Abstract Title: Calciphylaxis: A devastating complication of End Stage Renal Disease

Abstract Text: Calciphylaxis or calcific uremic arteriolopathy (CUA) is a rare, serious disorder that mainly occurs in end stage renal disease (ESRD). Case Presentation: 55 year old male with history of ESRD previously on Hemodialysis (HD) switched to Peritoneal Dialysis (PD) a year ago, alcoholic cirrhosis, diabetes mellitus, and hypertension, presented to our hospital for painful lower extremity skin lesions. He was afebrile but hypotensive at 87/51mmHg. His lower extremities had evidence of violaceous, tender plaques with skin induration and surrounding erythema. Although WBC count was normal, vancomycin and piperacillin–tazobactam were started in the setting of questionable sepsis. Lesions were suspicious for calciphylaxis, confirmed by skin biopsy. Wound care and pain control were provided. PD regimen was intensified. Sevelamer and etidronate were initiated, then calcitriol was stopped. PTH was significantly elevated at 480 (12-88pg/ml) so cinacalcet was added. The lesions didn’t significantly improve; however, there was no evidence of superinfection. Thus antibiotics were discontinued. The patient was discharged on hospital D12 with plans of switching back to HD and initiating intravenous sodium thiosulfate (STS). He subsequently had a complicated course, notable for fungal then bacterial peritonitis, requiring two ICU admissions within three months. Two weeks later, he presented in asystole and cardiopulmonary resuscitation was unsuccessful. Discussion: CUA consists of systemic arteriolar medial calcification leading to ischemia and subcutaneous necrosis. It is mainly seen in ESRD; however, few cases are reported in non-uremic patients (alcoholic cirrhosis, primary hyperparathyroidism, malignancy and autoimmune diseases). Although the pathophysiology is poorly understood, the role of disordered mineral metabolism of calcium, phosphate, and parathyroid axis is well established. Chronic inflammation and deficiency in inhibitors of vascular calcification (Fetuin A and MGP), might be contributory. Predisposing factors include female gender, obesity, hyperphosphatemia, medications (calcium-based binders, vitamin D, warfarin, and iron), hypercoagulable states, hypotension, diabetes and skin trauma. A multidisciplinary strategy including adequate wound care and pain control is essential. Treatment modalities include increasing the frequency of dialysis, using a low dialysate Ca, targeting a Ca * P product of < 55, using non-Ca based phosphate binders, maintaining a serum P of 3.5-4.5mg/dl and treating PTH >300pg/ml with cinacalcet. STS is currently the treatment of choice and the majority of reported cases document good outcomes. It is thought to be effective based on its antioxidant properties, vasodilation promotion and dissolution of Ca crystals. The intravenous route is favored as chemical peritonitis was reported with intraperitoneal use. New data on intralesional STS seems promising. Many of the risk factors coexisted in our patient and predisposed him to have CUA. A multidisciplinary treatment approach controlled his CUA, however his underlying cirrhosis and peritonitis complicated his condition and accelerated his death.
Abdo, Tony

Last Name: Abdo
First Name: Tony
ACP Number: 2045477
Category: Clinical Vignette

First Author: Resident
PG or MS Year: PGY-2

Medical School or Residency Program: Roger Williams Medical Center
Hospital Affiliation: Boston University
Additional Authors: Savoie B, Skalecki J, Bhagat V, Meharg J

Abstract Title: Diffuse Alveolar Hemorrhage, a rare complication of Henoch-Schönlein Purpura

Abstract Text: Introduction: Henoch-Schönlein Purpura (HSP) is a widespread necrotizing small vessel vasculitis occurring mainly in children. It is characterized by non-thrombocytopenic purpura, arthralgia or arthritis, abdominal pain with occasional intestinal hemorrhage, and nephritis. Diffuse alveolar hemorrhage (DAH), bleeding into the alveolar spaces, is a frequent complication of vasculitis resulting from inflammation of the alveolar-capillary interface. DAH is a rare complication of HSP (0.8-5%), reported primarily in adolescents and adults. We report the case of a 60-year-old male with HSP, Afib and an INR of 8.3 admitted for one day of hemoptysis. Case Presentation: Two months prior to admission, the patient had a recurring rash involving his upper and lower extremities. Biopsy showed leukocytoklastiс vasculitis and he was treated with a course of PO prednisone. Last month, a kidney biopsy showed diffuse mesangial proliferative and crescentic glomerulonephritis with IgA deposits and a diagnosis of HSP nephritis was made. Patient received pulse steroid and was maintained on 60mg of prednisone daily. Patient presented to us with hemoptysis and mild SOB. He was afebrile with a SaO2 of 96% on RA. EKG showed Afib with RVR. CXR showed perihilar airspace disease. Creatinine was 2 (baseline 1.6-1.8), and INR supratherapeutic at 8.4. Vitamin K was given, Coumadin was held and patient was placed on Cardizem drip. Ceftriaxone and Azithromycin were started. Hemoptysis resolved by the end of hospital D1. Rapid flu test was negative. A CT chest showed new bilateral upper lobe ground glass infiltrates and moderate pleural effusions. Echocardiography showed concentric LVH with normal EF with mild MR and TR. PASP 39 mmHg. On hospital D3, the INR was 1.6 and bronchoscopy demonstrated progressively more hemorrhagic lavage aliquots from the RUL and the left superior basilar segment with no evidence of airway inflammation or endobronchial lesions. Vasculitis serology was negative. BAL and Blood cultures were negative. A diagnosis of DAH secondary to HSP was made and Rituximab was added. The patient received his 1st dose on hospital D7 and was discharged the next day on prednisone. Discussion: Pulmonary involvement in HSP is uncommon, manifesting primarily as DAH. Isolated pulmonary function abnormalities (low DLCO) were found in most patients with HSP during active disease, but were not associated with subsequent development of significant lung disease. DAH occurred mainly in the presence of systemic disease especially in the presence of kidney involvement (94.4%). Treatment options include pulse methylprednisolone, cyclophosphamide, azathioprine and cyclosporine. Rituximab has been used with success in patients with nephritis secondary to HSP. To the best of our knowledge, this is the first report of Rituximab treatment of DAH associated with HSP. We will discuss the use of Rituximab in HSP and in the treatment of DAH associated with several autoimmune diseases.
Abstract Title: Heart Failure and Sinus Rhythm: to anticoagulate or not to anticoagulate?

Abstract Text: Introduction: The role of anticoagulation in patients with heart failure and sinus rhythm is still controversial. We present the case of a 49-year-old African American female with probable alcoholic cardiomyopathy, in whom the decision to anticoagulate was debatable. Case presentation: Patient presented to the hospital for one day abdominal discomfort and ongoing dyspnea for several months. She was afebrile, normotensive, but tachycardic. Physical exam was unremarkable for abdominal findings, but did show a summation gallop, bibasilar crackles and neck vein distension. Troponin was 0.039 (< 0.029ng/ml) and BNP 720 (<100pg/ml). EKG showed sinus tachycardia with LVH, and CXR revealed moderate cardiomegaly. Patient was started on beta blocker, ACE inhibitor, and furosemide. Echocardiogram showed diffuse hypokinetic left ventricle with valvular regurgitation and an EF of 15%. Spironolactone was added. Ferritin, TSH, Viral serology, Lyme antibodies and ACE level were normal. Patient improved and was discharged with a life vest defibrillator on hospital D5. Anticoagulation was considered, however it was not instituted given the lack of evidence. Patient presented several days after discharge with aphasia, left sided facial droop and right sided weakness. Intracranial bleed was ruled out, but thrombolytic therapy was not administered as her symptoms improved dramatically. Anticoagulation was initiated for cardioembolic TIA. Discussion: Heart failure is associated with an increased risk of thromboembolic events. Mechanisms include abnormal flow, hypercoagulable state and endothelial dysfunction. Data from Observational studies are conflicting, with SOLVD and V-HeFT showing no reduction in the embolic rates with warfarin, whereas SAVE showing benefit with both Aspirin and warfarin. Warfarin and Aspirin were compared in WASH study and no benefit was seen from neither. HELAS showed that embolic events are rare, and treatment with neither Aspirin nor Warfarin seems beneficial. Two large randomized controlled trials, WATCH and WARCEF, offer the best data. WATCH compared Aspirin, Clopidogrel and Warfarin, and showed no difference among the three, with the primary end points of death, nonfatal MI and nonfatal stroke. WARCEF compared Aspirin versus Warfarin, and showed no difference in the primary end points of ischemic stroke, intracranial hemorrhage or death. Risk of ischemic stroke was reduced by warfarin, but this benefit was offset by an increased risk of major hemorrhage. In a subgroup analysis of WARCEF, age was found to be a significant treatment modifier with benefit from warfarin seen in patients < 60. Two recently published large meta-analyses, showed a reduction in stroke with warfarin, but with no mortality benefit. Current guidelines do not recommend routine anticoagulation in patients with heart failure and sinus rhythm, in the absence of visualized thrombus and previous thromboembolic event. Well defined patients selection and integration of new oral anticoagulants in future studies, might show a better risk-benefit profile and favor anticoagulation use.
Abstract Title: Pattern of Tidal Volume Changes during CPAP Titration Polysomnography

Abstract Text: Introduction: Behavioral factors are considered important in CPAP intolerance but physiologic correlates of CPAP intolerance are poorly understood. Sleep lab titration systems allow recording of tidal volume (Vt) and pressure during CPAP titration PSG. Changes in Vt during CPAP titration may be affected by individual characteristics such as loop gain, respiratory mechanics, CPAP level and many other factors. The pattern and degree of changes associated with sleep stages, arousals and respiratory events may affect and potentially predict CPAP tolerance. Here, we describe the pattern of Vt changes in subjects having CPAP titration PSG.

Methods: Consecutive patients undergoing a CPAP titration or Split PSG for sleep apnea from May to July 2013 were included. Vt, recorded by ResMed’s VPAP™ Tx sleep lab system, was noted during awake and all sleep stages by taking an average of 10 breaths during that stage. Magnitude of change in Vt (ΔVt) associated with spontaneous arousal or after a respiratory event were noted along with CPAP pressure at the time. Pattern of Vt changes were analyzed with respect to sleep stages, optimum CPAP and AHI/RDI. Data are expressed as mean ± SD. T-test and Correlation coefficients were used as appropriate.

Results: Baseline characteristics for 32 patients were - Age 54.2±15 yrs, BMI 36.2±7.7, Males 56%, AHI 34.8±25.8/hr, Nadir SpO2 79.6±6.3%. Vt (in ml) declined during sleep - Awake 506±144, REM 390±87, N1 429±110, N2 384±82, N3 367±88. Awake Vt was significantly correlated with optimum CPAP needed (r=0.31, p=0.042), with AHI (r=0.31, p=0.041) and with RDI (r=0.35, p=0.025). ΔVt (ml) at termination of resp. event were - obstructive apnea 788±358, hypopnea 397±324, and central apnea 659±350. There was a significant difference between ΔVt following OA vs. Hypopnea (p=0.0001) and CA vs. Hypopnea (p=0.009). Significant negative correlation was seen between ΔVt following spontaneous arousal in N3 and optimum CPAP (r=-0.41, p=0.01)

Conclusion: In patients with sleep apnea on CPAP, Vt declines during sleep with largest drop in N3. Higher awake Vt on low CPAP pressure was associated with higher CPAP pressure requirements and higher RDI. We plan to study more patients to understand other relationships but these data suggest that analyzing respiratory patterns on CPAP may help to categorize physiologic responses to CPAP using parameters easily available on sleep studies. We are exploring these patterns to better understand the physiology of individual variation in CPAP response that may help to predict CPAP intolerance.
Afari, Maxwell

Last Name: Afari
First Name: Maxwell
ACP Number: 1706139

First Author: Resident
PG or MS Year: 2
Category: Research

Medical School or Residency Program: Warren Alpert Medical School of Brown University
Hospital Affiliation: Memorial Hospital of Rhode Island

Additional Authors: Andrew S. Blum, MD, PHD, Stephen Mernoff, MD, Brian R. Ott, MD

Abstract Title: Driving Policy after Seizures and Unexplained Syncope: A Practice Guide for RI Physicians

Abstract Text: Introduction: Physicians in Rhode Island (RI) sometimes find it difficult to advise patients about returning to driving after they present with a seizure or syncopal episode due to lack of statutory or professional guidance on the issue. Methodology: Academic neurologists in RI were invited to participate in a survey about driving recommendations post syncope or seizure. The following clinical scenarios were proposed: patient with a first seizure but a normal EEG and MRI, patient with first seizure with an identified seizure focus, patient with first partial seizure without compromise of awareness or bodily control, patient with nocturnal seizures, patient with psychogenic or non-epileptic seizures with loss of consciousness or bodily control, and patient with unexplained syncopal episode with normal EEG and cardiac monitor. Responding neurologists could choose among the following six possible driving restriction durations: No restriction, 3 months, 6 months, 12 months, 18 months, other (with explanation). Results: 50% of practicing neurologists in RI responded to the survey. In the setting of a first seizure with loss of consciousness, majority of the respondents recommended a 6-month driving restriction irrespective of an identified seizure focus (70.0 %) or normal EEG and MRI (63.3%). Surprisingly, half (50.0%) of the surveyed neurologists were in favor of 6 months driving restrictions even with seizure without loss of body control and sixty percent of respondents would prescribe a 6 months driving restriction for nocturnal seizure. The recommendations for “unexplained syncope” were equivocal. Discussion: The privilege to drive is regulated by the state division of motor vehicles (DMV) but unfortunately in RI there is no statutory guidance. In light of this lack of clearly defined public policy in RI, the findings of our survey are highly relevant to informing decision making on driving restrictions. The majority of the neurologists in RI would restrict patients from driving for a 6-month period for any kind of seizure that involves loss of consciousness and/or loss of motor control adequate for driving. In RI, physicians are not mandated to report patients considered unfit to drive to the DMV but can voluntarily report impaired drivers to the office of operator control of the DMV. Rhode Island law provides for immunity from prosecution for physicians who report medically unsafe drivers. Conclusion: Physicians should use their clinical judgment to determine driving restrictions in patients who present with a seizure. In light of our RI neurologists’ survey responses, the published literature, and the recommendations of national neurological organizations, a 6-month event-free restriction seems very reasonable for most patients who have had a seizure that impairs consciousness or that impairs bodily control. Policy makers are currently being engaged for the establishment of statutory guidelines for Rhode Island.
Alqadi, Rasha

**Last Name:** Alqadi  
**First Name:** Rasha  
**ACP Number:** 1951930  
**PG or MS Year:** PGY-2  
**Medical School or Residency Program:** MHRI  
**Hospital Affiliation:** BROWN UNIVERSITY  
**Additional Authors:** Ali Shueib, Mathew Pulickan

**Abstract Title:** A case of Cerebral Amyloid Angiopathy presenting with transient neurological symptoms and memory decline.

