weeks. He denied any weight loss, abdominal pain and fever. His family history is significant for brother who expired due to testicular cancer. Vitals were stable. Physical exam was pertinent for absent left testis. Labs were remarkable for elevated creatinine (2.1 mg/dl) and BUN (17m mg/dl). Urinalysis showed blood with RBCs with no casts. CT Abdomen and Pelvis showed enlargement of the left seminal vesicle and prostate with left common and external iliac lymphadenopathy. PSA and testicular cancer tumor markers (LDH, AFP, B-HCG) were elevated. Biopsies of the left common iliac lymph node and prostate revealed metastatic non-seminomatous germ cell tumor. Final diagnosis made was stage IIIB non-seminoma testicular cancer. The patient treatment plan is to complete 4 cycles of Bleomycin, Etoposide and Cisplatin.

Discussion:

LRTC is characterized by slow growth, high AFP production, chemoresistance and poor prognosis in contrast to primary testicular cancer. Our patient had recurrence of testicular cancer after 20 years. Current guidelines for non-seminoma testicular cancer follow up includes up to five years. Therefore, our case emphasizes the importance of a life-time surveillance of testicular cancer patients to allow for early recurrence detection.

Poster #168

Category: Clinical Vignette

Institution: St. Mary Mercy Hospital – Livonia

Program Director: David Steinberger, MD, FACP

Presenter: Muhammad Yasir

Additional Authors: Narendra N. Khanchandani, David Steinberger

Panton Valentine Leukocidin (PVL) Toxin Positive MRSA Necrotizing Pneumonia and Pseudomembranous Tracheobronchitis

Introduction:

One of the cause of severe community acquired pneumonia (CAP) is community-acquired methicillin-resistant staphylococcus aureus (CA-MRSA), which produces necrotizing features related to PVL toxin production. Community acquired necrotizing pneumonia carries high morbidity and mortality.

Case:

A 64-year-old female presented with cough, fever and dyspnea. Chest x-ray (CXR) revealed patchy right upper lobe infiltrate, bibasilar opacities, and diffuse left lung interstitial opacity. Initially started on levofloxacin for atypical organisms. The patient continued to deteriorate, with follow-up CXR showing worsening multifocal pneumonia. Antibiotic coverage broadened to Vancomycin Ceftriaxone and Azithromycin, and she was transferred to the ICU and intubated.

Bronchoscopy showed pseudomembranous necrotizing tracheobronchitis. Her respiratory culture grew MRSA and parainfluenza virus 1. Patient was started on clindamycin and linezolid in addition to Vancomycin. Patient's condition continued to deteriorate with Chest CT demonstrating left upper lobe cavitation/abscess. At this point, rifampin was added. Repeat CT chest after 1 week showed extensive cavitation but was not amenable to drainage. Patient underwent core biopsy of right lung, which showed necrosis with acute inflammation and organizing fibrosis. Patient conditioned improved and discharged to Long term acute care hospital on linezolid.

Conclusion:

CA-MRSA necrotizing pneumonia has a fulminant form and requires intensive care therapy and combination of antibiotics some of which targets toxin production. Clindamycin and linezolid has advantage on turning off toxin production.

Poster #169

Category: Clinical Vignette

Institution: University of Michigan – Ann Arbor

Program Director: John DeValle, MD, FACP

Presenter: Jeffrey Gibbs

Additional Authors: Sarah E Uttal, Raymond Y Yeow, Jennifer A Meddings

Possible Drug Induced Liver Injury from Alemtuzumab

A 64 year-old woman with T-cell prolymphocytic leukemia, a rare disease primarily affecting adults with a median survival of less than one year, presented with liver injury as evidenced by mixed hyperbilirubinemia, elevated alkaline phosphatase, elevated gamma-glutamyl transferase, and mildly elevated liver enzymes. The patient was actively undergoing treatment with alemtuzumab and was three weeks from initial induction. After initial induction with alemtuzumab, the patient's peripheral leukocytosis improved, but bilirubin, transaminases, and alkaline phosphatase began to increase. She was admitted prior to cycle 2 of alemtuzumab for hyperbilirubinemia concerning for biliary disease. Imaging on admission revealed nonspecific hepatocellular disease without biliary disease or portal vein thrombosis. A transjugular biopsy of her liver was performed that showed diffuse leukemic infiltration. The patient was diagnosed with relapsed refractory disease and switched from alemtuzumab monotherapy to salvage therapy with fludarabine and alemtuzumab. After initiation of salvage therapy, patient's leukocytosis again improved with subsequent worsening hyperbilirubinemia. At that time, alemtuzumab therapy was discontinued in favor of lone fludarabine therapy. Repeat imaging showed ascites without biliary disease or portal flow abnormalities. These results suggest that alemtuzumab was potentially causing drug induced liver injury (DILI), although there are no reported cases of alemtuzumab DILI on LiverTox. No approaches were identified to determine whether this patient's liver damage was secondary to DILI from alemtuzumab or from infiltrative leukemic disease. The patient passed one month later from complications of pancytopenia, and the family declined autopsy.

Poster #170

Category: Clinical Vignette

Institution: University of Michigan – Ann Arbor

Program Director: John DeValle, MD, FACP

Presenter: Raymond Yeow

Additional Authors: Eric D. Smith, MD

Pyopericarditis from Esophageal Perforation – A Rare Cause of Chest Pain

A 24-year-old man with Arnold-Chiari malformation and myelomeningocele presented with one day of chest pain. Notably, patient was recently admitted for contained distal esophageal perforation related to NSAID use, which was managed conservatively with a proton-pump inhibitor. He now re-presents with constant retrosternal chest pain radiating to the back. Vital signs revealed pulse of 166 beats per minute, blood pressure of 138/84 mmHg and pulsus paradoxus of 14 mmHg. Physical exam demonstrated muffled heart sounds, a pericardial rub and knock, and jugular venous distention. Laboratory testing revealed a white-cell count of 13.6 K/uL (normal, 4.0 - 10.0 K/uL). Chest x-ray showed lucencies in the left hemithorax with CT Chest demonstrating a pyopneumopericardium with tamponade effect, concerning for esophagopericardial fistula. ECG demonstrated PR elevation and ST depression in aVR (“knuckle sign”), along with diffuse ST elevations and PR depressions. The patient was started on Vancomycin, Cefepime and Metronidazole and subsequently underwent a pericardiocentesis, esophageal stent placement, and thorascopic pericardial window with chest tube. Pericardial cultures ultimately grew *Streptococcus anginosus* and *Streptococcus salivarius* groups – consistent with pyopericarditis likely from esophageal perforation. Patient’s postoperative course was complicated by provoked deep venous thrombosis, pulmonary embolism, gastrointestinal bleeding, and esophageal stricturing several months later requiring dilation. Pyopericarditis is a rare entity resulting from direct hematogenous spread, extension from subdiaphragmatic focus, or as in our case, direct inoculation. Reported mortality is upwards of 30% with about 4% of patients developing constrictive pericarditis. Prompt diagnosis and treatment with antibiotics and drainage is imperative to prevent future complications.