**Abstract Text:** Background: Cerebral amyloid angiopathy (CAA) is characterized by deposition and accumulation of amyloid-beta, in smaller arterial vessels of the brain and leptomeninges, which causes degenerative changes in the vessel wall favoring the development of clinical symptoms associated with CAA like cerebral hemorrhages, cerebral ischemia, leucoencephalopathy, transient neurological symptoms, cognitive decline and dementia. We report a case of new onset transient neurological symptoms in a patient with cognitive decline and without a prior diagnosis. refers to the specific deposition of amyloid fibers in the leptomeningeal and cerebral blood vessel walls. CAA not only causes hemorrhagic and ischemic strokes, but also leads to progressive dementia. Our patient presented with symptoms related to transient ischemic attacks and dementia. Case Presentation: A 60-year-old gentleman with history of hypertension and dyslipidemia was brought by his family after they noticed that he couldn’t articulate his words. A similar episode was noticed few days earlier to that but the family did not seek any medical attention then as the symptoms resolved by spontaneously. On presentation to the ED, a CT of the head was done which did not show any evidence of intracranial blood. didn’t show any signs of hemorrhagic stroke. On talking further history from the family, the patient was showing signs of memory decline for at least 12 months. As part of the work up he received a brain MRI. After further questioning the family mentioned that the patient has been more forgetful over the past one year. We proceeded with an MRI of the brain that showed evidence of multifocal hemosiderin deposition consistent with a diagnosis of CAA. multiple densities in the brain consistent with CAA. CAA most likely was the cause for his cognitive decline and dementia. A discussion about the high risks of spontaneous possibility of hemorrhagic strokes in the future was discussed with the family. Since CAA also increases risk for ischemic strokes patients was put on ASA 81 mg after discussing risks with family, and the consequences of using t-PA in case of ischemic stroke, as the deposition of the amyloid in the blood vessels makes them more prone to bleed. Our patient’s dysarthria improved, and he was transferred was sent to a nursing home on a low dose aspirin. Discussion: Cerebral amyloid angiopathy can have multiple clinical presentations ranging from cerebral ischemia, cerebral hemorrhage, dementia to psychiatric manifestations. No causal therapeutic options are available at this time. A definitive diagnosis can only be made from pathological studies, but neuroimaging and clinical symptoms can help with diagnosis of probable CAA, due to deposition of the amyloid fibers in the cerebral blood vessel walls. The benefits and risks of antiplatelet therapy coagulation should be weighed carefully due to increased risk of spontaneous hemorrhages.
Anderson, Laura

Last Name: Anderson  First Author: Resident
First Name: Laura  PG or MS Year: PGY-2
ACP Number: landerson6  Category: Clinical Vignette

Medical School or Residency Program: Brown University
Hospital Affiliation: Rhode Island Hospital

Abstract Title: Shoulder Pain and an Unlikely Infection

Abstract Text: Septic arthritis is a fairly common and always emergent medical diagnosis due to the risk of permanent damage to the joint space. Suspicion for this diagnosis should be high, particularly in immunocompromised patients. A 32 year old woman with a history of severe asthma and hypersensitivity pneumonitis requiring chronic prednisone treatment (20mg per day), methotrexate and omalizumab injections as well as a reported history of remote opiate abuse on methadone, presented to the emergency room complaining of right shoulder pain for two months. She initially suspected an overuse injury or mild trauma, stating that she has severe coughing fits chronically, and may have fallen onto her shoulder. The pain was exacerbated by movement, and worsened significantly in the three days prior to admission. In the ER the patient was noted to have a low grade fever and a diffusely tender right shoulder with a significantly limited range of motion secondary to pain. A plain film was unremarkable. Suspicion for septic shoulder was quite high, and orthopedic surgery attempted to aspirate both the glenohumeral and acromioclavicular joints at the bedside, resulting in dry taps. Fluid lavage was negative for gram stain and culture. She was started on empiric antibiotics, and MRI was performed, revealing a small enhancing joint effusion at the AC joint as well as surrounding bone marrow edema and replacement consistent with chronic osteomyelitis and septic acromioclavicular (AC) joint. Orthopedic surgery felt that the patient’s joint was already significantly damaged, and surgery would not be beneficial at this point given her stability with conservative therapy. Vascular interventional radiology was consulted to perform a CT guided aspiration and bone biopsy in order to tailor the antibiotic regimen. Aspirate grewserratia marcescens. The course was complicated by the discovery that the patient’s last two drug screens were positive for heroin. Infectious disease and pulmonology consulted, and she was treated with two weeks of IV ceftriaxone in the hospital followed by 5 weeks of oral levofloxacin (allergy noted to ciprofloxacin). Methotrexate was held during her treatment course, but given the severity of her lung disease, prednisone and omalizumab were continued. She recovered well with normalization of inflammatory markers and a tentative plan for a distal clavicle excision if needed to help treat chronic arthritis. Infection at the AC joint is quite rare, even in immunocompromised patients and IV drug users. It is not easily distinguished from glenohumeral arthritis on exam, and a dry tap of the AC joint should not be felt to negate the diagnosis. Finally, conservative treatment with antibiotics is often a viable option.
Abstract Title: The Notes Collective: A Living Medical Textbook

Abstract Text: The Notes Collective ("TNC") is an innovative model created by a group of medical students at Brown University in an attempt to address shortcomings of the current system of medical education. Housed within Google Docs, this comprehensive study resource can be accessed and edited by all members of the class at any time. The TNC provides students with a clear, well-organized, and interactive study resource that includes student-created notes and embedded slides from lectures, as well as helpful links and videos from outside resources. Creative formatting allows note-takers to emphasize concepts and cover lecture material thoroughly without overwhelming students with an excess of information. We surveyed the class and received positive feedback after the TNC’s initial year, with more than 40% of students agreeing that it allows them to study more efficiently and perform better on exams. In this article, the authors explain the implementation of the model, the assessment of its performance, and its implications for medical education and faculty development as medical schools seek to rapidly integrate technology into traditional pedagogical approaches.
Abstract Title: The Notes Collective: A Living Medical Textbook

Abstract Text: The Notes Collective ("TNC") is an innovative model created by a group of medical students at Brown University in an attempt to address shortcomings of the current system of medical education. Housed within Google Docs, this comprehensive study resource can be accessed and edited by all members of the class at any time. The TNC provides students with a clear, well-organized, and interactive study resource that includes student-created notes and embedded slides from lectures, as well as helpful links and videos from outside resources. Creative formatting allows note-takers to emphasize concepts and cover lecture material thoroughly without overwhelming students with an excess of information. We surveyed the class and received positive feedback after the TNC’s initial year, with more than 40% of students agreeing that it allows them to study more efficiently and perform better on exams. In this article, the authors explain the implementation of the model, the assessment of its performance, and its implications for medical education and faculty development as medical schools seek to rapidly integrate technology into traditional pedagogical approaches. See a visual demonstration here:
http://www.youtube.com/watch?v=zI2_jQc386o&feature=youtu.be
Ashkiani, Mohammad

Last Name: Ashkiani  First Author: Resident
First Name: Mohammad  PG or MS Year: PGY-2
ACP Number: 2286772  Category: Clinical Vignette

Medical School or Residency Program: Brown Alpert Medical School
Hospital Affiliation: Memorial Hospital of Rhode Island
Additional Authors: Amrita Desai, Khalid Alhourani

Abstract Title: Miracles do happen; The Bystander Effect!

Abstract Text: Introduction: Appropriate chest compressions carry significant importance when it comes to resuscitation efforts during cardiac arrest. Numerous clinical studies have shown that the quality and efficacy of CPR play a significant role in the long-term survival and neurological outcomes in patients with cardiac arrest. Case Report: A 58-year-old man passed out and collapsed to the floor. His friend, an ACLS trained professional, promptly noted the absence of pulse, and started chest compressions while awaiting EMS arrival. Patient was managed based on the ACLS protocol for "ventricular fibrillation (V-fib) arrest". He received good quality and uninterrupted chest compressions, seven doses of Epinephrine (1mg IVP each), two doses of Amiodarone (300mg IVP each), and was shocked twelve times (Biphasic 200J). Return of spontaneous circulation (ROSC) was obtained 55 minutes after the witnessed arrest. Patient was started on therapeutic hypothermia protocol as well as Amiodarone drip, and transferred to the intensive care unit (ICU) for close monitoring. The ICU course was complicated by aspiration pneumonia, Flail chest, as well as acute tubular necrosis (ATN). Management and outcome: Upon stabilization, cardiac catheterization was done as part of the work-up for his V-fib arrest, which showed complete occlusion of distal and middle right coronary artery (RCA). He subsequently had an ICD implanted for secondary prevention. Patient's care was transitioned to the medicine ward, and subsequently to MHRI inpatient rehab. After completion of his rehabilitation course, he walked out of the hospital, 19 days after his arrest, with complete and meaningful neurological recovery. Discussion: Good quality bystander CPR in a out of hospital ventricular fibrillation arrest has good long term outcomes with better neurological recovery as compared to inadequate bystander CPR. A study by Van Hoeyweghen showed that long term survival, was 16% in patients with correct bystander CPR and only 4% when bystander CPR was performed incorrectly2. Appropriate chest compressions are done at a rate of 100 per minute, with a depth of at least 5 cm or 2 inches, and allow for complete recoil of the chest between compressions. Conclusion: When done appropriately, chest compressions can ensure adequate cerebral perfusion despite the duration.
Ayyala, Manasa

Abstract Title: A ‘curious craving’: a case of pica in pregnancy.

Abstract Text: Introduction: Pica is defined as compulsive intake of non-nutritive substances such as earth, clay, chalk, soap and ice. It is commonly associated with mineral-deficiency. The most common forms are geophagia (consumption of earth) and pagophagia (consumption of ice). Its prevalence during pregnancy is largely underestimated. Case Report: 23-y/o woman G3P0020 at 20-weeks gestation presented with episodes of shortness of breath and heart palpitations lasting 1-2 minutes at a time and starting 6 weeks prior. She had a history of mild asthma for which she reported using inhalers as needed. The patient came to the women’s hospital emergency triage after having had multiple such episodes with shorter symptom-free intervals the morning of her presentation. Internal medicine was consulted to see the patient. The patient’s fiancé remarked that the patient had been consuming large amounts of crushed ice in recent weeks. The patient agreed, noting “ridiculous cravings” for ice multiple times per day. In the emergency triage, she was noted to have a resting and ambulatory pulse oxygenation of 98% on room air. Her heart rate ranged 90-100 bpm with variability with movement and improvement with rest. Labs were notable for Hb 11.6 g/dL (baseline since the beginning of her pregnancy was 11-12g/dL), MCV 87.2fL, Plt 394/mcL. Ferritin level was notable for a very low level of 5.0ng/mL. EKG was normal sinus rhythm without any signs of ischemia or arrhythmia. Given the patient’s pagophagia and very low iron stores, the patient was started on supplemental liquid iron and discharged home with outpatient follow-up. Within two weeks, the patient’s symptoms had completely resolved. Final diagnosis was iron-deficiency in pregnancy. Discussion: Pica in pregnancy is largely underestimated in pregnant women and studies show it has a higher prevalence in the pregnant population. Pagophagia, in particular, is considered very specific for iron-deficiency even in patients who are not anemic and rapidly responds to treatment with iron supplementation. Serum ferritin <30ng/ml is a good single indicator of reduced storage iron. Other indices such as serum iron and percent saturation of TIBC have lower diagnostic accuracy in pregnancy and serum ferritin is the best screening test for iron deficiency in pregnancy with both high sensitivity and specificity. This case highlights the simple solution to a complex presentation based largely on gathering a complete history. Routine screening during pre-natal care could prevent a multitude of unnecessary testing. In addition, it is important to note that pregnant women can develop significant symptoms when they are profoundly iron deficient, yet not yet anemic.
Abstract Title: Stepwise Approaches to the Palliative Management of Refractory Dyspnea

Abstract Text: BACKGROUND: Dyspnea is a problematic symptom in a wide variety of illnesses ranging from cardiopulmonary dysfunction to neuromuscular disease. The etiologies and definitions of dyspnea are complex but generally involve a subjective sensation of breathlessness. Refractory dyspnea refers to dyspnea that is resistant to conventional treatment of the underlying disease process. Patients and their providers should be aware of a wide range of potential palliative interventions for this symptom. The purpose of this literature review was twofold: firstly, to identify and classify the different types of palliative interventions available for refractory dyspnea; and secondly, to categorize and rank these interventions in a manner useful to healthcare providers. METHODS: Pubmed, Ovid, and Google Scholar were searched for relevant literature from 1980 to 2014; each entry was individually checked to find additional citations. A total of 103 citations were obtained and read. Disease-specific interventions, for example palliative radiotherapy in obstructive non-small cell lung carcinoma, were excluded from consideration; other interventions were grouped by drug class or underlying mechanism into discrete pharmacologic and non-pharmacologic categories. Once the intervention categories were defined, each intervention category was subsequently analyzed by the authors with the intent of establishing a stepwise gradient along which pharmacologic and non-pharmacologic interventions could be sorted. RESULTS: 16 discrete intervention categories, 8 pharmacologic and 8 non-pharmacologic, were identified for the palliative management of refractory dyspnea. The pharmacologic interventions were ranked sequentially on a scale ranging from "established" to "equivocal/experimental": (1) opioids, (2) corticosteroids, (3) benzodiazepines, (4) selective serotonin reuptake inhibitors, (5) inhaled furosemide, (6) phenothiazines, (7) buspirone, and (8) helium/oxygen mixtures. The non-pharmacological interventions were similarly ranked sequentially on a scale ranging from "non-intensive" to "intensive": (1) handheld fans / cool air, (2) breathing techniques, (3) non-breathing behavioral modifications, (4) meditation / relaxation, (5) acupuncture, (6) vibration / nerve stimulation, (7) non-invasive ventilation, and (8) pulmonary rehabilitation clinics. CONCLUSIONS: A wide variety of interventions, both pharmacologic and non-pharmacologic, have been investigated or reviewed for the palliative management of refractory dyspnea. It is possible to classify these palliative interventions into 16 categories that can be ranked along two hierarchical scales. These scales do not include disease-specific tools but provide a generalized approach to conceptualize and contrast the available interventions for the palliation of dyspnea. Beginning with the "established" end of the pharmacologic scale or the "non-intensive" end of the non-pharmacologic scale and sequentially moving onward may provide a useful algorithm for the palliation of refractory dyspnea.
Metastatic Complications of Methicillin Resistant Staphylococcus Aureus Bacteremia: A Case Report

Introduction Metastatic complications of methicillin resistant Staphylococcus aureus (MRSA) occur in up to one third of patients with MRSA bacteremia, and include infective endocarditis, pulmonary infection, osteomyelitis, septic arthritis, and renal and splenic abscesses. Complications of MRSA bacteremia may be difficult to diagnose due to late seeding and delayed presentation of symptoms. This case of a 37 year-old intravenous drug abuser with MRSA bacteremia emphasizes how patients who fail to show clinical improvement despite appropriate treatment should be promptly evaluated for metastatic complications. Case A 37 year-old male presented to the emergency department with right upper extremity pain approximately three days after injecting cocaine and bath salts. Physical exam was significant for erythema of the right upper extremity and diminished breath sounds. His temperature was 39.4°C, blood pressure 90/61, heart rate 118, and oxygen saturation 92% on room air. Laboratory studies were remarkable for a WBC count of 17,700/mcL with 36% bands. Right upper extremity CT scan revealed cephalic vein thrombophlebitis and subcutaneous fat stranding consistent with cellulitis, and chest CT showed multiple scattered nodular densities consistent with septic emboli. He was admitted to the intensive care unit with a diagnosis of cellulitis, sepsis and septic pneumonia. Initial blood cultures returned positive for MRSA. By hospital day 4, he continued to spike fevers up to 40°C accompanied by shaking chills; repeat blood cultures again were positive for MRSA. Transesophageal echocardiogram showed a vegetation at the base of the aortic valve, and the diagnosis of acute infectious endocarditis was made. Over the next 24 hours he developed worsening shoulder pain; physical examination of the right upper extremity revealed edema and extreme pain with active and passive movement. Genohumeral joint aspiration removed 30 cc of purulent fluid and he was diagnosed with septic arthritis; he subsequently underwent arthroscopic joint debridement. Synovial fluid cultures were positive for MRSA. He showed clinical improvement by hospital day 10, and final blood cultures showed no growth of bacteria. He was continued on Vancomycin for six weeks. Discussion Complications of MRSA bacteremia frequently present with subtle physical findings that represent occult sites of infection, and can be a challenging diagnosis to make. All patients with MRSA bacteremia should be carefully evaluated for signs and symptoms of metastatic disease such as joint pain, back pain, abdominal pain, protracted fever, new heart murmur, and focal neurologic deficits. Several clinical characteristics have been identified that should prompt the physician to suspect metastatic complications including: persistent fevers, positive blood cultures 48-96 hours after the initial positive culture, the presence of skin lesions, and community acquisition of MRSA. This case emphasizes the importance of recognizing and treating patients with MRSA bacteremia who present with ongoing symptoms indicative of metastatic complications.
Abstract Title: Case of Cerebral Edema in an Adult with Diabetic Ketoacidosis

Abstract Text: Introduction Cerebral edema is rare but serious complication of diabetic ketoacidosis, most commonly affecting children and almost exclusively (95% of cases) in patient less than 20. It affects less than 1% of pediatric cases, and is much less common in the adult population. However, it is the leading cause of death in children 9-12 with DKA. Once cerebral edema develops mortality is about 25% and significant morbidity such as pituitary insufficiency is about 25% Case A 36-year-old female presented to the ED unresponsive and in respiratory distress. Her medical history was significant for diabetes, asthma, depression, and fibromyalgia. She had 2-3 weeks of preceding upper respiratory symptoms treated outpatient with azithromycin and prednisone, and more recently the onset of nausea, vomiting and altered mental status. Initial labs revealed: leukocytes 29, hemoglobin 13.4, platelets 326, Sodium 131, potassium 4.1, chloride 91, bicarb 6, anion gap 34, Cr 1.6, glucose 787, pH 7.03, pCO2 16 (immediately after intubation). Urine contained 3+ ketones, large acetone, LFTs were mildly elevated, lipase 1361. Chest xray revealed bilateral infiltrates suggestive of multifocal PNA vs ARDS. Initial head CT showed no abnormalities. She was admitted to the ICU for DKA. In addition, respiratory failure consistent with ARDS versus pneumonia, anuric AKI, febrile illness and pancreatitis were noted. Insulin drip, fluid resuscitation and electrolyte replacements were initiated and she received broad spectrum coverage for pneumonia and suspected flu. She remained unresponsive after sedation was reduced and a repeat scan, at 32 hours, showed new onset cerebral edema. Serial head CT scans showed persistence of cerebral edema. She was treated with hypertonic saline and dialysis to keep sodium between 145-150. No mannitol was given as she was anuric. On day 6 of admission, she started following commands, and a repeat CT of the head showed improvement of cerebral edema. By day 12, she appeared to be back at baseline. Discussion Cerebral edema generally presents 4-12 hours after initiation of therapy, however it is recognized to occur before therapy and can occur as late as 28 hours from initiation of therapy. Several identified factors are associated with the development of cerebral edema: administration of bicarb, rapid fluid infusion rates, and rapid reduction in plasma osmolarity by rapidly falling glucose levels. In order to identify patients with cerebral edema, some early signs may include: headache, vomiting, bradycardia, hypertension, desaturation, subtle neurologic changes such as restlessness, irritability, drowsiness. However, many patients present with severe symptoms such as loss of continence, cranial nerve palsies, abnormal pupillary responses, posturing.
Abstract Title: Herpes Simplex Esophagitis and Cytomegalovirus Colitis in an Elderly Patient

Abstract Text: Herpes Simplex Virus (HSV) has been known to be an opportunistic invader of the esophagus in immunosuppressed, immunocompromised or very ill patients. Herpes simplex esophagitis (HSE) is the second most common cause of infectious esophagitis. HSE in immunocompetent hosts is rare and may be a manifestation of a primary disease or reactivation of a latent disease. Cytomegalovirus (CMV) colitis likewise is not a common clinical presentation and tends to be the result of reactivation of the virus and not a primary infection. It has been seen to occur in immunocompromised patients that have undergone organ transplantation, malignant hematologic disease, or AIDS or immunosuppressive therapy. The patient is a 93 year old female with past medical history of atrial fibrillation (not on Coumadin), hypertension, hyperlipidemia, and osteoarthritis who came in for evaluation of diarrhea and intermittent bright red blood per rectum for two weeks. Patient had no complaints of abdominal pain, heartburn or reflux. She denied any melena. Physical exam was unremarkable. Colonoscopy was performed and biopsy of the sigmoid colon showed colonic mucous with acute and chronic inflammation, architectural distortion, cryptitis and crypt abscess, basal lymphoplasmacytosis. Immunostain for CMV revealed a few positive inclusions. EGD showed a superficial ulcer about 6-7mm which was biopsied. Histopathology showed ulceration and immunostain was positive for HSV-1 in the esophagus. Patient was started on ganciclovir for treatment of CMV colitis and HSE. Patient had no risk factors for HIV and no personal history of HSV, Herpes Zoster reactivation or CMV and was receiving no immunosuppressant therapy. HSE and CMV colitis are not commonly seen in immunocompetent patients. Elderly patients exhibit immune senescence and may become susceptible. When HSE or CMV colitis is confirmed, a thorough history and assessment for immune disorder such as HIV or AIDS should be suspected as the underlying pathology. HSE should be considered in otherwise healthy subjects particularly elderly patients with symptoms such as odynophagia, heartburn, or in patients with ulcerations in distal or mid-distal esophagus seen in endoscopy. Likewise CMV colitis should be considered in immunocompetent patients especially the elderly or those with immunomodulating conditions such as diabetes, renal failure, malignancies who present with diarrhea and abdominal pain. HSE and CMV colitis are usually self-limiting in an immunocompetent host but anti-viral therapy will shorten the illness and can prevent progression to end organ damage.
Abstract Title: Epstein Barr Virus: A Rare Cause of Hepatitis

Abstract Text: Epstein-Barr Virus (EBV) has a seroprevalence of 90-95% worldwide. EBV usually affects children and tends to be asymptomatic. Gastrointestinal manifestations of EBV infection range from mild hepatitis to hepatosplenomegaly to rarely acute liver failure. EBV hepatitis is an uncommon cause of hepatitis. It tends to cause a mild, self-limiting hepatitis. The diagnosis is usually made with the presence of lymphocytosis and/or splenomegaly. The patient is a 61 year old female with past medical history of polycythemia vera (PCV) diagnosed about 25 years ago, hypertension, anxiety, and splenectomy performed 14 years ago who presented with an unremitting fever of unknown origin that started 14 days ago. She had previously underwent a double umbilical cord blood transplant with a myeloablative regimen with fludarabine, cytotoxan, and total body irradiation years ago for her PCV. She reported a tick bite on her scalp and upper back about one week prior to the initial presentation of fever. Patient had about five episodes a day of nonwatery and nonbloody diarrhea for two weeks and felt fatigued. On physical exam, she exhibited sclera icterus, she was jaundiced, and she had no abdominal tenderness, rebound guarding or hepatomegaly. The hepatitis panel was nonreactive. She had mild transaminitis with a total bilirubin as high as 4.1. The percent of atypical lymphocytes was increased. The EBV DNA PCR was positive. CMV PCR and HIV antibody qualitative were negative. Blood cultures and urine cultures were negative. Bone marrow biopsy did not indicate leukemia as a source of fever. She had a CT scan of the chest, abdomen, and pelvis which was unrevealing for any source of fever. Patient was started on rituximab for management of her EBV hepatitis. EBV hepatitis is not a discernible clinical diagnosis. Studies indicate that although abnormal liver function tests occur in 80% of EBV infections, symptomatic hepatitis is uncommon. In most cases of EBV hepatitis the symptoms are nonspecific and often include anorexia, weight loss, abdominal pain, nausea/vomiting and flu like symptoms. EBV hepatitis is usually a self-limiting illness that lasts a few weeks and is followed by a full recovery. A proportion of patients post-transaminitis with EBV viremia are at risk of developing postransplantation lymphoproliferative disease (PTLD) which may be life threatening. Patients with > 1000 EBV copies/105 PBMCs in the absence of GVHD are started on Rituximab therapy as was this patient. Her transaminitis and fevers resolved. She is currently well and the EBV viral copies are undetectable. Most acute viral hepatitis are associated with serum ALT > 1000 but EBV hepatitis is not. The diagnosis should be considered in all patients with inconclusive causes of hepatitis, particularly in immunocompromised hosts, and can readily be made with routine serologic testing.
Bian, Jessica

Last Name: Bian
First Name: Jessica
Author: Resident
PG or MS Year: PGY-1
ACP Number: pending
Category: Clinical Vignette

Medical School or Residency Program: Brown Internal Medicine - Categorical
Hospital Affiliation: Rhode Island Hospital

Abstract Title: Extrapulmonary small cell carcinoma of anal primary: an uncommon manifestation of a rare malignancy

Abstract Text: Small cell carcinoma is a cancer that usually arises in the lung but in rare instances can originate from extrapulmonary sites. Gynecologic, gastrointestinal, head and neck, and genitourinary extrapulmonary small cell carcinomas have all been reported. Others are of unknown primary. These are aggressive cancers with a less than 15 percent 5-year survival rate. Between 1970 and 2003, only 544 cases of EPSCC originating from the gastrointestinal tract had been reported, 75% of which originated in the distal esophagus. This implies that EPSCC of anal primary is a rare entity. The following report details one such case of anal EPSCC. The patient is a 54-year-old man with a medical history significant for stage III non-small cell lung cancer treated with concurrent chemoradiation followed by surgical resection, as well as a long history of alcohol dependency and tobacco use. He presented with two months of progressive abdominal pain, constipation, and severe pain with defecation. CT scan of the chest, abdomen, and pelvis showed a focal low-attenuation collection adjacent to the anus suggestive of necrotic malignancy, numerous hypoattenuating liver lesions, and pelvic and inguinal adenopathy consistent with metastatic disease. Colonoscopy revealed an anal mass which was later biopsied via anoscopy under general anesthesia. Pathology revealed small cell neuroendocrine carcinoma with tumor extension to biopsy edges as well as lymphovascular and perineural invasion; Ki-67 proliferation index was greater than 90 percent. Immunohistochemical staining was suggestive of an anal primary although a lung mucinous adenocarcinoma could not be entirely ruled out. However, the clinical presentation and metastatic pattern was most consistent with anal small cell carcinoma. Brain MRI showed no evidence of metastatic disease. Given the patient’s baseline ECOG performance status of 1-2, he was treated with dose-reduced carboplatin-etoposide. He also received two doses of palliative radiation to the anal mass for symptom management. The remainder of his hospital course was complicated by sepsis from multiple infections, increasing pain related to malignancy, waxing and waning encephalopathy, prolonged severe anemia and thrombocytopenia, and ultimately oliguric acute renal failure. The decision was made by the patient, his family, and the medical team to forgo further treatment for his cancer and to focus on comfort only. He was eventually transferred to an inpatient hospice within one month of his initial diagnosis. This report details an unfortunate case of anal EPSCC and highlights the aggressive nature of this disease. EPSCC of GI origin are reported to have survival ranges of several weeks for untreated patients and six to twelve months for treated patients. In this patient’s case, his initial suboptimal performance status and extensive disease burden at time of diagnosis played a significant role in his rapid decline and poor outcome.
Abstract Title: Changes In End-of-Life Care for Hispanic vs. White Medicare Beneficiaries

Abstract Text: Background: Hispanics are the fastest growing ethnic group in the US. Over three million of them currently use Medicare, and the percentage of users over 65 is expected to double by 2050. Despite these trends, little quantitative research has examined end-of-life care of Hispanics compared to White. Objectives: Examine the changes in Hispanics compared to Whites in regards to site of death, place of care, and health care transitions. Methods: Retrospective cohort study of a 20% sample of Medicare fee-for-service beneficiaries. Using the Residential History File that assigns a Medicare beneficiary to site of care on a daily basis, we created measures of site of death, place of care (e.g., ICU utilization) and health care transitions. A multivariate logistic regression model with HRR fixed effects examines changes in each of these measures, contrasting Hispanics with Whites from 2000 to 2009. A year and race interaction term allowed us to report an adjusted estimate of differences between 2000 and 2009. Results: Both Whites and Hispanics increased their rates of hospice use between 2000 and 2009, from 22.20% to 43.06% in 2009 for Whites and 20.22% to 32.97% for Hispanics. The corresponding adjusted differential increase for Whites was 8.46% (95% CI 6.37 to 10.54). Hispanics, however, were more likely than Whites to die at home (36.69% vs. 33.62%, p < .001; with an adjusted higher probability of 4.89%). This change was mainly accounted for by fewer persons dying in an acute care hospital. In 2009, Hispanics’ use of the ICU in the last 30 days of life exceeded Whites (31.24% vs. 28.54%, p<.001). However, the rate of increase in Whites was slightly higher but not statistically significant. The probability of having a transition in the last three days of life was higher for Whites than for Hispanics (predicted difference 2.56%, 95% CI 1.01-4.12). Conclusion: Between 2000 and 2009, Hispanics experienced a striking increase in home deaths, accounted for mainly by a reduction in hospital deaths. Their ICU use and rate of late transitions remains high, although it did not increase as much as for Whites. While there was an increase in hospice use amongst Hispanics, both the raw percentage and differential increase remained significantly lower than that of Whites. Implications: Future research is needed to examine the quality of end-of-life care amongst Hispanics, particularly whether these changing patterns of utilization are consistent with their informed preferences.


Abstract Title: Somatic vs psychosomatic: porphyria and the search for a cause in chronic debilitating abdominal pain

Abstract Text: Introduction: The acute porphyrias, because of their highly variable symptomatology and often poorly understood diagnostic tests, can be a challenge to diagnose. We present a 41 y/o female with recurrent episodes of chest and abdominal pain, vomiting, severe hypertension and seizure-like activity. Her sister reportedly has had similar symptoms. Her case illustrates several diagnostic quandaries common in the work-up of potential cases of porphyria as well as the interface between psychosocial and somatic causes of recurrent symptoms in general. Case Presentation: She first sought medical care for these symptoms approximately 4 years ago. Since that first presentation, she has had 179 ED visits; 49 hospitalizations; 2 endoscopies and 1 colonoscopy; 19 abdominal CT scans; 9 chest CT scans; and 18 brain CT scans. Only one of these images, a chest CT, revealed an abnormality: several small pulmonary emboli which were not seen on subsequent CTs. Outpatient treatment with coumadin was limited by her non-adherence. On admission 42, a qualitative spot urine PBG level was ordered and returned positive. During her next admission, 1 week later, a 24 hour urine collection showed mild elevations of coproporphyrin (114 UG/24hrs, nl 0-95) and uroporphyrin (24 UG/24hrs, nl 0-20). One month later two urine PBG levels were negative and 24 hour collections of coproporphyrin and uroporphyrin were within normal limits. The hematology service was consulted and concluded that she did not have acute intermittent porphyria and that the former mildly abnormal laboratory tests were not significant. Although her episodes continue with increasing frequency, further re-testing for acute porphyria, including a DNA test recommended by the American Porphyria Foundation, has not been performed. Retesting at outside specialty labs may also improve the accuracy of the results. Her care remains complicated by a history of depression, poor social and financial supports, intermittent follow-up and an ongoing concern for opioid and alcohol abuse although her last positive ethanol level was 3 years ago and urine toxicology screens have been positive only for benzodiazepines and opiates, consistent with her prescribed medications. Discussion: Several diagnostic and ethical quandaries are raised in this case. At what point it is appropriate to initiate a porphyria work-up for recurrent and otherwise unexplained abdominal pain? How might a history of substance abuse and opioid dependence affect a clinician’s decision to initiate this work-up? With so little literature on diagnosing porphyria, what guidelines are available to interpret mildly abnormal test results? Finally, given that both symptoms and biochemical signs of the acute porphyrias are by nature episodic, should one periodically rescreen at risk patients? And if so: how often?
**Abstract Title: The Hickam's Dictum Applied to a Dyspneic Patient**

**Abstract Text:** Introduction - Consequences of a missed diagnosis of dyspnea can be life altering. Therefore, physicians should constantly reassess the etiologies of dyspnea in patients whose symptoms do not improve with initial treatment of an original diagnosis and consider the possibility of coexisting etiologies. Case Description - A 41 year old female with known history of non-insulin dependent diabetes mellitus, hypertension, asthma, and depression presented to the ED with worsening dyspnea, wheezing, and nonproductive cough for six weeks. During the prior six weeks she was repeatedly seen at an urgent care, was consistently diagnosed with bronchitis, and had completed four consecutive short courses of prednisone without improvement. In the ED, she had new complaints of headaches, vision changes, and dizziness. Her review of systems was also positive for vomiting, palpitations, orthopnea, significant weight gain, lower extremity edema, and pleuritic chest pain. She was tachycardic, tachypneic, had prominent JVD, right lower lobe egophony, limb ataxia, dysarthria, and cyanotic lower extremities with 2+ pitting edema on exam. Her CT angiography of the chest noted a small pulmonary embolus and right pleural effusion. The hospitalist service was asked to admit the patient for dyspnea due to a pulmonary embolism. Due to her neurologic complaints and exam findings, a CT of the brain was ordered which revealed a 4.7 cm area of acute infarct in the right superior cerebellar artery territory. On echocardiogram she had severe left ventricular systolic dysfunction with an EF at 15% and global hypokinesis, as well as a 2.2 cm x 2.2 cm apical thrombus. The patient subsequently had a cardiac catheterization showing a 100% occluded mid LAD without collaterals. Discussion - Western philosophy has traditionally taught the principle known as Occam's Razor which demands that, given two equally sound hypotheses, the one chosen should posit the fewest new assumptions. This was famously interpreted in medicine by Sir William Osler, in a dictum called Osler's Rule, which advocates that a doctor should look for the fewest possible causes to account for a patient’s symptoms. It is important to note that Osler's Rule was derived when infectious disease as a diagnostic cause was more prevalent than that of multiple system diseases. A more recent rule, Hickam’s dictum, posits a counterargument saying, "Patients can have as many diseases as they damn well please." Given the similar presentations, high prevalence, and frequent coexistence of COPD and congestive heart failure, the two diagnoses can be difficult to distinguish as the culprit of a concurrent exacerbation of dyspnea. This patient is a case in point. Had the urgent care physicians suspected cardiac disease as a new causation of dyspnea, her outcome may have been significantly improved. Our patient’s diagnosis of dyspnea better exemplified Hickam’s Dictum than Osler’s Rule.
Abstract Title: The President’s Global Health Initiative: Are Women Being Served?