ACP Michigan Chapter, Residents Day 2019

Poster #171

Category: Research

Institution: Wayne State University – Detroit

Program Director: Jarrett Weinberger, MD, FACP

Presenter: Ahmad Abu-Heija

Additional Authors: Maya Shatta, Mustafa Ajam, Usama Abu-Heija, Nashat Imran, Diane L. Levine

Quantitative Readability Assessment of the Internal Medicine Online Patient Information on Annals.org

Objective: The American Medical Association (AMA) and the National Institute of Health (NIH) recommend that publicly available health-related information be written at the level of the 6th-7th-grade level. Our aim was to quantitatively assess and compare the readability of patient education materials on Annals.org against the AMA and NIH recommendations.

Methods: Patient education materials available to the public on the Annals.org, a website sponsored by the American College of Physicians, were collected. All 89 patient education articles were downloaded from the website and analyzed for their ease of readability. The articles were analyzed utilizing a readability software generating five quantitative readability scores: Flesch Reading Ease (FRE), Flesch-Kincaid Grade Level (FKGL), Gunning Fog Index (GFI), Coleman-Liau Index (CLI), Simple Measure of Gobbledygook (SMOG). All scores, except FRE, generate a grade level that correlates with the required school grade level to ensure adequate readability of the information.

Results: Eighty-nine articles were analyzed generating an average score as follows: FRE 62.8, FKGL 7.0, GFI 8.6, CLI 9.6 and SMOG 9.8. Overall, 87.6% of the articles were written at a level higher than the 7th-grade level, which is recommended by the AMA and NIH.

Conclusion: In an era of increased reliance on the internet for medical information pertaining to patients' health, materials written at a higher grade than recommended has the potential to negatively impact patients' well-being, in addition to tremendous ramifications on the healthcare system. Potentially redrafting these articles can prove beneficial to patients who rely on these resources for making healthcare-related decisions.

Poster #172

Category: Clinical Vignette

Institution: Wayne State University – Detroit

Program Director: Jarrett Weinberger, MD, FACP

Presenter: Mustafa Ajam

Additional Authors: Mohamed Shokr, Firas Ajam, Ahmed S Yassin, Luis Afonso

Hypothermia Triggered Biventricular Takotsubo Cardiomyopathy: The Octopus That Survived the Polar Vortex

Takotsubo cardiomyopathy (TTC) most commonly characterized by transient apical ballooning in response to physical or emotional stress without significant coronary artery disease (CAD). Various physical and emotional factors can trigger TTC. Hypothermia has significant effects on the cardiovascular system. Hypothermia induced TTC was reported in two previous case reports. Here we highlight another case of hypothermia induced TTC and the first one demonstrating biventricular involvement.

An 84-year old male was found unconscious inside his apartment. Family reported the apartment was cold due to dysfunctional thermostat. Examination revealed temperature of 29.8 C° (85.64 Fahrenheit), blood pressure of 124/66 mmHg and heart rate of 40 beats per minute. Diffuse T wave inversion and prolonged QTc (598 ms) was noted on EKG. Blood work revealed elevated troponin and lactic acid levels. Echocardiography demonstrated both left and right ventricular apical ballooning. Coronary angiography did not show significant obstructive CAD. In light of elevated lactic acid level and depressed left ventricular function, cautious repletion with warmed intravenous fluids was done. Lisinopril was initiated and he was discharged to a rehabilitation facility. Repeat echocardiography 3 weeks after discharge revealed recovery of right and left ventricular systolic function and resolution of wall motion abnormalities.

TTC should be suspected in hypothermic patients presenting with evidence of new onset heart failure and be added to the expanding list of factors triggering TTC. Similar to TTC induced by various other factors, hypothermia induced TTC also carries a favorable prognosis with relatively quick recovery of wall motion abnormalities.

Poster #173

Category: Clinical Vignette

Institution: Wayne State University – Detroit

Program Director: Jarrett Weinberger, MD, FACP

Presenter: Kendall Bell

Additional Authors: Pranav Shah, Mustafa Ajam, Lois Afonso

Benign or Malignant: A Rare Case of Squamous Cell Carcinoma of the Skin Presenting with Intracardiac Metastasis

Cardiac tumors are rare and generally benign. Malignant cardiac tumors are most commonly metastatic from the lung and involve the pericardium. Here we present a unique case of squamous cell carcinoma (SCC) of the skin with metastasis to the intraluminal space of the right ventricle causing outflow tract obstruction.

A 33-year-old immigrant from Mexico presented with a large fungating mass at the site of an old burn wound on his back and several weeks of progressive dyspnea. On physical examination, he was found to have a 30x30 cm mass on his left back and a new systolic ejection murmur at the left second intercostal space. Skin biopsy demonstrated invasive SCC and the mass was resected with subsequent skin grafting. A transthoracic echocardiogram (TTE) revealed a 3.2x2.8 cm echogenic mass in the right ventricle and heparin was initiated. Initially thought to be a thrombus, a transesophageal echocardiogram (TEE) was then done showing an immobile, broad based mass, infiltrating the myocardium. Cardiac MRI raised further suspicion for malignant mass, lymphoma, or sarcoma, and a transcatheter endomyocardial biopsy was performed revealing metastatic SCC.

Metastasis reaches the heart via hematogenous, lymphatic, or contiguous spread. Pericardial involvement is the most common manifestation. On the contrary, intracardiac mass formation is unusual and commonly misinterpreted as thrombi on 2D echocardiogram. 3D echocardiogram may provide superior evaluation of cardiac masses using volumetric rather than linear assessment of the spatial location and extent of cardiac involvement prior to surgery or biopsy instead of TEE and cardiac MRI.

Poster #174

Category: Clinical Vignette

Institution: Wayne State University – Detroit

Program Director: Jarrett Weinberger, MD, FACP

Presenter: Said El Zein

Additional Authors: Asil Daoud, Hollister Swanson, Emilia Khalil, Amir Laktineh, Omar Chehab, Neelima Thati

Peripheral Ulcerative Keratitis: A Rare Presentation of Ocular Syphilis

Peripheral Ulcerative Keratitis (PUK) is a form of crescent-shaped stromal inflammation involving the juxta-limbal cornea. It is associated with epithelial and stromal thinning, which may progress into corneal perforation. PUK can be caused by a wide array of infectious and autoimmune diseases.

A 50-year-old male presented with recurrent pain, redness and irritation of both eyes of few months' duration. History was negative for rheumatologic or ocular diseases. The patient had ten sexual female partners in the past six months with no history of sexually transmitted diseases. On examination, his visual acuity was 20/400 in the right eye and could only count fingers at 3 feet in the left eye. He had bilateral crescent-shaped corneal thinning and extensive ulceration on slit lamp examination suggestive of PUK. Physical examination including a genital exam was otherwise unremarkable. He was started empirically on prednisone, doxycycline and methotrexate due to the imminent risk of perforation. A rheumatologic workup including ANA, c-ANCA/p-ANCA, RF and anti-CCP were negative. HIV and a hepatitis profile were negative. A serum TP-EIA was positive which was also confirmed by a positive serum RPR titer. Cerebrospinal fluid analysis was negative except for a positive VDRL titer confirming the diagnosis of early neurosyphilis. Patient was started on IV aqueous penicillin G and PUK was considered a manifestation of ocular syphilis given the negative autoimmune workup. Although very rarely reported, syphilis should be kept on the differential as a causative agent of PUK as timely treatment can reduce the risk of vision loss.