Abstract Text: Design/methodology: A literature review was conducted using databases – PubMed and LexusNexis. Key words included: “global health initiative” “budget,” “maternal health,” “reproductive health,” “family planning.” Primary data was sourced from publicly available databases of the WHO, UN, PEPFAR, foreignassistance.gov, and Department of State. Data/results: Since its inception, the Global Health Initiative (GHI) has been steadfast in its rhetorical support of the welfare of women through its focus on girls, women and gender equality. With the GHI nearing the end of its projected six-year course -- 69% of its proposed budget dispersed or requested -- what evidence documents progress in the women health arena? Undoubtedly, there have been continual investment in areas easily identified as related to women: The family planning and reproductive health (FP/RH) budget increased 40% from FY2008 to FY2013 and the maternal and child health’s (MNCH) budget increased 48% over the same time period. However, FP/RH and MNCH represent just 6.2% and 6.8%, respectively, of the total GHI budget. For the remaining 87% of the GHI budget, it’s harder to identify whether investments are flowing to women’s health in areas like HIV/AIDS, malaria or tuberculosis. Conclusion: Based on USG rhetoric and anecdotal evidence it's likely GHI remains committed to women’s health. Regrettably, little public information is available to provide a full accounting of the tangible contributions of the GHI to the welfare of women. This research calls for the GHI to gather and release gender-disaggregated programmatic and budgetary data, in order to establish firm conclusions regarding impact.
Burnett, Honora Quinn

Last Name: Burnett
First Name: Honora Quinn
ACP Number: 2411256
PG or MS Year: MS III
Category: Clinical Vignette

Medical School or Residency Program: Brown Medical School
Hospital Affiliation: Rhode Island Hospital
Additional Authors: Caitlin Dugdale, M.D. and Jerome Larkin, M.D.

Abstract Title: Candida lusitaniae: an uncommon cause of fungemia and prosthetic valve endocarditis

Abstract Text: This case represents a rare presentation of an emerging fungal pathogen. A 72-year-old man presented with several weeks of fever, chills, malaise and cough. Medical history was significant for end-stage renal disease on peritoneal dialysis, coronary artery disease and congestive heart failure with an ejection fraction of 40%. Eight months previously he had undergone coronary artery bypass grafting and aortic valve replacement due to aortic stenosis. An abscess penetrating the mitral leaflet was noted intraoperatively. Numerous blood and tissue cultures at that time were negative; he completed a 4-week course of empiric vancomycin and ceftriaxone without complication. On admission, he was febrile with a productive cough. A chest x-ray was notable for mild pulmonary edema and cardiomegaly. Due to these findings he was treated for presumed community-acquired pneumonia. As imaging and exam findings more consistent with acute congestive heart failure as the etiology of his cough, a broader infectious workup for fever was undertaken. The patient remained stable and afebrile. Peritoneal fluid cultures and UA were negative. Blood cultures from admission returned positive for Candida lusitaniae. Caspofungin was started. Numerous studies to identify a source of the fungemia including non-contrast CT of the chest, abdomen and pelvis, transrectal ultrasound, colonoscopy, endoscopy, and transthoracic echocardiogram were all negative. Transesophageal echocardiogram ultimately demonstrated a vegetation on the aortic valve, confirming the diagnosis of bioprosthetic valve candidal endocarditis. Cardiothoracic surgery was consulted but the patient was deemed a poor surgical candidate. He was therefore discharged to a rehab facility on a 4-week course of IV caspofungin followed by indefinite oral suppressive therapy. Originally described as an opportunistic human pathogen in 1979, C. lusitaniae can cause invasive disease in immunocompromised patients typically related to cytoreductive chemotherapy. Other risk factors for C. lusitaniae infection include extensive broad-spectrum antibiotic exposure, indwelling catheters, and corticosteroid use. Less than 5% of invasive candida infections are attributed to C. lusitaniae; occasional isolates are resistant to amphotericin B but most are susceptible to azoles and echinocandins. Candidal prosthetic valve infective endocarditis is rare; associated mortality of up to 50% is reported. Only three previous cases of infective endocarditis attributable to C. lusitaniae have been described to date. Treatment of endocarditis due to Candida requires resection of the valve followed by 6-10 weeks of therapy with amphotericin. Patients not able to undergo surgery are treated with a prolonged course of amphotericin followed by lifelong suppressive therapy with fluconazole or another azole to which the isolate is susceptible. Echinocandins may be used in place of amphotericin. Despite these measures relapse even years after the original infection is possible and mortality remains high. (Note: citations are not included)
Abstract Title: Mixed Acid-Base Status in a Type I Diabetic with Known Cannabis Use

Abstract Text: Chronic alkalemia is a known complication of chronic cannabis use. Patients in a chronic alkalemic state who also have diabetes can experience dangerous metabolic derangements. Here we present a case of a patient with mixed alkalosis and acidosis and a normal venous pH. The patient is a 22 year old woman with a history of type I diabetes mellitus, multiple prior admissions for diabetic ketoacidosis (DKA), and heavy cannabis use, who presented with diffuse abdominal pain, nausea, vomiting, and severe fatigue, all of which began abruptly on the morning of admission. She noted that she did not take her normally prescribed dose of insulin (35 units of Novolog 70-30) the previous night. In general, she was poorly adherent to her insulin regimen. She admitted to regular heavy cannabis use, approximately 3-5 cannabis cigars daily, and used cannabis most recently on the night prior to admission. On exam, her blood pressure was 154/90 and her respiratory rate was 18. Her vital signs were otherwise unremarkable. She was found to be drowsy, but alert and oriented. Overall, she appeared volume depleted. She was breathing comfortably without use of accessory muscles. The abdomen was diffusely tender to palpation. Labs revealed a serum glucose level of 488, serum CO2 of 17, anion gap of 19, and 3+ ketonuria. Her venous blood gas, however, showed a pH of 7.39. Although she met most laboratory criteria for DKA, the venous pH was well within the normal range. The risk factors for DKA are well-known, and include insulin non-compliance, myocardial infarction, CVA, pancreatitis, and various drugs, both prescribed and non-prescribed. A recent case report identified five diabetic cannabis users who presented in DKA with conflicting acid base profiles, compared to non-cannabis users. Given that many diabetic cannabis users present with near normal or high pH values, such patients may have an acute or chronic alkalemia which is attributable to cannabis use. In effect, heavy cannabis use may mask ketoacidosis in diabetics who are users. Thus, as in the case of this patient, clinicians need to use history, physical exam, and lab data to arrive at the correct diagnosis. In the present case, a history of DKA, insulin non-compliance, symptoms of DKA, and physical signs suggestive of DKA helped to make the diagnosis in the midst of conflicting laboratory data. Additionally, higher than expected pH values in patients presenting with suspected DKA should prompt clinicians to assess for use of illicit drugs, including cannabis.
Abstract Title: A Classic Presentation of Porphyria Cutanea Tarda

Abstract Text: Background: While porphyria cutanea tarda (PCT) is the most common porphyria, the incidence is only 1 in 25,000 in the United States. It is caused by reduced activity in uroporphyrinogen decarboxylase (UROD), which is necessary in heme synthesis. Case: A 61 yo male presented to Kent County Hospital complaining of bilateral painful hand lesions that started two weeks prior to presentation. He initially noticed a 5 millimeter lesion on the dorsal aspect of his left second digit. He “popped” the lesion but it continued to grow larger and eventually developed more lesions on both of his hands. He sought treatment in the emergency department and was prescribed bacitracin, trimethoprim-sulfamethaxole, and cephalaxin, which he started 2 days following this visit. After completion of 8 days of antibiotic therapy without improvement, he returned back to sent to the emergency department for further evaluation. Of note, he recently was hospitalized at an outside hospital for an episode of ascites and had been a previously heavy alcohol drinker. He was admitted to Kent Hospital, initiated on antibiotics due to concern of worsening infection, and seen by infectious disease and gastroenterology. His hand ulcerations did not improve and his gastroenterology workup revealed high iron saturation and ferritin levels. A workup for vasculitis, hepatitis, and infectious etiology was negative. Twenty-four hour urine porphyrins were collected, which revealed the diagnosis of PCT. Discussion: Since PCT is an uncommon disorder, but readily treatable, it is important to have an understanding of its clinical manifestations. PCT is an iron-dependent disorder with skin manifestations due to photosensitization of accumulated porphyrins. It results in a decrease in UROD activity, which causes a breakdown of heme synthesis and resultant deposition of porphyrins in the liver. While PCT can be genetic or acquired, it has been suggested that certain triggers cause the acquired PCT to become apparent. These include increased alcohol use, iron overload, hepatitis, and increased estrogen production. In previous studies, it has been suggested that iron decreases the activity of UROD, and along with alcohol, increases reactive oxygen species. These factors then inhibit heme synthesis and increase porphyrin production. Cutaneous manifestations can be the first recognizable sign of PCT, but due to its rarity, may be missed or misdiagnosed. Our alcoholic iron-overloaded patient with new ascites presented with skin lesions and was diagnosed with PCT. Classically, the skin lesions in PCT are gradually progressive and prominent on sun-exposed areas such as the dorsal aspects of the hands and wrists. Previous studies have shown that effective treatment for PCT involves phlebotomy, which decreases iron stores and can induce remission over two to three months. If phlebotomy is unable to be performed, chloroquine and iron chelation therapy have also shown efficacy.
Abstract Title: Elevated CD4+/CD8+ Ratio in HIV Elite Controller

Abstract Text: Elite controllers of HIV have the unique ability to maintain a healthy CD4+ count and suppressed viral load without the use of antiretroviral therapy (ART). A 60-year-old male presented to clinic with HIV and a history of IV drug use in the distant past. While incarcerated more than 10 years ago, he was diagnosed with HIV, but never followed up for care. He was incarcerated again, during which time testing reconfirmed his HIV, but he was told that he did not need treatment. Upon discharge in March 2010, he planned to follow up in the community but had not done so until January 2011. On presentation, he reported feeling very good and no symptoms related to his HIV. Past medical history included hepatitis C antibody positive, IV drug use, and disc bulge in upper back. He is currently taking no medications. He is originally from Puerto Rico and has 9 kids with multiple women, three with his most recent partner who he believed has been checked for HIV since the most recent child was born. However, he is not entirely trusting of her and they do not live together anymore. He is currently not sexually active with anyone and rarely drinks beer and smokes a few cigarettes a day. Laboratory values from his initial visit in January 2011 were as follows: CD4 0.968 (46.1%); CD8 0.420 (20.0%); CD4:CD8 ratio 2.305; VL <48; HCV VL <43. Over the following three years, he maintained normal laboratory values (below), especially for an HIV and HCV positive individual. Most notably, he managed to maintain an undetectable viral load for both HIV and Hepatitis C viruses and a high CD4+/CD8+ ratio without treatment with ARTs. Therefore, this patient qualifies as a long-term nonprogressor who is an “elite controller.” 17 January 2013 HCV VL TND HIV VL 145  30 January 2014 CD4 1.297 (39.3%) CD8 0.564 (17.1%) CD4/CD8 2.299 HIV VL <20 Discussion This case illustrates the potential for viral suppression for both Hepatitis C and HIV without specific treatment. Although the presentation seen in this patient is rare, the importance of maintaining a high CD4+/CD8+ ratio appears to be a strong predictor of non-AIDS associated morbidity and mortality in treated HIV-infected patients. Furthermore, patients and doctors can strive to achieve a high ratio with the goal of achieving a point in care where the HIV virus can be autonomously controlled. Recognition of the unique social and biological characteristics of “elite controllers” is critical to the understanding the mechanisms though which the HIV virus can be autonomously controlled.
Casas, Rachel

Last Name: Casas  
First Name: Rachel  
ACP Number: 1750956

Medical School or Residency Program: Brown University
Hospital Affiliation: Rhode Island Hospital
Additional Authors: Iris Tong, Ghada Bourjeily

Abstract Title: Contraceptive Use in Women Having Bariatric Surgery

Abstract Text: Background: Contraceptive counseling in women undergoing bariatric surgery is crucial due to the increased risk of adverse pregnancy and fetal outcomes in the one to two years following surgery. Women are typically advised to avoid pregnancy during this time period. Oral contraceptive pills (OCPs) are commonly used in the post surgical population, but their effectiveness may be limited by malabsorption. Intrauterine devices (IUDs) and surgical sterilization are the most effective contraceptive options for women not desiring future pregnancy. The aim of this study is to determine if women undergoing bariatric surgery are using and counseled about appropriate contraceptive options.

Methods: A 36 question survey was sent electronically to pre- and post-surgical patients at the Center for Bariatric Surgery at the Miriam Hospital in Providence, Rhode Island. The survey consisted of questions about demographic data, contraceptive choices, and contraceptive counseling from healthcare providers. The survey did not include any questions containing patient identifying information. Included patients were aged between 18 and 44 years, sexually active with men, pre-menopausal, and lacked a history of hysterectomy or premature ovarian failure.

Results: A total of thirty-five women completed the survey and met inclusion criteria. Overall, thirty participants (86%) were counseled about contraceptives and twenty-eight participants (80%) were counseled to avoid pregnancy in the one to two years following surgery. Of the twenty-one women who had bariatric surgery within the last two years, fourteen women (67%) were using contraception, and seven women (33%) were not. Among the seven contraceptive non-users post bariatric surgery, all were counseled to avoid pregnancy one to two years post surgery, six were counseled about contraceptive choices, and five did not desire pregnancy. Reasons stated for contraceptive nonuse in this subgroup included side effects and lack of regular partner. Of the twenty-one women who had bariatric surgery within the last two years, eleven (52%) were using OCPs, three (14%) were using male condoms, two (10%) were using IUDs, and many women were using multiple forms of birth control. The majority of women chose their contraceptive methods based upon ease of use, ease of accessibility, and recommendation of healthcare provider.

No pregnancy was reported following surgery.