Poster #175

Category: Clinical Vignette

Institution: Wayne State University – Detroit

Program Director: Jarrett Weinberger, MD, FACP

Presenter: Sahrish Ilyas

Additional Authors: Amina Pervaiz, MD

Ertapenem- Induced Neurotoxicity

Ertapenem is an antimicrobial of the carbapenem class. Drug-induced neurotoxicity is a rare adverse reaction associated with carbapenem use, most commonly reported with imipenem. We report a patient who developed ertapenem-induced encephalopathy, manifesting as visual hallucinations and altered mental status. The patient is a 53 year old male with past medical history significant for hypertension, uncontrolled diabetes, CKD stage III, and peripheral vascular disease. He presented with a two month history of non healing ulcer of his left foot and was admitted to the hospital for I&D with debridement of the wound and bone biopsy. Initially broad spectrum antibiotic therapy was initiated with vancomycin, cefepime and flagyl. Wound cultures grew *E. coli*, *Morganella Morganii* and *Enterococcus raffinosus*. Based on the culture and susceptibility results, he was switched to ertapenem and continued on IV vancomycin. A few days into the hospitalization, the patient's family began to notice that he was not acting like himself and was having visual hallucinations. Laboratory and radiologic workup did not reveal potential etiology for his symptoms and thus drug toxicity was suspected. Of the active medications, ertapenem was the only agent with known neuropsychiatric side effects and was thus discontinued and replaced with ceftriaxone as per ID recommendations. Upon discontinuation of ertapenem, patient's confusion and hallucinations resolved within 48 hours. This case report serves to highlight the potential neurotoxic side effects of ertapenem which all physicians should be aware of given the increased use of the carbapenem class of medications.

Poster #176

Category: Clinical Vignette

Institution: Wayne State University – Detroit

Program Director: Jarrett Weinberger, MD, FACP

Presenter: Hibah Ismail

Additional Authors: Raja Rabadi, Asil Daoud, Amir Laktineh, Dr Jarrett Weinberger

Escherichia coli Infected Subdural Empyema

Subdural empyema is an uncommon life threatening intra-cranial suppuration. Here we describe a case of E. Coli infected subdural empyema.

A 60-year-old male with a history of alcohol abuse presented after being found unresponsive for an unknown duration. Vital signs on admission demonstrated hypertension and tachycardia. Glasgow Coma Scale (GSC) was 5. Initial resuscitation measures included intubation for airway protection. CT scan of the brain without contrast subsequently revealed a large right frontotempoparietal subacute subdural hematoma and 1.6-cm left midline shift. Patient was emergently taken to the O.R. for a frontotemporal craniotomy, which showed foul smelling purulent drainage originating from subdural space prompting empiric antibiotic coverage including vancomycin, cefepime, and flagyl. Cultures grew E. Coli sensitive to ceftriaxone. Workup for primary site of infection revealed negative blood cultures, urinalysis, HIV, hepatitis panel, abdominal source, lung source, or skin source. Initial head CT imagining showed clear sinuses. A later MRI of head/neck revealed complete fluid filling of all paranasal sinuses, mastoid air cells, and nasopharynx.

Subdural empyemas constitute a small percentage of all reported intracranial empyemas. The majority of subdural empyemas in the literature are a result of otogenic causes. Other causes such as bacterial meningitis, paranasal sinus disease, head trauma, or hematogenous dissemination of systemic infection have been implicated. The causative agents are those found in otogenic and sinus infections. Enteric bacteria such as E coli as in our patient are rare but due to high mortality, empiric antibiotics should be administered with subsequent therapy guided by culture results.

Poster #177

Category: Clinical Vignette

Institution: Wayne State University – Detroit

Program Director: Jarrett Weinberger, MD, FACP

Presenter: Amir Laktineh

Additional Authors: Asil Daoud, Hibah Ismail, Alpana Garg

Unusual Presentation of Primary Lung Adenocarcinoma Mimicking Pneumonia

Primary lung adenocarcinoma, diffuse pneumonic type, can mimic the clinical presentation of an infectious or inflammatory lung disease, which can represent a diagnostic challenge.

55-year-old man was admitted for evaluation of progressive shortness of breath of 1 month with productive cough of yellowish sputum. Patient presented to ED twice with same complaints before and was treated for pneumonia, but he would leave AMA. On presentation, patient was hemodynamically stable. Oxygen saturation of 96% on 2L NC. physical examination revealed bilateral rhonchi. Labs showed no leukocytosis. Initial Chest X-ray showed interval worsening of the bilateral upper and lower lobe patchy airspace opacities. Consequently, Patient was admitted to medical ward and treated with broad spectrum antibiotics pending cultures. Shortly after admission, Patient required intubation for severe respiratory distress and was transferred to Medical ICU. CT scan of the chest showed extensive bilateral parenchymal infiltrates with mediastinum lymphadenopathy. All infectious and autoimmune work-up was negative including AFB and BAL cultures. Due to progressive respiratory distress with failure to wean ventilation settings down; empirical IV Methylprednisolone was started beside broad spectrum antibiotics, Voriconazole and acyclovir. VATS- Left lung biopsy was obtained, and pathology reported adenocarcinoma of the lung, diffuse pneumonic type. Respiratory status was refractory to weaning off ventilation. Code status was changed upon family wishes to DNI/DNR. Patient passed away two days later with asystole. We present an unusual type and presentation of adenocarcinoma associated with rapid deterioration of respiratory status requiring intubation refractory to treatment, severe ARDS and ultimately death.

Poster #178

Category: Clinical Vignette

Institution: Wayne State University – Detroit

Program Director: Jarrett Weinberger, MD, FACP

Presenter: Pranav Shah

Additional Authors: Ahmed Yeddi, Omnia Awad, Ijeoma Nnodim

Headaches and Hyperglycemia: A Rare Case Describing Acetazolamide Induced Hyperosmolar Hyperglycemic Non-Ketotic Syndrome (HHNS)

A 22-year-old female with a history of type 2 diabetes mellitus, obesity, and pseudotumor cerebri status post ventriculoatrial shunt came to the emergency department complaining of increasing headaches for 3 days. She was admitted and started on acetazolamide 250 mg twice daily for pseudotumor cerebri. Her headaches improved on day 2 of acetazolamide administration; however, her pre-prandial blood glucose measurements increased to 300-700 mg/dL. Prior to admission, she was on 75 total units of insulin per day with fasting blood glucose readings between 70-120 mg/dL. Her insulin requirements increased over the next 4 days reaching up to 720 units/day with pre-prandial blood sugars between 500-700 mg/dl. She endorsed both polyuria and polydipsia. Her blood work showed a normal anion gap and urine analysis was negative for ketones. Within 48 hours of stopping acetazolamide, blood glucose levels were <180 mg/dL consistently and her insulin requirement went back down to her home doses.

The initial consideration was non-adherence to diabetic diet in an obese patient or non-adherence to insulin regimen; however, she denied consumption of any nondiabetic diet while inpatient or missing any insulin doses. Her initial blood sugars were within normal limits and HbA1c was 6.9%. Although other etiologies were pursued, insulin requirements returning to baseline within 48 hours of cessation of the medication alone with no other medication or treatment changes, supports a direct causal relationship between acetazolamide and HHNS.

Poster #179

Category: Clinical Vignette

Institution: Wayne State University – Detroit

Program Director: Jarrett Weinberger, MD, FACP

Presenter: Nikhila Thammineni

Additional Authors: Anshu Wadehra, Pradeep Kathi, Diane Levine MD

Probing the Possible Etiology of Acute Pancreatitis

A 28-year-old woman with type 1 DM on Insulin pump presented with nausea, vomiting, and epigastric pain for one day. She reported her insulin pump ran out of batteries two days back. Since then she was taking lispro 10 units TIDAC. PMH includes hypertension, hypertriglyceridemia on atorvastatin, two episodes of acute pancreatitis. Physical examination was significant for epigastric tenderness. Labs were consistent with DKA: blood glucose (BG) 564 and anion gap 16. Lipase was 1086 as was triglycerides (TG) 2965 (up from 458 five months earlier). Ultrasound showed cholelithiasis without cholecystitis. Acute pancreatitis and DKA were managed with IV fluids and an insulin drip. Hyperglycemia resolved. TG decreased to 875. The patient was transitioned to SQ insulin and fenofibrate. She refused inpatient cholecystectomy and was discharged on glargine 50 units qHS and lispro 12 units TIDAC.

Although cholelithiasis could be the etiology for acute pancreatitis, the presentation of pancreatitis with hypertriglyceridemia in the setting of inadequate insulin and hyperglycemia suggests that poorly controlled T1DM leading to severely elevated TG is a more likely etiology.

In the non-fasted state, acute hyperglycemia increases plasma TG by stimulating hepatic TG secretion, independent of plasma insulin or free fatty acids levels (Hirano T, Diabetes Res Clin Pract. 1990 Jul;9(3):231-8). Pancreatitis induced by hyperglycemic hypertriglyceridemia is more severe than pancreatitis associated with hypertriglyceridemia alone. (Quintanilla-Flores DL, Pancreas 44, No.4, May 2015, 615-18).

We present this case to reinforce the importance of recognizing hypertriglyceridemic pancreatitis and coexistent DKA.

Poster #180

Category: Clinical Vignette

Institution: Wayne State University – Detroit

Program Director: Jarrett Weinberger, MD, FACP

Presenter: Anshu Wadehra

Additional Authors: Tushar Mishra MD, Maher Tama MD, Tanveer Mir MD, Murray N. Ehrinpreis MD

Metformin Induced Pancreatitis: A Rare Complication of a Common Drug

Introduction: Metformin is a first line anti-diabetic medication, and one of its rare and severe adverse reactions is acute pancreatitis. This complication has more so been reported secondary to overdose or in those with impaired renal function. This case illustrates metformin-induced acute pancreatitis in a relatively healthy middle-aged woman.

Case Description: 56-year-old woman with a history of hypertension and type 2 diabetes mellitus presented with acute-onset epigastric abdominal pain. Lipase levels were >6000 U/L. She denied any history of alcohol use, and the initial diagnostic workup including lipid profile, calcium levels, and abdominal ultrasound was negative. She was treated for acute pancreatitis and her symptoms resolved. She was readmitted twice with a similar clinical picture within a few weeks of discharge, and further workup including magnetic resonance cholangiopancreatography, IgG4, and smooth muscle antibody revealed no underlying etiology for the recurrent episodes of pancreatitis. On careful medication review, it was noted that the patient was recently started on metformin six months ago. During hospitalizations, her symptoms resolved with holding metformin and recurred after resuming metformin post discharge. As a result, metformin was discontinued. She did not have any recurrence of symptoms on three month follow up, and the diagnosis of metformin-induced pancreatitis was made.

Discussion: This case illustrates the importance of performing a detailed medication reconciliation in patients with acute pancreatitis who have had a comprehensive negative work up. It is important to consider drugs, such as metformin, as a potential etiology of pancreatitis in this group of patients.

Poster #181

Category: Clinical Vignette

Institution: WSU Internal Medicine – Rochester

Program Director: Sarwan Kumar, MBBS, FACP

Presenter: Ankita Aggarwal

Additional Authors: Anubhav Jain, Sarwan Kumar

Secondary Evans Syndrome, a Rare Presenting Manifestation of Systemic Lupus Erythematosus

Introduction: Evans Syndrome(ES) is a rare condition which is seen in 0.8–3.7% of patients with autoimmune hemolytic anemia (AIHA) or idiopathic thrombocytopenic purpura (ITP). It can present as primary ES or may manifest as secondary to other diseases like SLE and lymphoproliferative disorders. There are only anecdotal reports of such cases in the literature. We present a rare case of secondary ES as the first manifestation of SLE.

Case: 24 years-old female presented with complaint of vaginal bleeding and generalized weakness for two months. Initial gynecological workup was negative. Patient reported no history of fever, weight loss, hair loss, oral ulcers, photosensitivity, and arthropathic symptoms. On examination, she was vitally stable, had conjunctival pallor with scleral clot over the right eye and petechial hemorrhages all over the body. Detailed systemic examination was unremarkable. Her Bloodwork showed anemia (Hb-4.3gm/dl), thrombocytopenia ($5 \times 10^3/\mu\text{l}$). Peripheral smear (PS) showed microcytic hypochromic anemia with spherocytes. Bone marrow (BM) aspirate was cellular with erythroid hyperplasia and megakaryocytes. Direct Coomb's test, Anti-nuclear-antibody and dsDNA studies were positive. Patient was diagnosed with autoimmune hemolytic anemia and immune thrombocytopenic purpura with SLE. The patient received three units packed-RBCs and eight units platelets along with methylprednisolone 1 gm/kg/day for 3 days. Twelfth days, she was discharged with hemoglobin 9.1 gm/dl and platelet count $1.52 \times 10^3/\mu\text{l}$ on daily oral prednisolone.

Discussion: Our case highlights the need for awareness of the rare entity of secondary ES. A high index of suspicion should be kept by internist in cases having thrombocytopenia and evidence of hemolysis to look for any underlying secondary etiologies to avert a misdiagnosis with attendant consequences in treatment and prognosis.