Conclusion: While the majority of women undergoing bariatric surgery were using and counseled about contraceptives, many post surgical women were using less effective forms of contraception. Continued contraceptive counseling with a focus on the most effective methods, the IUD or sterilization for women not desiring future pregnancies, is needed in this population.
Clinical Vignette

**Abstract Title:** Liddle’s Syndrome (Pseudohyperaldosteronism) Causing Uncontrolled Hypertension: Case Report

**Abstract Text:** An 18 year old female was admitted with a two day history of 8/10 sharp, substernal, pleuritic, chest pain. The pain was alleviated when leaning forward and exacerbated when lying down flat. She also had associated shortness of breath. She had no similar episodes in the past. She had a recent hospital admission 2 weeks prior for hypertension and discharged on amlopidine 10 mg PO daily. She denied fever, chills, upper respiratory or gastrointestinal symptoms, headache, trauma, or sick contacts. There was no recent travel history. She did not have any other medical history aside from her recently diagnosed hypertension, which she was being treated with amlopidine. Her only other medication was oral contraceptive pills which she had stopped taking for one week prior to admission. On admission her blood pressure was 149/108 with a pulse of 143. She had an oxygen saturation of 94% on room air. On physical examination she had fine, inspiratory crackles in the posterior and inferior lung fields bilaterally. No murmurs or irregular rhythms were appreciated. No other abnormalities were seen on physical examination. Laboratory results showed an elevated white blood cell count of 13.7 × 10^9/L. The rest of her CBC was within normal limits. TSH was within normal limits. Her sodium, potassium, chloride, carbon dioxide, creatinine, glucose and calcium were within normal limits. Initial set of cardiac enzymes showed an elevated troponin I of 0.034 mmol/L (normal range < 0.029). Her initial EKG showed normal sinus rhythm with T wave inversions. Her cardiac enzymes trended down within normal limits. Her initial BNP was elevated at 236 pg/ml (range 0-100). Her elevated blood pressure was aggressively treated initially with lisinopril and metoprolol tartrate without much improvement. Serum cortisol, renin and aldosterone were within normal limits. Based on these results, she was started on amiloride 5 mg po daily and her blood pressure was better controlled. Her serum potassium level went down to 3.2 mmol/L (range 3.5-5) and she was adequately repleted. Echocardiogram showed ejection fraction of 48% with mild global hypokinesis due to her uncontrolled hypertension. Liddle’s syndrome (Pseudohyperaldosteronism) is a rare genetic autosomal-dominant disorder characterized by severe hypertension, hypokalemia from renal potassium wasting, metabolic alkalosis and decreased levels of plasma renin and aldosterone. This disorder is due to an abnormality in the epithelial sodium channel (ENaC) in the collecting tubule, resulting in increased open permeability of this channel. This increases the reabsorption of sodium and a loss of potassium from the renal tubule. Patients with this disorder respond to treatment with triamterene or amiloride. Because of her response to amiloride and her suppressed levels of renin, aldosterone and potassium the presumptive diagnosis of Lidde’s syndrome was made.
Abstract Title: An immunodeficiency disorder (MonoMAC syndrome) initially presenting as warts

Abstract Text: Introduction: MonoMAC syndrome is a rare, autosomal-dominant, heritable immunodeficiency disorder caused by haploinsufficiency of the GATA2 hematopoietic transcription factor. The present case of MonoMAC provides an excellent example of how persistent disseminated warts and other ongoing dermatologic issues can, on their own, signal severe immunologic dysfunction. Case: A 24-year-old Caucasian woman consulted her doctor for fatigue, pharyngitis, and recent unintentional 15-pound weight loss. Her childhood was relatively healthy. At age 6, multiple warts had developed on the dorsum of her right hand, which became confluent. Warts later appeared on the fingers and plantar surfaces of the feet and toes. All regions of warts persisted into adulthood, and treatments with multiple topical preparations and cryotherapy had been unsuccessful. She also had persistent genital warts, and a history of painful vesicular oral lesions. At age 22, she developed a granulomatous panniculitis with lipomembranous necrosis on the right lower shin after blunt soft-tissue trauma. Considering her most recent symptoms, a diagnosis of infectious mononucleosis and streptococcal pharyngitis was made, confirmed by Monospot and rapid strep tests. However, further workup showed leukocytopenia, so a hematologist was consulted. Genotyping was then done at the National Institutes of Health, which discovered trisomy 8 and a GATA2 null mutation consistent with MonoMAC syndrome. Her twin sister, who has a similar dermatologic history, was found to have the same chromosomal abnormality and mutation. Follow-up laboratory studies yielded anemia (hemoglobin 8.7 g/dL, hematocrit 28.0%), lymphocytopenia (200/μL), neutropenia (1300/μL), monocytopenia (0%) with basophils 0% and eosinophils 0%, and hyper-IgG (3.64 g/dL). Persistent viremia with HPV, HSV, and EBV was demonstrated. No evidence of mycobacterial infection was found. Interferon-alpha-2a treatment was initiated in attempt to improve natural killer cell activity. Azithromycin prophylaxis was also started. At age 26, a chest CT noted marrow signal to be heterogeneously replaced in the thoracic vertebral bodies, consistent with ongoing hypocellularity due to GATA2 deficiency. Discussion: Complications of MonoMAC syndrome include mycobacterial infections, pulmonary disease, vascular dysfunction, myelodysplastic syndrome and acute myeloid leukemia. As illustrated by this case, early diagnosis of a rare immunodeficiency disorder can be overlooked when the patient history consists solely of dermatologic issues. However, considering the severity of complications for MonoMAC and other immunodeficiency disorders, it is important to maintain a level of awareness about these disorders and screen with blood counts and immunoglobulin titres when a dermatologic presentation is suspect. Early diagnosis is critical for family screening and management of disease progression.
Abstract Title: **A Complex Atherosclerotic Aortic Plaque with Systemic Emboli in a 41 Year Old Female**

**Abstract Text:** CASE: A 41 year old female with a history of hypertension and nephrolithiasis presented with sudden onset right flank and epigastric abdominal pain of one day duration. Her pain was aggravated by eating, with associated nausea and non-bloody, non-bilious vomiting. She had had a previous episode of severe right flank pain four months prior, which was attributed to pyelonephritis (based on CT imaging) although her urine cultures were negative. ROS was otherwise significant for intermittent claudication of her left hand for several months. Physical examination was remarkable for a soft abdomen with tenderness of the epigastrium, right flank and LUQ. She was afebrile, hemodynamically stable, and no heart murmur was auscultated. Admission labwork was significant for a leukocytosis of 17 with 15% bands, ESR of 21, CRP of 36 and negative blood cultures. An admission CT-abdomen with IV contrast showed chronic bilateral renal infarcts with a sub-acute infarct on the left side, concerning for cardioembolic phenomena or vasculitis. Her previous CT scan from 5 months prior was reviewed, and a right renal lesion previously interpreted as pyelonephritis was felt more likely to be an infarct. She then had an abdominal aortogram, which showed occlusion of the common hepatic artery and distal SMA. A CT Chest w/ contrast showed a nonocclusive filling defect at the origin of the left subclavian artery and proximal descending aorta, likely representing atherosclerotic soft plaque (with an unlikely differential of leiomyosarcoma). A nonocclusive embolus in the left axillary artery was also reported. A TEE showed a PFO and extensive intimal thickening in the transverse and descending aorta with a large, mobile mass arising from near the left subclavian artery, most consistent with thrombus. No valvular vegetations were identified. Lower extremity ultrasounds were negative. She was started empirically on lovenox and prednisone. MRA of the head/neck showed no evidence of fibromuscular dysplasia or vasculitis, and prednisone was subsequently discontinued after evaluation by rheumatology. Additional labwork included negative RPR, ANCA screen, hypercoagulability workup, and an LDL of 114. She had an SMA embolectomy, with resolution of her abdominal pain. Surgical pathology of her SMA thrombus was consistent with a blood clot. She subsequently had a thoracic aortic endograft placed. Cardiology was consulted, and she was started on a statin and lifelong coumadin given her young age and extensive atherosclerotic clot burden. DISCUSSION: Atherosclerotic aortic plaque disease is an important diagnosis to consider in a patient with otherwise unexplained systemic emboli. Although uncontrolled data suggests decreased embolic events when patients with complex aortic plaques are anti-coagulated, the optimal anti-coagulation strategy is currently unknown. A large randomized trial (ARCH trial) is currently underway comparing ASA/plavix versus coumadin in patients with atherothrombosis of the aortic arch and recent embolic events.
Cohen, David

Last Name:  Cohen  First Author:  Resident
First Name:  David  PG or MS Year:  PGY-2
ACP Number:  1718369  Category:  Clinical Vignette

Medical School or Residency Program:  Brown University
Hospital Affiliation:  Rhode Island Hospital
Additional Authors:  Katie Fillion MD, Jerome Larkin MD

Abstract Title:  A Case of Typhoid Fever in the Ocean State

Abstract Text:  Approximately 200-300 cases of Salmonella Typhi are reported in the United States each year. The CDC estimates that 75 percent of cases are associated with travel to endemic areas, particularly South-Central Asia. Only four percent of reported cases in the US between 1994-99 had received typhoid vaccines. CASE: A 31 year old male with no past medical history presented to the ED with fever of one week’s duration, three weeks after returning from India. He reported bilateral occipital headaches sometimes associated with his fevers, but otherwise denied nausea, vomiting, diarrhea, abdominal pain, cough, dysuria, shortness of breath, photophobia, neck stiffness or other complaints. He spent 3 weeks in India during which time he stayed exclusively in a large city where he frequently ate food prepared on the street. He denied sick contacts, swimming while there, or sexual relations with anyone other than his wife. He did not receive a typhoid vaccine prior to departure. On presentation, his temperature was 101.8, hr 111, bp 131/76, pox 97% on RA. Physical examination revealed an otherwise healthy young male; there was no neck stiffness, abdominal tenderness, heart murmur, jaundice, rash or other abnormal findings. Initial labwork was significant for a mild transaminitis (AST 130, ALT 80, Alk Phos 122, normal bilirubin) and an LDH of 310. His CBC was within normal limits, thick/thin smears were negative for parasites, and UA, rapid HIV, and CXR were all negative. He was initially sent home, but called back to the hospital when his blood cultures grew salmonella typhi. Sensitivity data showed incomplete sensitivity to ciprofloxacin and Bactrim, but the organism was otherwise pan-sensitive. He was treated with Ceftriaxone, with subsequent clearance of his blood cultures. DISCUSSION: "Typhoid Fever" typically presents 5 to 21 days after ingestion of the causative organism, Salmonella Typhi. In addition to fever, patients often present with headaches (44-90%), abdominal pain (57% in one case series), diarrhea or constipation (with approximately equal frequency). Relative bradycardia or "pulse-temperature dissociation" is sometimes observed. Late complications (less common in the post-antibiotic era) include hepatosplenomegaly, appearance of "rose spots" on the abdomen, and intestinal perforation due to ileocecal lymphatic hyperplasia of Peyer"s patches. Blood cultures are positive in 40-80% of cases, whereas stool cultures are positive in only 30-40% of cases. Fluoroquinolones are the treatment of choice, but formal sensitivity testing including screening for resistance to nalidixic acid should be routinely performed, as this test predicts reduced sensitivity to fluoroquinolones. In the post-antibiotic era, mortality rate is less than 1 percent. CONCLUSION: This case demonstrates that the differential diagnosis of fever must be broadened in patients returning from a foreign country. In addition, it illustrates the importance of obtaining CDC recommended travel vaccinations prior to departure.
Cohen, Sara

Last Name: Cohen  First Author: Resident
First Name: Sara  PG or MS Year: PGY-1
ACP Number: 2413053  Category: Clinical Vignette

Medical School or Residency Program: Brown Internal Medicine
Hospital Affiliation: Providence VA
Additional Authors: Alexander Drellick MD, Tanya Ali MD

Abstract Title: Decision making for a patient with advanced dementia

Abstract Text: Introduction: For patients with advanced dementia without decision making capacity, physicians often depend on family members or a power of attorney (POA) to make decisions about care. When no legally authorized guardian is present, the physician makes these decisions based on medical necessity and not always the long term ramifications of these interventions on the patient. Case: A 90 year old man with history of advanced dementia, systolic congestive heart failure with an ejection fraction of 20-25%, coronary artery disease, hypertension, peripheral vascular disease and adrenal insufficiency on chronic steroids was transferred from a long-term skilled nursing facility to the Providence VAMC for decreased responsiveness. On admission, the patient was not oriented to place or time and was unclear of why he was admitted. On exam he was found to have right lower extremity second digit dry gangrene. He was found to have methicillin-sensitive Staphlococcus aureus bacteremia. Repeat blood cultures were drawn and the patient was started on IV antibiotics and IV fluid resuscitation with normal saline. He would improve clinically, however, his mental status did not improve. The patient was thought to have sepsis secondary to his necrotic toe and would require source control with amputation. In addition, he would also develop new onset anemia with hemoglobin of 6.6 g/dL. Podiatry evaluated him for amputation. No contacts were listed on his transfer documents. His nursing home was contacted and it was confirmed that he had no POA. Documentation in the electronic medical record revealed that his former POA requested to no longer be contacted in regards to medical decisions. Due to advanced dementia, the patient was deemed without capacity by the primary team to make decision about amputation, blood transfusion and eventual peripheral-inserted central catheter placement for long-term antibiotics. Consent was obtained from the hospital chief of staff given medical necessity. However, this was not a long term solution for this patient with progressive chronic diseases. Palliative care was consulted and it was recommended that his nursing home pursue court appointed guardianship if more medically complex decisions would need to be made in the near future. Discussion: The guardianship process is established by state law and in Rhode Island it is overseen by the Probate court. The Rhode Island Guardianship law states “adjudicating a person totally incapacitated and in need of a guardian deprives that person of all his or her civil and legal rights and that this deprivation may be unnecessary.” Thus, appointing a guardian is considered a last resort since as this process is vulnerable to abuse. When no alternatives such as a POA or living will are available, a court appointed guardian can facilitate the decision making process for patients approaching end of life.
Abstract Title: Perplexing Platelet Problems; Differentiating Post-transfusion Purpura from HIT and ITP post-STEMI

Abstract Text: Background: Post-transfusion purpura (PTP) is an uncommon and underreported delayed transfusion reaction that must be differentiated from other thrombocytopenias and acutely managed to prevent potentially fatal complications. Most patients developing PTP are critically ill and have multiple alternative etiologies for thrombocytopenia. Appropriate management decisions must be made on the basis of specific history and clinical characteristics long before obtaining antibody results. Case Report: A 62-year-old Caucasian female presented with acute onset substernal chest pain radiating to the jaw, diaphoresis, arm numbness, and transient aphasia. Past medical history included hypertension, hypothyroidism, microcytic anemia with baseline 8.4g/dL on admission, and remote idiopathic DVT. EKG showed anterolateral ST elevations. Cardiac catheterization revealed clean coronaries with complete occlusions of LAD and LCX, thought to be embolic per cardiology, and she underwent unsuccessful PCI. She was started on antiplatelet agents and therapeutic enoxaparin bridge to warfarin for hypercoagulable state. HD2 patient was transfused for continued chest pain. Later that day she suffered hypotension, right groin hematoma, and hemoglobin drop to 8.0g/dL. She received five units pRBCs over 24 hours. HD9 patient’s platelets plummeted from 239K to 8K. She developed spontaneous epistaxis and reaccumulation of right groin hematoma. Hemoglobin dropped to 6.5g/dL. Peripheral smear showed hypochromic red cells, platelets without clumping, and no schistocytes. Her anticoagulation was held and INR reversed. Differential diagnosis included heparin-induced thrombocytopenia, immune thrombocytopenic purpura, and post-transfusion purpura. Patient suffered an acute febrile transfusion reaction during her first platelet transfusion. With concern for HLA antibodies, a second unit of HLA-negative platelets was transfused without any elevation in platelet count. The development of hematemesis, post-MI systolic heart failure, and respiratory distress from massive product replacement led to intubation. Steroids and sequential IVIG doses were started for thrombocytopenia. HIT antibodies returned positive, but bleeding diathesis and nadir of platelets argued against HIT. HPA-1a-negative platelets were not available for transfusion. Plasmapheresis was conducted HD13 due to lack of platelet response, still at 10K. Platelet count rose from nadir of 4K to just over 100K by HD15. Genotyping resulted revealing antibodies to HLA-1a and HLA-3a, confirming PTP and reinforcing the team’s management. PTP was compounded by multiple hospital-acquired infections throughout her stay. Altogether, she received 50 units of blood products before recovering and being discharged to rehab 41 days after admission. Conclusion: Patient’s acute and severe thrombocytopenia 5-10 days after transfusion supported a diagnosis of PTP. HPA-1a antibodies are the most common subtype of PTP, most likely secondary to alloimmunization during pregnancy in this female. Despite its inherent risks, plasmapheresis contributed to this patient’s survival. With an overall mortality 10-20% and platelet counts less than 20K in many PTP cases, it is crucial to start therapy guided by clinical judgment prior to results of confirmatory tests.
Abstract Title: Epstein Barr Virus-Associated Hemophagocytic Lymphohistiocytosis in a Rheumatic Patient Receiving Abatacept Therapy

Abstract Text: Hemophagocytic lymphohistiocytosis (HLH) is a rare and often fatal hyperinflammatory syndrome caused by an impairment in immune regulation. Most patients exhibit dysfunction of natural killer cells and cytotoxic T-lymphocytes with excessive macrophage activity resulting in a cytokine storm and extensive organ damage. It generally occurs in the setting of hematologic disease resulting in immune deficiency where viral, fungal, and parasitic infections are common triggers. Occurrences in rheumatologic disease are less frequently reported, with the syndrome developing most often in patients with systemic lupus erythematosus and adult-onset Still disease and less commonly rheumatoid arthritis (RA). It is believed that the immunosuppression induced by rheumatologic disease itself and exacerbation by immunomodulatory therapies predispose to infection and subsequently HLH. Abatacept, a T-lymphocyte costimulatory molecule inhibitor, is a relatively new treatment for RA that has been associated with reactivation of varicella zoster virus, cytomegalovirus, and Epstein-Barr virus (EBV), but not yet in the setting of HLH. Here we report a unique case of EBV-associated HLH in a RA patient receiving abatacept therapy. A 48-year-old gentleman with a history of RA, on abatacept, presented with high fever, jaundice, and transaminitis. He was initially treated with antibiotics for presumed sepsis, but subsequently developed hyperferritinemia, pancytopenia, and multi-system organ injury, raising suspicion for HLH. Given his ferritin>3000, pancytopenia, fevers, splenomegaly, and bone marrow biopsy with hemophagocytosis, as well as EBV positivity, he was diagnosed with EBV-associated HLH and started on a regimen of steroids, etoposide and rituxan. Unfortunately, despite treatment, he developed progressive leukopenia and daptomycin-resistant VRE bacteremia, ultimately succumbing to sepsis and respiratory failure. Given the association of biologic therapies with viral reactivation, we believe that the patient in this case was extraordinarily susceptible to an EBV trigger for this highly fatal syndrome. Abatacept selectively targets the co-stimulatory signal necessary for T-cell activation, a function that may exacerbate the underlying T-cell dysfunction found in most patients with HLH. While the mechanism of HLH induction remains unclear and further surveillance will be necessary to better associate the syndrome with this relatively new drug, HLH should be considered in rheumatic patients receiving abatacept therapy who develop a sepsis-like presentation with acute multi-system organ injury. Prompt recognition and treatment of this rare condition is crucial to maximize opportunity for a favorable outcome.
Abstract Title: Sweet Syndrome with pulmonary and neurologic involvement

Abstract Text: Introduction: Sweet Syndrome is an acute febrile neutrophilic dermatosis presenting with tender cutaneous lesions. It can also affect the central nervous system, kidneys, lungs, and bones. The etiology of this complex cytokine dysregulation can be divided into Classical, drug-induced, and idiopathic. Case Report: A 50-year-old woman with a history of hypertension, hypothyroidism and self-reported Lyme disease presented to the Emergency Department with myalgias, arthralgias, pleuritic chest pain, and cutaneous lesions. Prior to admission, her skin lesions had become larger and more numerous, especially after stopping prednisone for unrelated shoulder tendonitis. Her medication list was extensive and included minocycline for treatment of chronic Lyme disease. On physical exam, we noted approximately a dozen red, non-ulcerated, macules on her bilateral arms, chest, neck, and upper back. The remaining physical exam was normal, including lung and neurological examination. On lab testing, her white blood cell count was 18.4x10^9/L with 78 percent neutrophils and hemoglobin 12.8g/dL. ESR was 61mm/hr. Prior to admission, a biopsy of her skin lesions had been performed which revealed neutrophilic dermatosis. On admission, minocycline was discontinued and she was started on prednisone. On hospital day two, she developed a bilateral throbbing headache unresponsive to promethazine, ketorolac, and IV morphine. She also continued to experience pleuritic chest pain. Chest x-ray revealed patchy perihilar airspace disease. A chest CT showed consolidations with air bronchograms bilaterally and a left pleural effusion. There were enlarged lymph nodes within the right paratracheal, subcarinal, and hilar regions. Evaluations for malignancy, including blood analysis and CT of her chest, abdomen, and pelvis, were negative. Discussion: Sweet Syndrome with pulmonary and central nervous system involvement is a rare but reported occurrence. Her unremitting headache and pleuritic chest pain with radiologic findings were likely related to neutrophilic infiltration of the central nervous and pulmonary systems. There is one other case report of concurrent pulmonary and neurologic Sweet Syndrome. Minocycline is a known precipitant of Sweet Syndrome with lesions typically developing within two weeks of administration. Our patient did not fit this timeline but the offending medication was discontinued. Her presentation is more indicative of Classical Sweet Syndrome based on the diagnostic criteria including acute onset of lesions, histological findings, elevated ESR, neutrophil percentage, and response to therapy. This case represents a unique presentation of skin lesions with systemic involvement which required consideration of all aspects of the patient’s medical history and a detailed search for the precipitating cause.
Abstract Title: Chronic Lymphocytic Leukemia and Increased Risk of Secondary Non-Lymphoid Neoplasms

Abstract Text: Introduction: Chronic lymphocytic leukemia (CLL) is associated with a two-to-three-fold increased risk of secondary non-lymphoid neoplasms. This risk may be attributable to immune response defects, as well as to treatments of CLL. Among these secondary cancers, gastrointestinal and lung cancers commonly occur, with incidences as high as 9% and 6%, respectively. The case presented discusses a patient with CLL who, during a weeklong hospital stay, was diagnosed with poorly differentiated intestinal-type gastric adenocarcinoma and suspected bronchogenic carcinoma. Case: An 82-year-old male with a past medical history of CLL, CAD, HTN, CHF and GERD presented to the ED complaining of weakness, dysphagia and dark stools. Review of systems was pertinent for a recent 40-pound weight loss and night sweats. He was bradycardic, but his vitals were otherwise normal. In the ED, his stool was positive for occult blood. Labs were significant for hemoglobin 8.2 and hematocrit 26.2. Chest x-ray revealed hazy densities bilaterally in the lower lobes of the lungs. Esophagogastroduodenoscopy performed the day before admission revealed a non-bleeding gastric polyp, which was biopsied, but no evidence of bleeding. He was admitted for anemia and workup of a gastrointestinal bleed. The following day, his hemoglobin dropped to 6.9, at which point he was transfused 2 units of PRBCs with good response. A colonoscopy was delayed because of instability. Over the next several days, he began to complain of a persistent cough, and a repeat chest x-ray demonstrated new blunting of the left costophrenic angle with a new small consolidation or pleural effusion. By recommendation of the patient’s oncologist, a CT scan was performed and revealed a suspected primary bronchogenic carcinoma at the right inferior hilar region with mediastinal adenopathy, bilateral pleural effusions and atelectasis, and metastases to the sternal manubrium and the right 6th rib. On day 8 of his hospitalization, the patient was complaining of difficulty breathing and was markedly confused with hallucinations. While waiting for an MRI to rule out brain involvement, he was found unresponsive with no pulse, and ECG indicated PEA. Though resuscitation was successful, his family placed him on a CMO protocol and he expired that evening. Unfortunately, he never received a colonoscopy or a biopsy of his likely pulmonary malignancy. The gastric polyp biopsy, however, revealed poorly differentiated intestinal-type gastric adenocarcinoma, compatible with an upper gastrointestinal tract primary adenocarcinoma. Discussion: The risk of developing secondary neoplasms in patients with CLL is increased compared to the expected risk. Patients with CLL should be closely monitored for developing secondary cancers with routine screening (i.e. colonoscopy, endoscopy, CT) and careful attention should be paid to newly developing symptoms. In addition, lifestyle modifications (i.e. smoking cessation) should be encouraged to reduce further increasing the risk of developing these cancers.
**DePouli, Laura**

**Last Name:** DePouli  
**First Name:** Laura  
**PG or MS Year:** PGY-2  
**ACP Number:** 1519124  
**Category:** Clinical Vignette

**Medical School or Residency Program:** Brown Internal Medicine  
**Hospital Affiliation:** Internal Medicine Resident  
**Additional Authors:** Benjamin Sapers, MD

---

**Abstract Title:** A woman who presented with syncope, hair loss, and psychomotor slowing

**Abstract Text:** Introduction: Thyroid hormone directly affects myocardial contractility, heart rate, blood pressure, and SVR (systemic vascular resistance), and serum levels are often assessed in patients admitted with syncope. We present the case of a woman admitted after a syncopal event who was found to be profoundly hypothyroid, with a dilated cardiomyopathy and hyperlipidemia. The physician should consider thyroid dysfunction in the workup of cardiogenic syncope, as early diagnosis and restoration of a euthyroid state may significantly improve cardiac function. Case Presentation: A 46 year old female presented after a single episode of syncope. Review of systems was remarkable for several years of dyspnea, weight gain, pedal edema, hair loss, and fatigue. She had no known past medical history and had not seen a physician for more than 20 years; she took no medications. Family history was significant for early coronary artery disease. On physical exam, temperature was 96.3, heart rate 93, blood pressure 108/73; notable exam findings included psychomotor slowing, diffuse hair thinning, dry skin, coarse facial features, mild periorbital edema, distant heart sounds, a 2/6 holosystolic murmur and lower extremity edema. Laboratory data were normal with the exception of mild hyponatremia and transaminitis; blood glucose and other electrolytes were within normal limits. A urine toxicology screen was negative. EKG showed a first degree heart block, low voltage and poor R wave progression; chest radiograph showed massive cardiomegaly. Troponin I peaked at 11.9. TSH was 198 with a low free T4 of 0.18. Total cholesterol was 367 and triglycerides were 430. Echocardiogram confirmed a severely reduced ejection fraction of 25%, moderate mitral regurgitation and a large pericardial effusion. Thyroid replacement and lipid-reduction therapies were started and the patient was discharged with plans for outpatient cardiac catheterization. Discussion: Both hypothyroid and hyperthyroid states compromise cardiac function. In hyperthyroid states, activated thyroid hormone, T3, decreases SVR via direct effects on the endothelium, causing an increase in blood pressure and cardiac output; tachycardia is mediated through direct stimulation of beta adrenergic receptors. Conversely, severe hypothyroidism results in decreased cardiac output, increased SVR, and increased diastolic blood pressure. As T3 directly controls the transcription of proteins involved in myocyte contraction, insufficiency can cause dilated cardiomyopathy. Pericardial effusion is also a common finding. Finally, up to 90% of patients with hypothyroidism have hyperlipidemia, putting them at long term risk for atherosclerosis. Hypothyroid-related cardiomyopathy and dyslipidemia may be ameliorated with appropriate thyroid replacement. We hope that this case study has helped to re-emphasize the importance of screening for thyroid dysfunction, a common treatable condition with potentially wide ranging effects on cardiac function.
Desai, Amrita

Last Name: Desai  First Author: Resident
First Name: Amrita  PG or MS Year: PGY-3
ACP Number: 1557722  Category: Clinical Vignette

Medical School or Residency Program: Memorial Hospital of Rhode Island
Hospital Affiliation: Memorial Hospital of Rhode Island
Additional Authors: Abdallah Kernaf, Thomas Guerero, Purva Sharma, Dr Ribizzi Akthar

Abstract Title: Unusual presentation of Splenic Marginal Zone lymphoma

Abstract Text: Introduction: Splenic marginal zone lymphomas (SMZL) are indolent non Hodgkin’s lymphomas accounting for 1% cases with a relatively good prognosis. Case: 67 yr old man presented with fatigue and abdominal discomfort. He admitted to have lost 15 pounds in the last 3 months but denied any fever or night sweats. His exam was notable for severe pallor and OB negative stools. On the blood count his hemoglobin level was of 2.6 g/dL with MCV of 106.1 fl. He was aggressively transfused with PRBC and underwent endoscopies that were normal. The work up revealed a normal iron panel and folic acid and vitamin B12 levels but high methylmalonic acid and homocysteine consistent with mild vitamin B12 and folate deficiencies. He underwent bone marrow biopsy and then discharged home. While he was in the hospital he was also started on folic acid orally and vitamin B12 replacement subcutaneously. At the follow-up visit 4 weeks later his blood counts were within normal limits. The BM biopsy showed infiltration of CD20 positive and CD5/CD10 negative cell population consistent with marginal zone lymphoma. A staging PET-CT was entirely normal. Based on the BM involvement he was diagnosed with stage IV SMZL. Discussion: Splenic marginal zone lymphoma has a median overall survival of 5-10yrs. The treatment is mainly palliative and does not affect survival. Asymptomatic patients need only close monitoring with clinical exam and blood counts. Treatment is given only to symptomatic patients with splenomegaly and/or associated cytopenias. Our patient had an unusual presentation since he did not have splenomegaly or node involvement and his cytopenias improved with vitamin B12 and folate replacement. He remained clinically asymptomatic 3 months after his hospital discharge. Hence we decided to continue to monitor him closely at this time.
Abstract Title: Hepatic-portal Gas secondary to gastric necrosis

Abstract Text: Introduction: Hepatoportal venous gas (HPVG) is a rare radiological finding of gas along the portal system in the liver periphery. The mortality associated with this condition varies from 0% for nonfatal conditions to 75% in ischaemic causes. We present a case of HPVG secondary to erosive gastritis which accounts for <1% cases. Case: A 78 year old lady with history of diabetes presented with nausea, vomiting and epigastric pain. On admission abdominal exam was notable for diffuse tenderness but no guarding and blood work showed leukocytosis with an elevated lactate. A CT- abdomen showed extensive portal venous gas in the liver and pneumatosis of the stomach. Patient was transferred to the ICU for closer monitoring and started on a protonix drip, TPN, stress dose steroids and broad spectrum antibiotics. On day 3 patient’s pain improved and a repeat CT abdomen showed resolution of the portal venous gas. On day 5 with patient more clinically stable an upper endoscopy was done which showed significant partial thickness gastric mucosal ischaemia. A repeat endoscopy on day 9 showed resolved gastric ischaemic and patient was discharged home. Discussion: The exact path physiology of HVPG is unknown but thought to be due to ischemia of the gastrointestinal tract. Ischemia or perforation is associated with high mortality needing close monitoring and possible surgical intervention. Hence it is imperative for emergency physicians and radiologist to be cognizant in appropriately triaging such patients.
DuBuske, Ilona

**Last Name:** DuBuske  
**First Name:** Ilona  
**PG or MS Year:** MS 3  
**ACP Number:** pending  
**Medical School or Residency Program:** University of New England College of Osteopathic Medicine  
**Hospital Affiliation:** Kent Hospital  
**Additional Authors:** David Burns, Jeff Savasta

**Abstract Title:** MAKOplasty: Robotic Precision May Enhance Outcomes in Knee Replacement

**Abstract Text:** Introduction: The knee is one of the most commonly affected joints in osteoarthritis (OA). Unicompartmental knee replacement (UKA) was developed for patients with early and moderate stages of OA. Conventional knee arthroplasty may result in the prosthesis being inserted in undesired alignment leading to poor post-operative outcomes such as edge loading due to incorrect positioning, new compartment disease due to over-correction and early loosening from inaccurate bone cuts. Computer navigation and robotically assisted unicompartmental knee replacement were introduced in order to improve the surgical accuracy of both the femoral and tibial bone cuts. The aim of this study was to assess accuracy and reliability of robotic assisted, unicondylar knee surgery in producing proper bony alignment.