Poster #182

Category: Clinical Vignette

Institution: WSU Internal Medicine – Rochester

Program Director: Sarwan Kumar, MBBS, FACP

Presenter: Laith Aljanabi

Additional Authors: Shubhkarman Dhillon

Pancreatitis-Induced Hypocalcemia Causing Acute Bronchospasm

Introduction

Acute hypocalcaemia can cause neuromuscular irritability and bronchospasm which can mimic COPD exacerbations. Steroids and bronchodilators can further worsen hypocalcaemia. These agents are usually used to treat COPD. If bronchospasm secondary to hypocalcemia is unidentified, it can consequently worsen clinical outcome. We present a case with COPD who had respiratory distress that was worsened with bronchodilators and steroids. However significantly improved with intravenous calcium replacement therapy. In our patient, treatment with intravenous calcium was necessary to raise calcium to improve breathing status and avoid respiratory failure. Symptoms of the patient was resisted during bronchodilator therapy and only resolved by emergency treatment of hypocalcaemia.

Discussion

Calcium plays a central role in pathogenesis of pancreatitis. Myocytes and neuronal cells are sensitive to serum calcium fluctuations. features of hypocalcemia are mainly cardiovascular including neuromuscular irritability and in severe cases may develop involvement of respiratory muscles. Symptoms of hypocalcaemia such as bronchospasm should be differentiated from bronchial obstructive symptoms of chronic obstructive pulmonary lung disease (COPD). Mild , moderate and severe hypocalcaemia can cause severe respiratory distress . It is necessary to keep high index of suspicion as it can mimic COPD exacerbation. If treated as COPD, it can cause further worsening of hypocalcaemia leading to detrimental outcomes. Our patient showed immediate relief with intravenous calcium

Conclusion

In conclusion we suggest to maintain low index of suspicion for hypocalcemia induced bronchospasm mimicking COPD Exacerbation. Treatment is to correct with calcium replacement therapy to prevent misdiagnosis and detrimental outcomes .

Poster #183

Category: Clinical Vignette

Institution: WSU Internal Medicine – Rochester

Program Director: Sarwan Kumar, MBBS, FACP – Crittenton Hospital – WSU

Presenter: Ankita Gandhi

Additional Authors: Daymon Peterson M.D., Fenil Patel M.D., Zain Kulairi M.D.

Dulaglutide (Trulicity); An Anti-Diabetic Medication Causing Small Bowel Obstruction

Introduction

Small bowel obstruction is a common and life threatening surgical emergency. The general causes are intra and extra-intestinal mechanical obstruction such as from post-operative adhesions, malignancy, hernias, Crohn's disease, and volvulus. Less frequently, neurologic, metabolic or medications interfere with intestinal motility and lead to obstructive features.

Here we present a rare case of small intestinal obstruction caused by the anti-diabetic glucagon-like peptide 1 (GLP-1) agonist, Dulaglutide (Trulicity).

Case

A 52-year-old male with Diabetes Mellitus, presented with two weeks of severe nausea and vomiting, accompanied by diffused abdominal pain of four days duration. CT scan of the abdomen showed multiple distended to mildly dilated loops of the proximal jejunum, with suspected fecal stasis present and apparent transition zone to normal caliber bowel, strongly suggestive of partial or evolving small bowel obstruction. Careful investigation to identify underlying causes of small bowel obstruction revealed no mechanical, structural, or metabolic explanation. However review of his medication showed that the patient is on Dulaglutide (Trulicity) which was started 3 weeks prior to admission. Immediate surgical consultation obtained, and patient was put on bowel rest, and managed conservatively.

Discussion:

Dulaglutide (Trulicity) is associated with small bowel obstruction and it is more common in males and in patients who are using the medication for less than one month. A total of 8 cases reported in 2017 with majority of them required surgical intervention for the obstruction. In our patient, the symptoms resolved with bowel rest and conservative management; and Dulaglutide (Trulicity) was permanently discontinued.

Poster #184

Category: Clinical Vignette

Institution: WSU Internal Medicine – Rochester

Program Director: Sarwan Kumar, MBBS, FACP

Presenter: Victoria Gonzalez

Additional Authors: Mulham Shikh Hamdon, Vesna Tegeltija

Emotional Stress Induced Spontaneous Coronary Artery Dissection

Spontaneous coronary artery dissection (SCAD) is an important and often-forgotten cause of ACS, especially in women with predisposing arteriopathies such as fibromuscular dysplasia presenting with acute myocardial infarction. Frequently associated with varying risk factors, the following case highlights intense emotional stress as the sole precipitating stressor leading to dissection in an otherwise healthy woman with no distinguishable arteriopathy.

A 47-year-old woman with history of asthma and eczema and no cardiovascular risk factors is admitted for acute STEMI. She takes no medications including hormonal therapy and denies smoking or illicit drug use. The night prior to her arrival, she had an emotionally intense argument with her boyfriend which she described as very stressful. The following morning, she awoke with severe substernal chest pain which radiated to the left and was associated with 2 episodes of non-bloody emesis. EKG showed ST elevation in V1, V2, and V3 without reciprocal changes and echocardiogram showed EF 50% with apical hypokinesis. Immediate angiography then revealed SCAD of the proximal left anterior descending artery with TIMI 3 flow of the coronary tree. There was complete resolution of ST-segment elevation without intervention. The patient was treated with dual antiplatelet therapy and discharged with follow-up CT-angiography in 3 months.

This case is a unique example of non-atherosclerotic SCAD presenting in a patient without predisposing risk factors, solely precipitated by emotional stress. This differential should be carefully considered in similar populations as the medical management, follow-up and rate of recurrence are notably different from other causes of acute MI.

Poster #185

Category: Clinical Vignette

Institution: WSU Internal Medicine – Rochester

Program Director: Sarwan Kumar, MBBS, FACP

Presenter: Manishkumar Patel

Additional Authors: Mulham Shikh Hamdon, Torib Uchel, Zain Kulairi

Stroke Following Cardioversion for Atrial Fibrillation Despite Patient on Eliquis for 2 Years

Electrical cardioversion is used to restore normal sinus rhythm in patients with atrial fibrillation. However, there is an increased risk of embolic phenomenon originating from the left atrial appendage, resulting in a cerebrovascular accident.

We present a case of a 70-year-old male with a history of nonvalvular atrial fibrillation, CHADS-VASc of 2, reporting apixaban compliance for 2 years. Due to symptomatic atrial fibrillation, electrical cardioversion was recommended and performed successfully with the patient reverting to normal sinus rhythm. A transesophageal echocardiogram was not indicated prior to the cardioversion due to therapeutic anticoagulation. 24 hours post-cardioversion, the patient was admitted to our hospital with encephalopathy and expressive aphasia. MRI demonstrated large acute right middle cerebral artery (MCA) territory infarction. Computed tomography with angiography showed occlusion of the posterior branch of the right MCA. It was determined that he had suffered a cardioembolic event. Echocardiogram showed ejection fraction 55-60% with no evidence of left atrial appendage.