Methods: Sixty eight patients with a mean age of 64 + 11 years who underwent successful medial robotic assisted unicompartmental knee surgery performed by two senior total joint arthroplasty surgeons were identified retrospectively at a large orthopedic group in a community hospital in Rhode Island. The mean body mass index of the cohort was 33.5 + 6 kg/m2. There was a minimum follow-up of 6 months. Femoral and tibial sagittal and coronal alignments and the posterior slope of the tibial component were measured in the post-operative radiographs. Radiographic evaluation was independently conducted by two observers. Results: For the femur, mean varus/valgus angulation was 2.8 + 2.7 degrees with 83% of those measured within 5% of planned. For the tibia, mean varus/valgus angulation was 2.4 + 1.6 degrees with 93% within 5% of planned resection. There was minimal variability between radiographic measurements. Robotically assisted surgery in unicompartmental knee replacement was shown to result in very accurate positioning of components with a reduction in early component failures caused by mal-positioning. Conclusion: Robotic assistance is a relatively new technology for unicompartmental and total knee arthroplasty. Currently, two systems have been approved by the U.S. Food and Drug Administration and are commercially available in the United States - RIO® (MAKO Surgical) and ROBODOC® (Curexo Technology). A large orthopedic group in a community hospital in Rhode Island has demonstrated that UKAs performed using the MAKO robotic system improved positioning resulting in decreased variance, more accurate posterior tibial slope, and better coronal plane alignment than those performed with conventional techniques. Robotic systems assisted surgeries do have some potential negative aspects. Often a preoperative CT scan is needed, exposing patients to additional radiation. All robotic procedures have been found to require additional surgical time, an issue which may be important as there is a correlation between surgical time and risk of infection. Only short-term follow-up studies have been reported thus far using these techniques. More long term studies using robotic techniques are needed to enhance operative success and improve patient outcomes.
Abstract Title: Antiphospholipid Antibody Syndrome: Anti-Beta II Glycoprotein I IgA Induced Stroke

Abstract Text: Introduction Anti-phospholipid antibody syndrome (APS) is an autoimmune phenomenon characterized by an increased risk of thrombotic events. The prevalence in the general population is 2%, and 30% in patients with SLE. APS is defined by the 2006 Sapporo criteria as a clinical thrombotic event or pregnancy complication, and laboratory evidence of at least one antiphospholipid antibody. The autoantibodies include lupus anticoagulant and the IgG or IgM forms of either anticardiolipin, or anti beta II glycoprotein I. However, the IgA isotype is not recognized. We present a case of acute ischemic stroke likely secondary to Beta II glycoprotein I IgA positive APS. Case A 20 year old female with SLE presented to the ED with acute onset left sided hemiparesis and a stroke code was called. The patient received aspirin 325 mg p.o. and a CT and MRI of the brain were ordered. On exam, she was alert and oriented x3 with normal speech. Vital signs were WNL. Pertinent findings included 4/5 strength in the left upper extremity, and 3/5 strength in the left lower extremity. Cranial nerves II-XII were intact. There were no other focal deficits. Brain MRI revealed a 5mm high intensity region in the right mid-brain peduncular region consistent with acute stroke. An immunologic panel was positive for Beta II Glycoprotein I IgA antibody, positive ANA, Anti-Smith, and Anti-Double Stranded DNA antibody. She tested negative for lupus anticoagulant, Beta II Glycoprotein I IgG and IgM, and anticardiolipin antibodies. Other hypercoaguable testing yielded negative results. Her CBC, BMP, lipid profile, and coagulation studies were all WNL. The EKG, carotid ultrasound, MRI C-spine, bubble study with ECHO were unremarkable. The patient was started on heparin with a warfarin bridge. Discussion APS often results in blood clots that can affect any organ system. Recent studies highlight the importance of IgA Beta II Glycoprotein I autoantibodies in this disorder. However, the IgA isotype of the Beta II Glycoprotein I autoantibody is not currently recognized by the 2006 Sapporo guidelines. In turn, several recent studies stress that the IgA isotype is associated with an increased risk of thromboembolic events, especially among patients with SLE, and in fact might be the most important isotype involved. Furthermore, the novel 2012 Systemic Lupus Erythematous International Collaborating Clinics (SLICC) now includes the IgA isotype in its diagnostic criteria for lupus. Indeed, that the 2006 Sapporo guidelines does not include the IgA isotype of Beta II Glycoprotein I autoantibody as a criteria for APS is concerning. Many patients with a suspicion of APS but negative IgG and IgM isotypes or those with isolated positive IgA might be overlooked and inappropriately treated. Our case study and recent research suggest that modifications to the 2006 Sapporo criteria might be overdue.
Abstract Title: Perceptions of WIC and SNAP Recipients at Farmers’ Markets: Thematic Analysis of Interviews

Abstract Text: Introduction: Currently, over 2,090 farmers’ markets in the USA accept Electronic Benefits Transfer (EBT), with over four million dollars of Supplemental Nutrition Assistance Plan (SNAP) money being spent at farmers’ markets in 2009. 1.7 million Women, Infants, and Children (WIC) participants received farmers’ market nutrition benefits in 2012. Farmers’ market incentive programs are associated with higher fruit and vegetable access and purchases in low-income communities. Study aims: (1) determine benefits of farmers’ market patronage from the perspectives of those using WIC and SNAP, (2) identify benefits specific to enrollment in an incentive-based fruit and vegetable education and exposure program (Healthy Foods, Healthy Families), (3) explore barriers to access, (4) ascertain gaps in knowledge regarding markets. Methods: Participants enrolled in an incentive-based fruit and vegetable education and exposure program were selected by convenience at 4 RI markets and one community supported agriculture (CSA) box distribution site. Semi-structured interviews were conducted of WIC and SNAP recipients who had children aged 12 years or under. All interviews were digitally recorded, transcribed, and analyzed thematically for expressed and latent content. Results: Of the 27 participants, 93% were female (median age = 35 years). All but three received Medicaid. Forty-three percent of participants received both WIC and SNAP; 26% received only WIC; 30% received only SNAP. More than half of the participants felt that farmers’ markets were valuable due to the availability of local produce. Nearly all participants described market produce as affordable, fresh and with higher quality than found in a supermarket or corner store. Nearly all families identified the incentive-based fruit and vegetable education and exposure program as educationally valuable to their children while also empowering their children to make their own healthy food choices. Participants found that timing of the markets, transportation issues, and rarely, cost, prevented them from attending. A limited number of families identified food insecurity as an aspect of daily life. Conclusions: This pilot study suggested that recipients of WIC and SNAP with young children who frequented farmers’ markets and participated in an incentive-based fruit and vegetable education and exposure program found their visits to be educationally valuable and convenient, with affordable and high quality produce. Farmers’ markets may not provide enough variety, vendors, market hours or days; even motivated consumers may still buy produce in supermarkets. Food insecurity is a concern for families using WIC and SNAP benefits; thus, existing programs may not meet the needs of some families. Participants report that expanding various aspects of the market would improve access. Further research will explore strategies to allocate resources for market expansion while identifying barriers for individuals not attending markets, but who may benefit from market programs and incentives.
Foderaro, Andrew

Last Name: Foderaro
First Name: Andrew
PG or MS Year: PGY-3
ACP Number: 1490742
Category: Clinical Vignette

Medical School or Residency Program: Brown Internal Medicine Residency
Hospital Affiliation: Lifespan, Rhode Island Hospital

Abstract Title: Colonic pseudo-obstruction: A Rare Manifestation of Acute Lyme

Abstract Text: Colonic pseudo-obstruction (CPO, Ogilvie’s syndrome) is characterized by symptoms of large bowel obstruction without mechanical cause. Due to a likely high incidence of subclinical CPO the true per anum cases is difficult to assess however it is still a significant cause of morbidity and mortality. We report a case of CPO caused by Lyme disease to help bring attention to this uncommon secondary cause of CPO and hopefully allow for earlier identification and therefore treatment of the likely underlying disease. Case Report: A 69 yo male without previous medical history who presented with 6 days without a bowel movement and increasing abdominal distension with associated abdominal and flank pain. The patient was admitted and found to have xray and CT scan findings of air-fluid distension of all segments of the colon and a small amount of the distal small bowel. The patient was made NPO and ambulation was encouraged. During the next 4 days treatments for CPO were initiated first with neostigmine times three, flexible sigmoidoscopy and finally with gastrografin enema all treatments resulting in minimal improvement. On day four the patients history was again reviewed at bedside revealing a recent tick exposure as well as approximately 2 weeks of worsening fatigue and occasional joint pain. The patients initial Lyme antibody test was positive and subsequently the western blot returned positive as well (IgG 23kD, 39kD, 41kD, 45kD, 66kD; IgM 41kD, 39kD, 23kD all reactive). The patient was initiated on doxycycline treatment and within 48 hours the patients distension had improved significantly. The patient was discharged with minimal abdominal distension and completely resolved abdominal pain. Discussion: In review of this patient it was striking that the symptoms of acute Lyme disease in addition to exposure history were present on arrival to the hospital but were not originally connected to his presenting complaints. The direct link between acute Lyme disease and CPO is still not well described, prior to this report there appears to be only one other case report in the literature (1). The pathophysiology of this syndrome is still somewhat elusive; at this point it is believed to be an autonomic imbalance with either decreased parasympathetic or increased sympathetic tone and has been shown in connection with other infections such as herpes zoster, mononucleosis and rubella. Further understanding of the possible connection between Lyme disease and CPO, especially in Lyme endemic areas, can possibly lead to earlier treatment for the underlying cause. References: 1.Chatila, Rajaa, and Cyrus R. Kapadia. "Intestinal pseudoobstruction in acute Lyme disease: a case report." The American journal of gastroenterology 93.7 (1998): 1179-1180.
Abstract Title: Staphylococcal Pyomyositis in a Patient with Large-B-cell Double Hit Lymphoma

Abstract Text: Introduction: Pyomyositis is a purulent infection of isolated muscle groups, commonly occurring in the large muscles of the leg. Most infections are due to staph aureus. Pyomyositis usually occurs in immunodeficient patients. Among HIV-negative patients, the most common underlying conditions are diabetes, malignancy, liver cirrhosis, rheumatologic conditions and chronic corticosteroid use. Most cases of pyomyositis in hematologic malignancy occur in patients with leukemia or a myelodysplastic syndrome - few cases have been reported in patients with lymphoma. Here we present a case of pyomyositis in a patient with diffuse large B cell lymphoma. Case Report: 30 year-old Vietnamese male with diffuse large-B-cell double hit (MYC+, BCL-6+) lymphoma and recent cranial resection of extra-dural lymphoma, who presented ten days after completion of his second cycle of R-IVAC with intrathecal cytarabine with acute onset right thigh and hip pain. Examination revealed fever and tenderness of the right lateral thigh without any erythema, warmth, or lesions. He had an elevated white blood cell count to 31.5/mm3 with 80% polymononuclear cells and 3% blasts, in the setting of a recent pegfilgastrim shot. MRI revealed extensive edema and abnormal enhancement throughout the right vastus lateralis muscle consistent with septic myositis. The patient was taken to the OR where pus was visualized in the muscle compartment. The muscle was subsequently debrided to healthy tissue and the wound was closed by secondary intention. Cultures were positive for methicillin-sensitive Staph aureus. His hospital course was further complicated by left occipital osteomyelitis at his prior surgical site with cultures positive for oxacillin-resistant coagulase negative Staph aureus. He was maintained on vancomycin for a total of six weeks for treatment of both his right thigh pyomyositis and his cranial osteomyelitis. The patient completely recovered from his pyomyositis. Discussion: Pyomyositis is a rare complication in patients being treated for hematologic malignancies, with less then fifty documented case reports. It has been hypothesized that pyomyositis is caused by transient bacteremia during periods of severe neutropenia or subclinical myopathy. The association between pyomyositis and hematologic malignancies is likely due to the greater degree of neutropenia experienced during chemotherapy in these cancers. The initial presentation of pyomyositis includes fever, localized crampy muscular pain, and leukocytosis. Fluuctance is rarely noted as abscesses occur deep within the muscle. Definitive diagnosis is made through imaging with CT or MRI. While inoculation is via hematogenous spread, blood cultures are only positive in about one-third of cases. Treatment of pyomyositis typically includes surgical incision, drainage and debridement and a prolonged antibiotics course. When promptly identified and treated, most patients have a good outcome, but some cases are fatal.
Garas, Marina

**Last Name:** Garas  
**First Name:** Marina  
**ACP Number:** pending  
**PG or MS Year:** MSIII  
**Category:** Clinical Vignette

**Medical School or Residency Program:** University of New England College of Osteopathic Medicine  
**Hospital Affiliation:** Roger Williams Medical Center  
**Additional Authors:** Connelly, Timothy DO

---

**Abstract Title:** Management Of The Difficult Airway Using Awake Endotracheal Intubation

**Abstract Text:** Introduction: In the bariatric population undergoing surgical intervention with general anesthesia, airway management is a critical aspect in ensuring patient safety and well-being. Whether in regards to bag-mask ventilation or airway visualization, intubating the bariatric patient with difficult airway and positive risk factors presents a challenge to the anesthesiologist and the OR staff during the time of induction. Case: A 38 year old female presented for laparoscopic gastric bypass surgery after unsuccessful attempt to undergo surgery two weeks prior due to significant difficulty intubating. Past medical history significant for obesity, hypertension, asthma, obstructive sleep apnea, and rheumatoid arthritis. Past surgical history includes caesarean section, bilateral total hip replacement, and temporomandibular joint surgery. At that time endotracheal intubation was attempted with assistance of glidescope and fiberoptic scope, however the vocal cords were not visualized due to oral airway obstruction. After appropriate measures and several attempts, the case was aborted due to inability to intubate. A laryngeal mask airway (LMA) was placed to manage the airway and ventilation was achieved until patient regained voluntary respirations. On subsequent presentation for laparoscopic gastric bypass surgery, pre-operative and anesthesia evaluation were repeated. She was found to have a Mallampati score of 4 and decreased range of motion of the temporomandibular joint. These factors among others such as upper airway obstruction and history of complicated airway management were relative contraindications for her to undergo repeat supine or paralytic anesthetic induction. Thus, she consented to repeat trial of anesthetic induction using awake intubation. The technique was reviewed and discussed with the anesthesiologist, the certified registered nurse anesthetist, and the operating room staff. The patient was initially administered glycopyrrolate in the holding room for its anticholinergic effects in minimizing airway secretions. From there, the upper airway was anesthetized by application of 5% lidocaine ointment to base of tongue, 10 cc of 3% lidocaine using atomizer spray and 3 cc of 4% lidocaine spray to the glottis. Good airway visualization was attained using fiberoptic bronchoscope maneuvered orally with the patient in the upright, seated position. After proper vocal cord visualization, the endotracheal tube was passed through the vocal cords and progressed into the trachea. After listening to her lungs bilaterally with insufflation of air, the patient was promptly anesthetized with inhalation anesthetics, fentanyl, and propofol. Discussion: Preoperative evaluation of the bariatric patient requires assessment of Mallampati class, neck circumference, mandibular range of motion, and specific attention to positive history of difficult airway management. While the awake endotracheal intubation invests time and increased efforts to minimize patient discomfort, it can be well utilized in situations where routine induction of general anesthesia may propose high risk to the patient due to inability to visualize the airway or achieve bag mask ventilation.
Abstract Title: Treatment of Acute Chest Syndrome during Pregnancy

Abstract Text: Introduction: Acute chest syndrome is a vaso-occlusive disorder that affects the pulmonary vasculature secondary to sickle cell anemia. This complication is often precipitated by a pulmonary infection or inflammatory process which exacerbates the sickling of red blood cells, increasing hypoxia and pain.

Case: A 27 year old female G9 P4225 at 34 weeks and 6 days gestation presented with abdominal pain and cramping. No vaginal bleeding or leakage of fluid was reported and fetal movement was present. The patient has a past medical history of sickle cell disease, deep venous thrombosis, avascular necrosis, asthma, herpes simplex virus, GERD and an ectopic pregnancy. As a result of the past medical history the decision was made to admit the patient for observation. Vital signs on admission were; BP: 112/60 mmHg, HR: 105, RR: 22, Temp: 37 degrees Celsius. Initial laboratory studies revealed a WBC: 13.0; Hgb: 7.8 g/dL; Hct 22.7%. AST 116 Intnl Unit, ALT 36 Intnl Unit. On day one of the admission the patient’s pain was improving and liver function tests were trending down. Her peripheral blood smear presented reticulocytes most consistent with sickle cell crisis. The patient then decompensated developing chest pain, fever, and poor oxygenation requiring high flow oxygen therapy. Chest X ray presented diminished lung volumes with bibasilar atelectasis. No focal consolidation was noticed. She subsequently started a 7 day course of antibiotics for pneumonia and intravenous pain medication. On day two of hospitalization oxygen dependence and chest pain continued. A Computed Tomography study was ordered. The results were not consistent with a PE; however, the patient was found to have a collapsed left lower lobe. At this time it was thought that the patient’s symptoms were consistent with acute chest syndrome. Also during day two, painful contractions were observed with acute changes to the cervix resulting in a normal spontaneous vaginal delivery of a live female. Following delivery, the patient continued on treatment for acute chest syndrome which consisted of hydration, serial transfusions, oxygen therapy, DVT prophylaxis, antibiotic therapy, and pain control. The patient gradually improved and was discharged on Day 16 with 2 liters of home oxygen therapy and pain medication.