The American Heart Association recommends for patients with atrial fibrillation of unknown length of time or >48 hours, therapeutic anticoagulation for at least 3 weeks should be given prior to cardioversion, and should continue for 4-weeks after cardioversion. TEE can also be used to rule out intracardiac thrombi before cardioversion. Our patient had no evidence of thrombi or atrial appendage on TEE prior to apixaban initiation with 2-year compliance. Although no intervention can bring an event rate to zero, an event such as this is concerning and patients should be cautioned of such risk.

Poster #186

Category: Research

Institution: WSU Internal Medicine – Rochester

Program Director: Sarwan Kumar, MBBS, FACP

Presenter: Mulham Shikh Hamdon

Additional Authors: Neeharika Ralh, Toribiong Uchel, Shubhkarman Dhillon, Sarwan Kumar, Mohamad Al-Fityan

Evaluating Efficiency of Rapid Response Teams in Identifying Sepsis in Hospitalized Patients, and the Effect on Mortality

Sepsis carries a high mortality rate and thus requires prompt recognition and treatment. In our hospital, we evaluated the efficiency of the rapid response team (RRT) in recognizing sepsis as the reason for rapid response initiation (RRI).

A single center retrospective study evaluated patient over 6-months duration in which rapid response was initiated. Patients identified as sepsis upon admission were excluded. Patients were evaluated if they met sepsis criteria. The patients who were septic during rapid response were further studied in regards to reason for RRI.

129 patient charts were reviewed, 22 identified as sepsis. Reasons for RRI were as follows: 6/22 had atrial fibrillation with rapid ventricular response (RVR), 5/22 had hypotension, 1/22 had combined atrial fibrillation with RVR, 5/22 had dyspnea with acute hypoxia, 4/22 had chest pain, and 1/22 had acute encephalopathy. 6/22 were identified and managed by RRT as sepsis. Those who were correctly identified had RRI due to hypotension and encephalopathy. 16/22 were septic unidentified and the following complications occurred: 3/16 acute hypoxic respiratory failure (1 required endotracheal intubation), 1/16 acute tubular necrosis, 7/16 transferred to ICU for closer monitoring. Most common reason for missed sepsis was atrial fibrillation with RVR.

In this study, we identified the most common reasons for rapid response initiation and the complications when sepsis went unidentified. During rapid response, RRT should not solely focus on the reasons for its initiation but always have a low threshold sepsis especially when SIRS is positive.

Poster #187

Category: Clinical Vignette

Institution: WSU Internal Medicine – Rochester

Program Director: Sarwan Kumar, MBBS, FACP

Presenter: Fnu Sourabh

Additional Authors: Toribiong Uchel, Victoria Gonzalez

Ibrutinib Induced Bleeding in a Patient on Warfarin

Ibrutinib is an irreversible BTK inhibitor that has been FDA approved for chronic lymphoid leukemia (CLL) since 2014. It was initially used only for relapse and younger population but has rapidly become the frontline for initial therapy as well. Its adverse effects are becoming more prevalent with its increasing use. In RESONATE trial, 12% of relapsed CLL patients had discontinued ibrutinib due to adverse events that included atrial fibrillation, bleeding, and infection. Approximately 50% of patients on ibrutinib experience bleeding due to its antiplatelet activities. The risk of bleeding is even higher with concomitant anticoagulation use.

We present a case of a 67-year-old female with a history of CLL diagnosed 2 years ago, currently on remission, presents with complaints of non-traumatic massive subcutaneous hematoma of the left arm and lower abdomen. She is on ibrutinib 420 mg daily and warfarin for recurrent venous thromboembolism (VTE). Patient had an acute drop of hemoglobin from 11 g/dL to 8 g/dL, with INR of 3. Warfarin and ibrutinib were both discontinued. She received two units of packed RBC transfusion due to anemia related dyspnea. Once her hemoglobin stabilized, she was discharged on warfarin only. Ibrutinib was discontinued due to her significant bleeding risk. The hospitalization left the patient severely physically debilitated and thus required rehabilitation.

CLL patients are at increased risk for VTE. They are also on ibrutinib due to favorable response. Thus, CLL patients on ibrutinib should be cautioned regarding bleeding risks especially if they require anticoagulant therapy.

Poster #188

Category: Clinical Vignette

Institution: Western Michigan University School of Medicine – Kalamazoo

Program Director: Joanne Baker, DO, FACP

Presenter: Karun Badwal

Additional Authors: Dr. Tooba Tariq

A Rare Case of Pituitary Sarcoidosis Presenting as Panhypopituitarism

Sarcoidosis is a systemic disease hallmarked by the formation of non-caseating granulomas in multiple organs. It most commonly affects the respiratory tract, however five percent of patients can present with neurological involvement. Pituitary sarcoidosis is a rare manifestation of sarcoidosis that can result in multiple endocrinopathies.

A 24-year-old African gentleman presented to the emergency department following a motor vehicle accident. A CT scan of the head demonstrated a bilobed shaped soft tissue lesion in the sellar region measuring 1.3cm x 2.0cm x 1.4cm that did not extend into the optic chiasm. A CT scan of the chest demonstrated bilateral hilar and mediastinal lymphadenopathy that was highly suggestive of sarcoidosis. On further history, he complained of markedly increased polyuria with thirst and decreased libido over the last six months but no diplopia or loss of peripheral fields. Labs showed decreased prolactin, FSH, LH, TSH, free T4, and testosterone levels, and 24-hour urine collection was 6000mL with a urine osmolality of 119mOsm. The sellar mass was resected and pathology confirmed sarcoidosis of the sellar region.

Neurosarcoidosis can present as pituitary involvement that can result in multiple endocrinopathies. When an incidental sellar mass in this age group is noted on radiological imaging, it is also important to consider craniopharyngioma and germinoma in the differential diagnosis. The purpose of this abstract is to educate the physician that sarcoidosis can present as a sellar mass and to keep this in the differential when a patient presents with multiple endocrinopathies in the context of sarcoidosis.

Poster #189

Category: Clinical Vignette

Institution: Western Michigan University School of Medicine – Kalamazoo

Program Director: Joanne Baker, DO, FACP

Presenter: Ricardo De Castro

Additional Authors: Tariq, Tooba. Lima, Neiberg de Alcantara., Bannon, Susan Faragher

Non- ST Elevation Myocardial Infarction or a Missed Diagnosis of Pulmonary Embolism: A Case of Cardiac Arrest Secondary to Acute

A 52-year-old woman with past medical history of type 2 diabetes mellitus, hypertension and chronic obstructive pulmonary disease presented with complaints of central chest tightness/heaviness with radiation to the left shoulder. Electrocardiogram (ECG) showed T wave inversion in leads V1 and V2 and troponin level was raised at 0.2 micrograms/litre. A diagnosis of NSTEMI (non-ST elevated myocardial infarction) was made and she was started on appropriate treatment. The next day she had an in-patient coronary angiogram which showed no evidence of obstructive coronary artery disease and patient was thought to have coronary microvascular disease. Heparin drip was stopped. She remained completely asymptomatic. However, the next day she coded and return of spontaneous circulation was achieved after one round of compressions. On review of telemetry, she was found to have bradycardia and then one minute of asystole. She was neurologically intact post-arrest. Further workup revealed a new complete right bundle branch block and S1Q3T3 pattern on ECG. D-dimer was elevated at 6000 and lower extremity venous ultrasound showed chronic deep venous thromboses (DVT) in the left distal femoral and popliteal veins. Echocardiogram showed an ejection fraction of 45% (unchanged), severely dilated left ventricle and systolic flattening of ventricular septum. On V/Q scan there was intermediate probability of PE however cardiac MRI showed filling defects consistent with thrombi in the right and left pulmonary arteries. Patient was continued on heparin and eventually transitioned to novel oral anticoagulant (NOAC).

Poster #190

Category: Clinical Vignette

Institution: Western Michigan University School of Medicine – Kalamazoo

Program Director: Joanne Baker, DO, FACP

Presenter: Vishal Deepak

Additional Authors: Mehdi Farishta, MD, Anandbir Bath, MD, Prashant P Patel, DO

Aorto-Cavitary Fistula: A Rare Complication of Infective Endocarditis

Aorto-cavitary fistula (ACF) is an acquired cause of left to right intra-cardiac shunt, which occurs as complication of infective endocarditis. It is often associated with atrioventricular heart block.

70-year-old man with history of ulcerative colitis and bio-prosthetic aortic valve placement was hospitalized for acute flare of ulcerative colitis complicated by bowel perforation and *Enterococcus fecalis* endocarditis of bio-prosthetic valve. He was discharged with six-week course of antibiotics after his flare resolved. A month later he presented to emergency department with syncope. He was found to be in complete heart block. A transvenous pacemaker was placed and he was admitted to intensive care unit. Transesophageal echocardiogram showed abscess of the aortic valve and left to right shunt between aortic root and right atrium. Surgical treatment could not be pursued due to patient's poor surgical candidacy. His hospitalization was prolonged due to requirement for temporary pacing, therefore a permanent pacemaker was placed. He was discharged to a nursing facility. Despite all the interventions, patient died within thirty days of discharge.

ACF is a life-threatening complication of infective endocarditis. Although the condition is rare, it is associated with high morbidity and mortality. It has been reported mostly in cases of aortic valve endocarditis and more in prosthetic than native aortic valve. It is commonly associated with atrioventricular block which indicates poor prognosis. Close follow up of patients with prosthetic valve endocarditis is important as delay in diagnosis of ACF is associated with poor prognosis. Early surgical intervention may help achieving better outcomes.

Poster #191

Category: Clinical Vignette

Institution: Western Michigan University School of Medicine – Kalamazoo

Program Director: Joanne Baker, DO, FACP

Presenter: Abhinav Garg

Additional Authors: Anandbir Bath, MD

Pericardial Effusion as a Very Rare Adverse Effect of Clozapine

Clozapine is a dibenzodiazepine antipsychotic used for resistant schizophrenia. It is well known to be associated with side effects such as agranulocytosis, seizures, weight gain and less commonly myocarditis/ cardiomyopathy. We present a case of clozapine induced pericardial effusion, which is a very rare adverse effect.

A 20-year-old female presented to the emergency department with complaints of sudden onset chest pain, shortness of breath and productive cough. Chest pain was sharp in character with no variation with respiratory movements. Medical history was significant for resistant schizophrenia, on clozapine therapy. On physical examination, patient was tachycardic, tachypneic, with normal S1 and S2. No jugular venous distension was noted. Laboratory findings revealed leukocytosis with elevated acute phase reactants CRP 217.9 and ESR 97. CT chest revealed left lower lobe pneumonia with a large pericardial effusion. Patient was started on appropriate treatment for community acquired pneumonia. Transthoracic Echocardiogram done for non-resolving dyspnea showed moderate circumferential pericardial effusion with no evidence of tamponade physiology. Rheumatological workup was negative to delineate a cause for the effusion. On consultation with the patient's psychiatrist, clozapine was stopped as it was thought to be a potential cause for the non-resolving pericardial effusion, since no other cause was found. Following the discontinuation of the drug, there was noteworthy improvement in the respiratory status, down-trending inflammatory markers CRP 10.8 ESR 66 and follow up Echocardiogram revealed reduction in the size of pericardial effusion.

Our case discloses the importance to consider clozapine in the differential diagnosis of pericardial effusion as discontinuation of the drug leads to resolution of effusion in such cases with no need for further treatment.

Poster #192

Category: Clinical Vignette

Institution: Western Michigan University School of Medicine – Kalamazoo

Program Director: Joanne Baker, DO, FACP

Presenter: Jasreen Kaur

Additional Authors: Vishal Deepak, MD Anandbir Bath, MD Prashant Patel, DO

Drugs That Make Your Skin React - Case of Steven-Johnson Syndrome Associated with Adalimumab Therapy

While most drug reactions are benign and self-limiting, Steven-Johnson syndrome is a serious cutaneous reaction associated with 1-5% mortality. Early recognition is critical to ensure prompt drug discontinuation and preventing further complications.

A 20-year-old Caucasian female, with history of psoriasis, presented to the emergency department for evaluation of a progressively worsening rash, different from her psoriasis flares. A week before the presentation, patient developed palmer and planter itching. This was followed by appearance of small macules on her palms and soles, which rapidly spread to the proximal parts of her extremities and trunk. She had associated lip swelling, painful oral lesions and odynophagia. She reported subjective fevers, denied recent travel or tick bites. Further investigation revealed that she was switched from Etanercept to Adalimumab, for psoriasis, two months prior to this episode and had received a total of 4 doses. Her physical examination was significant for diffuse erythematous patches with dusky center extending proximally on arms and legs, some starting to crust. She had oral muco-cutaneous lesions with erosions on hard palate and tongue. Workup, including HIV screen, CMV IgM, EBV IgM, Parvovirus, Varicella and syphilis serology, were negative. Adalimumab was held, dermatology was consulted, and she was started on cyclosporine for Steven-Johnson syndrome with significant improvement in her symptoms.

The incidence of Steven-Johnson syndrome with Adalimumab is less than 1%. It typically develops within 1-4 weeks of drug initiation. There is increasing evidence that cyclosporine can slow the progression of disease process, as noted in our patient.

Poster #193

Category: Clinical Vignette

Institution: Western Michigan University School of Medicine – Kalamazoo

Program Director: Joanne Baker, DO, FACP

Presenter: Neiberg Lima

Additional Authors: Leonardo M Macedo; Ricardo L de Castro Jr; Susan F Bannon;
Carol CV Lima

Takayasu Arteritis with Multiple Coronary Involvement and Early Graft Relapse

Case Presentation

A 23-year-old woman was admitted due to chest pain. Physical examination was normal and laboratory tests including cardiac biomarkers were within normal limits except for an elevated sedimentation rate of 35 mm/hr. The coronary angiography at admission demonstrated multiple vessel obstruction including total occlusion of the left anterior descending and circumflex artery. The patient underwent coronary artery bypass grafting using a saphenous vein and left internal mammary artery. CT of the aorta exhibited signs of inflammation in the aorta and its branches. Diagnosis of Takayasu Arteritis (TA) was made and she was started on prednisone and methotrexate. Angiography performed 8 months later demonstrated total occlusion of the left main coronary, 70% stenosis of the venous graft to the posterior descending artery and patent arterial graft.

Discussion

TA is characterized as pan-arteritis causing ischemic symptoms related to stenotic lesions. This patient had aortic and coronary artery involvement, but presented with only coronary symptoms without any constitutional symptom that made the diagnosis more challenging.

As TA damages medium arterial vessels, the use of arterial grafts is controversial due to their potential impairment by the disease, therefore the use of venous grafts is preferred with a survival of up to 80% in 10 years. Our patient had recurrence on her venous graft which is unusual.

The optimal treatment should be driven by a number of factors including coronary anatomy, age and available resources. Adequate follow-up and immunosuppressive therapy should be maintained to prevent early undesirable outcomes.

Poster #194

Category: Clinical Vignette

Institution: Western Michigan University School of Medicine – Kalamazoo

Program Director: Joanne Baker, DO, FACP

Presenter: Anushareddy Muddasani

Additional Authors: Dr. Richard roach

Pericardial Effusion is a Rare Cardiac Complication in Thyrotoxic Patient

Introduction: Hyperthyroidism is known to cause many cardiac complications but very few cases report hyperthyroidism causing pericardial effusion.

Case report: This 49 y/o woman with a PMH of atrial fibrillation, hyperthyroidism and tachycardia induced cardiomyopathy presented with chest pain, palpitations and dyspnea over 3 days. The chest pain was pleuritic in nature, aggravated by exertion, laying down and relieved with sitting upright. She reported no reported fevers, chills or URI symptoms. She had a prior surgical history of a partial thyroidectomy for overactive thyroid. Review of systems revealed a 20 lb wt loss and anxiety. Physical exam revealed irregularly irregular rhythm; clear heart sounds and bi basilar rales. Neck exam demonstrated no jugular venous distention or palpable thyroid nodules. EKG initially showed atrial fibrillation with rapid ventricular response. The CT angiogram showed enlarged left thyroid lobe and bilateral thyroid nodules along with a large pericardial effusion. Echo cardiogram showed EF of 35-40% with early tamponade. TSH was undetectable with high normal T3 and a T4 of 1.74. Left thoracoscopic pericardial window drained 200 cc of serosanguinous fluid. Biopsy was negative for neoplasm. Cultures were negative, with no AFB seen on smear. Autoimmune workup was negative. Treatment with methimazole and steroids resulted in rapid improvement. A repeat echo demonstrated no effusions. The patient was discharged on digoxin, warfarin and metoprolol to control atrial fibrillation. Untreated hyperthyroidism can be associated with development of pericardial effusion. These should be promptly recognized and treated even in the absence of typical symptoms of hyperthyroidism.

Poster #195

Category: Clinical Vignette

Institution: Western Michigan University School of Medicine – Kalamazoo

Program Director: Joanne Baker, DO, FACP

Presenter: Muhammad Ebad Rehman

Additional Authors: Sheeba Habeeb Ba Aqeel MD, Muhammad Zain Farooq MD, Prashant Patel DO

Gemcitabine Induced Pseudo-Cellulitis in a Patient with Pancreatic Adenocarcinoma

Introduction:

Gemcitabine is a chemotherapeutic nucleoside analogue used to treat various malignancies. Its common side effects are flu-like symptoms, skin rash, pruritis, bone marrow suppression, liver and kidney dysfunction. Rarely, gemcitabine causes “pseudocellulitis,” a non-necrotizing inflammatory reaction of dermis and subcutis without an infectious cause.

Case:

A 50-year-old female with metastatic pancreatic adenocarcinoma presented with swelling and redness of both of her legs after being started on gemcitabine 1 week prior. Her rash was treated empirically with clindamycin for presumed cellulitis, but no improvement was noted.

On exam, she was afebrile. Pertinent skin findings include a mildly tender, well-demarcated, confluent, macular rash of bilateral lower extremities, extending from the dorsal surface of her feet to the upper shins. She also had bilateral pretibial 2+ pitting pedal edema. Laboratory results and venous doppler ultrasound of her legs were unremarkable. Based on these findings and the timing of her lesions with relation to the administration of gemcitabine, drug-induced pseudocellulitis was diagnosed and antibiotics were discontinued. Treatment included 0.1% triamcinolone acetonide cream, with compression stockings, and leg elevation. Her erythema regressed over the next 3 days and she was subsequently discharged.

Discussion:

Pseudocellulitis is a rare cutaneous reaction to gemcitabine, difficult to distinguish from infectious cellulitis. As noted by Asemota et al, topical steroids may be given for symptomatic therapy but antibiotics will not treat this rash. Our case highlights the importance of provider familiarity with the emerging common and uncommon side effects of gemcitabine in order to avoid misdiagnosis and unnecessary treatment.

Poster #196

Category: Research

Institution: Western Michigan University School of Medicine – Kalamazoo

Program Director: Joanne Baker, DO, FACP

Presenter: Eric Sieloff

Additional Authors: Richard Roach, MD

Spontaneous Peritonitis and Escalating Therapy from Bacterial to Fungal: A Case Report and Review of the Literature

Here we present a case of spontaneous fungal peritonitis, initially misdiagnosed as spontaneous bacterial peritonitis, and a review criterion for patients requiring early empiric antifungal therapy.

A 67 year old diabetic man with decompensated NASH cirrhosis and CKDIII presented with acute kidney injury, abdominal pain and tenderness suggestive of spontaneous bacterial peritonitis (SBP) – Rocephin was started empirically. Paracentesis revealed >4000 PMNs, confirming SBP. A Nephrology consultant diagnosed hepatorenal syndrome type 1.

On day 2, during hemodialysis, his mental status deteriorated and he developed respiratory distress and hypotension. Emergently transferred to the ICU for intubation, clinicians added Vancomycin, Cefepime and Flagyl for septic shock. At 48 hours, follow-up paracentesis demonstrated 3600 PMNs, suggesting failure of SBP therapy. *Candida glabrata* grew from the initial paracentesis culture on day 3 and empiric Micafungin therapy was initiated. On day 4 his clinical status worsened, prognosis appeared dismal, and the family elected comfort care.

Effective medical therapy for SBP lacks coverage for spontaneous fungal peritonitis (SFP). When SBP therapy fails, SFP becomes a consideration. Mortality of SFP remains high at 50-100% due to the delay in culture-based fungal therapy initiation. Literature suggests antifungal initiation at 48 hours does little to change initial prognosis, thus earlier initiation might improve the outcome. Consider ascitic fluid fungal PCR for early diagnosis when SFP is suspected. We present criteria that can delineate patients at high risk for SFP so that early initiation of empiric antifungal therapy might improve overall prognosis.