Discussion: The treatment of acute chest syndrome is mainly supportive but the history of this patient’s previous complications and indwelling pregnancy raises concerns about what management options are most efficacious. Despite some delay in the recognition of this syndrome treatment was initiated resulting in a positive outcome. The following is an overview of the treatment options for the use in pregnant patients presenting with acute chest syndrome.
Abstract Title: Resident Duty Hours: A Survey of Internal Medicine Program Directors

Abstract Text: Introduction: In 2011, the Accreditation Council for Graduate Medical Education (ACGME) implemented new Common Program Requirements to regulate duty hours of resident physicians with three goals: improved patient safety, quality of resident education and quality of life for trainees. We sought to assess Internal Medicine program director (IMPD) perceptions of the 2011 Common Program Requirements in July 2012, one year following implementation of the new standards. Methods: A cross-sectional study of all IMPDs at ACGME-accredited programs in the United States (N = 381) was performed using a 32-question, self-administered survey. Contact information was identified for 323 IMPDs. Three individualized emails were sent to each director over a six-week period requesting participation in the survey. Outcomes measured included approval of duty hours regulations, as well as perceptions of changes in graduate medical education and patient care resulting from the revised ACGME standards. Results: A total of 237 surveys were returned (73% response rate). More than half of IMPDs (52%) reported “overall” approval of the 2011 duty hour regulations, with greater than 70% approval of all individual regulations except senior resident daily duty periods (49% approval) and 16-hour intern shifts (17% approval). Although a majority felt resident quality of life has improved (55%), most IMPDs believe that resident education (60%) is worse. A minority believe report that quality (8%) or safety (11%) of patient care has improved. Conclusion: One year after implementation of new ACGME duty hour requirements, IMPDs report overall approval of the standards but strong disapproval of 16-hour shift limits for interns. Few program directors perceive that the duty hour restrictions have resulted in better care for patients or education of residents. Although resident quality of life seems improved, most IMPDs report that their own workload has increased. Based on these results, the intended benefits of duty hour regulations may not yet have been realized.
Abstract Text: Introduction: Medications are infrequent triggers of autoimmune hepatitis. We report a case of presumptive drug-induced autoimmune hepatitis (DIAIH) to alert clinicians to its diverse spectrum and potential for delayed or missed diagnosis. Case Report: A 57 year-old female with a history of recurrent urinary tract infections on Nitrofurantoin suppression for 3 years presented with 3 days of confusion, jaundice and dark urine. There was no history of alcoholism or risk factors for blood-borne viruses. Physical exam was notable for somnolence, scleral icterus, and asterixis. The abdomen was soft and without hepatosplenomegaly, distention or stigmata of chronic liver disease. Admission labs revealed AST = 627, ALT = 574, Alkaline phosphatase = 303, Total bilirubin = 10.6, Direct bilirubin = 6.3, INR = 1.6 and undetectable acetaminophen. CT of the brain was normal. Abdominal-pelvic CT revealed mild biliary duct dilation without liver nodularity or venous thrombosis. A viral hepatitis panel, ferritin and ceruloplasmin level were unrevealing. Anti-smooth muscle antibody (Anti-SMA) was positive at 1:40. IgG level was elevated at 1654. A diagnosis of Nitrofurantoin-induced hepatitis was made and the drug was discontinued. Mental status, aminotransaminitis and cholestasis improved over 6 days with supportive care and lactulose. Transient clinical and biochemical deterioration prompted a liver biopsy that showed marked portal, periportal and lobular lymphoplasmacytic inflammation consistent with autoimmune hepatitis (AIH). Prednisone 40 mg daily was started. Her mental status cleared and liver enzymes improved at discharge on hospital day 14. Steroid therapy was discontinued after 4 weeks with resolution of transaminitis. Two months later, she remained well. Discussion: Nitrofurantoin-induced hepatic injury is rare, estimated at 3 in one million cases. Drug-induced liver injury ranges from asymptomatic to acute or chronic hepatitis, cholestasis and rarely, decompensated liver disease. Prompt initiation of immunosuppressive therapy correlates with successful treatment of AIH in 65 - 80 % of patients. Our patient’s elevated anti-SMA, hypergammaglobulinemia, liver histology consistent with AIH, and absence of viral hepatitis markers predicts AIH with a sensitivity of 88% and specificity of 97% by recent criteria for AIH diagnosis. Our patient also satisfies WHO criteria for probable causation of DIAIH due to Nitrofurantoin. Delay in identifying Nitrofurantoin as a trigger for AIH is common as symptoms may develop up to three years after treatment. Additionally, there are no specific clinical or biochemical markers of DIAIH. Thus, clinical suspicion implicating this medication may be lacking. However, of medications in current use, Nitrofurantoin and Minocycline are responsible for over 90% of cases of DIAIH. The importance of identifying these drugs as culprits in DIAIH is critical as prompt withdrawal of these agents is necessary. Furthermore, the need for long-term immunosuppression and the risk of progression to cirrhosis is markedly reduced compared to classical AIH.
Giaccotto, Joshua

Last Name: Giaccotto  First Author: Resident
First Name: Joshua  PG or MS Year: PGY-3
ACP Number: 1636167  Category: Clinical Vignette

Medical School or Residency Program: Brown University
Hospital Affiliation: Rhode Island Hospital
Additional Authors: Dr. Jeffrey Mazer

Abstract Title: Septic shock after transrectal ultrasound guided prostate biopsy

Abstract Text: Transrectal ultrasound guided (TRUS) prostate biopsy is a minor, outpatient procedure that is done to establish the diagnosis of prostate cancer. It is the standard approach for obtaining prostatic tissue for histologic analysis and as such it is one of the most common procedures done by urologists. Although, it is a relatively safe and well tolerated procedure, serious complications can ensue. We illustrate one such serious complication by describing a patient that developed septic shock after TRUS biopsy and discuss its implications for medical practice.
Gleeson, Shana

Last Name: Gleeson  First Author: Resident
First Name: Shana  PG or MS Year: PGY-2
ACP Number: 1981200  Category: Clinical Vignette

Medical School or Residency Program: Lifespan/Brown University (Department of Internal Medicine)
Hospital Affiliation: The Miriam Hospital
Additional Authors: Kwame Dapaah-Afriyie

Abstract Title: Acute Liver Failure Due to Nitrofurantoin Induced Autoimmune Hepatitis

Abstract Text: Autoimmune hepatitis is an immunogenic inflammatory condition that can lead to end stage liver disease. Although this is most often an idiopathic autoimmune disorder, drug-induced autoimmune hepatitis has been described, often in the setting of minocycline or nitrofurantoin use. Given the clinical overlap between typical and drug induced autoimmune hepatitis, it can be difficult to identify medications as the etiology of autoimmune hepatitis.

A 57 year old female with a history of paraplegia, chronic urinary retention, and recurrent UTIs presented to the hospital with altered mental status. Her husband reported a one day history of confusion, intermittent somnolence, and incoherent speech. He also noted her skin appeared yellow over the preceding 1-2 days. She had been on nitrofurantoin for a UTI for the last two weeks, and her dose was increased several days prior to admission. Physical exam was notable for somnolence, scleral icterus, diffuse jaundice, and asterixis. Laboratory studies disclosed AST of 627, ALT of 574, total bilirubin of 10.6, ammonia of 128, and INR of 1.2. She was subsequently admitted to the medical service for acute liver failure. She was started on lactulose for hepatic encephalopathy (type A), and her mental status quickly returned to baseline. Diagnostic work up included testing for viral hepatitis, ferritin, ceruloplasmin, and alpha-1 antitrypsin deficiency, all of which were unremarkable. CT Abdomen showed mild intra and extra-hepatic biliary ductal dilatation. Anti-nuclear antibody was negative, but anti-smooth muscle antibody was positive at 1:40, and anti-actin antibody titer was elevated at 31. Throughout her hospitalization, she had fluctuating liver function, but the general trend was toward worsening liver function (as evidenced by worsening INR, bilirubin, and transaminases). She underwent liver biopsy, which was consistent with autoimmune hepatitis. Given the setting of rapidly progressive disease and recent nitrofurantoin use, it was thought that her liver disease was likely secondary to drug induced autoimmune hepatitis. Due to her worsening liver failure, she was ultimately transferred to a liver transplant center for further care. She was treated with prednisone but did not require liver transplant, and eventually her liver function normalized.

This case demonstrates the difficulty in identifying a medication as the cause of autoimmune hepatitis. In both types of autoimmune hepatitis, antinuclear antibodies and anti-smooth muscle antibodies can be elevated, and they often appear histologically identical. It is important to consider medication effect in cases of autoimmune hepatitis, as the long term clinical course differs when a medication is the cause. Patients with drug induced disease are less likely to develop cirrhosis, and if their hepatitis resolves (either with immune suppression or simply by withholding the offending agent), they are unlikely to relapse and generally do not require long-term pharmacologic treatment for their disease.
Godfrey, Mark

Last Name: Godfrey  First Author: Resident
First Name: Mark  PG or MS Year: PGY-1
ACP Number: 1446556  Category: Clinical Vignette

Medical School or Residency Program: Brown University Warren Alpert Medical School
Hospital Affiliation: Rhode Island Hospital
Additional Authors:

Abstract Title: Metronidazole-Induced Encephalopathy

Abstract Text: Background: Metronidazole is a fairly safe and well tolerated 5-nitroimidazole antibiotic, but it can cause serious neurological adverse events. Metronidazole-induced encephalopathy (MIE) is a rare complication of metronidazole therapy, whose distinctive MRI findings were first described in 1995. Case Report: A 65 year-old female with past medical history significant for Clostridium difficile colitis two months prior to admission presented from her nursing home where the staff had noted alteration in mental status, slurred speech, and left-sided weakness. On initial physical exam the patient was alert and able to follow simple verbal commands but required frequent redirection. She had mild dysarthria, cranial nerves II-XII were intact, and motor exam was normal without lateral weakness or pronator drift. She had no dysmetria, and the remainder of her neurologic exam was normal. Her NIHSS stroke scale was 2, with one point for dysarthria and one point for aphasia. A non-contrast CT of the head was normal. An MRI without contrast, however, revealed abnormal signal intensity involving the region of the dentate nucleus, superior cerebellar peduncle, splenium of the corpus callosum and parietal subcortical white matter. The reading radiologist’s impression noted that this constellation of findings was consistent with metronidazole-induced encephalopathy. Review of nursing home records indicated that the patient had been on metronidazole 500mg three times daily for the preceding six weeks which was not discontinued in error after a short course for recurrent C. difficile. The medication was held, and the patient’s inattention and dysarthria improved. She was discharged to a nursing home with instructions for a repeat MRI in 6 weeks. Discussion: MIE is a rare complication of prolonged metronidazole therapy, usually in the setting of Crohn’s Disease. Peripheral neuropathy, usually large fiber sensorimotor polyneuropathy, is the most common neurologic adverse effect of metronidazole use but other CNS effects from seizures to encephalopathy and cerebellar syndromes have been described. In cases of MIE, the MRI lesions are always bilateral and symmetric. The most common sites of FLAIR hyperintensity in order of decreasing frequency are the cerebellar dentate nucleus, midbrain, splenium of the corpus callosum (SCC), pons, medulla, inferior colliculus, subcortical white matter, basal ganglia and middle cerebellar peduncle. Most cases occur at total cumulative doses in the range of 20 to 120 grams over a time period of 2-6 weeks. Although the pathogenesis of metronidazole-induced toxicity is incompletely understood, cessation of the drug leads to improvement if not complete resolution of clinical symptoms and imaging abnormalities within days to weeks. Care should be taken to ensure that metronidazole is discontinued after an appropriate course of therapy, and both patients and physicians should be aware of the signs and symptoms of this complication prior to initiation of a prolonged course.
**Abstract Title:** Portosytemic Encephalopathy: A Preventable Complication Post-TIPS Placement

**Abstract Text:** Intro: Bleeding esophageal varices are a common complication of portal hypertension, secondary to cirrhosis. Endoscopic interventions such as sclerotherapy or band ligation effectively treat 80-90% of patients. The 10-20% who experience recurrent variceal bleeds are candidates for Transjugular Intrahepatic Portosystemic Shunt placement (TIPS). Although the shunt provides bleeding cessation in almost 100% of patients, it is not a benign procedure. 10-30% of those who undergo a TIPS procedure experience portosystemic encephalopathy (PSE). In the case presented, the occurrence of PSE complicated the patient’s successful treatment with TIPS procedure. Several studies published in the past year show promising new protocol for both prophylaxis and treatment of acute PSE.

Case: A 75 yo female with a history of liver cirrhosis presented to the ED with a 3-day history of melena and fatigue. The patient has a history of cryptogenic cirrhosis, which had been complicated by gastric variceal bleeding. She had been admitted 3 times in the past year for acute anemia secondary to variceal bleeding, that had responded to octreotide and protonix infusions, rbc transfusions, and outpatient treatment with nadolol. On admission, her hemoglobin was 5g/dl, down from 9g/dl two months prior, so she was started on octreotide and intravenous protonix, and received a unit of packed rbc. Due to her refractory bleeding, the decision was made to perform a TIPS procedure. She underwent TIPS on hospital day 4 and was discharged home on day 6. The patient returned to the ED 3 days after discharge with subacute onset of confusion, depression, and sleep disturbance. Lab tests revealed an ammonia level of 94. The diagnosis of PSE was made and lactulose was started. Once stabilized the patient was discharged to a SNF for rehab with a prescription for lactulose 20mg BID for HE prophylaxis.

Discussion: PSE is a major complications of TIPS procedures that make this effective intervention less desirable for treating refractory ascites and bleeding varices in patients with cirrhosis. In our case, the patient’s neurologic symptoms were treated with lactulose alone. New studies show that lactulose administered in conjunction with rifaximin 550mg bid and oral branched chain amino acid supplements (0.25g/kg) is significantly more effective in reducing PSE manifestations than lactulose alone. While treatment with lactulose and rifaximin prove effective for most cases of acute PSE, prophylaxis in high-risk patients could prevent potentially morbid events. Individuals with end-stage cirrhosis and patients who are less than three months post TIPS procedure are at the highest risk for PSE and could benefit from prophylactic measures. Studies in the past year have also demonstrated the effectiveness of albumin dialysis, glutamine synthetase inhibitors, probiotics, and Acetyl-L-carnitine supplements in the prophylaxis of PSE and mitigation of PSE-related neurologic symptoms.
Abstract Title: Title: “I cannot move my eyes”; A case of vertical paralysis in Thalamic Stroke

Abstract Text: Introduction: Vertical gaze control is not fully attributed to a single nuclear control; unlike horizontal gaze which is controlled by nuclei in midbrain. Rostral midbrain and thalami have important role in maintaining vertical gaze. There are only limited case reports of thalamic stroke causing vertical gaze paralysis. We report a case of right thalamic stroke causing vertical gaze paralysis and fluctuation in arousal.

Case report: 71 year old man was brought to the emergency department following “difficulty to arouse at home” outside of TPA window. Initial evaluation showed blood pressure 160/99, H.R 55, R.R 20 and SpO2 99 % on room air. Main neurological findings were vertical gaze paralysis and normal motor exam along with waxing and waning level of consciousness. CT head was negative for acute intracerebral bleed. Patient was admitted to medical floor for work up of his gaze paralysis and fluctuating consciousness. Due to progressive oxygen requirement, hypo-ventilation and airway protection he was intubated and transferred to ICU. MRI showed right thalamic infract involving the ventral lateral (VL) nucleus, extending medially to the central lateral (CL) nucleus, and then continuing medially to involve the anterior aspect of the dorsomedial (DM) nucleus. Patient was successfully ex-tubated the next day. Fluctuation in consciousness was less frequent and patient was able to co-operate with occupational therapy/exam. He was transferred to rehabilitation with restricted up gaze and limited down gaze paralysis without other cranial nerve or motor/sensory involvement. At the time of discharge to home he still had vertical gaze paralysis. Discussion: This case highlights one of the rare clinical manifestations from a thalamic stroke. Horizontal gaze palsy is associated with involvement of midbrain gaze central centers. Isolated vertical gaze palsy presentation is extremely limited and poorly understood. Fluctuation in consciousness can be found in isolated thalamic stroke due to involvement of reticular nuclei. Vertical gaze palsy associated changes in consciousness can be localized to thalamic nuclei and should be considered in a patient with new onset fluctuation in consciousness with or without gaze paralysis or motor/sensory involvement.
**Greenberg, Caitlin**

<table>
<thead>
<tr>
<th>Last Name:</th>
<th>Greenberg</th>
<th>First Author:</th>
<th>Medical Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Name:</td>
<td>Caitlin</td>
<td>PG or MS Year:</td>
<td>MS III</td>
</tr>
<tr>
<td>ACP Number:</td>
<td>pending</td>
<td>Category:</td>
<td>Clinical Vignette</td>
</tr>
</tbody>
</table>

**Medical School or Residency Program:** UNECOM

**Hospital Affiliation:** Kent Hospital

**Additional Authors:** Alisa Merolli MD

---

**Abstract Title:** Autoimmune Hemolytic Anemia as a Paraneoplastic Phenomenon in Large B-cell Lymphoma

**Abstract Text:**

Introduction: Autoimmune hemolytic anemias (AIHA) are a rare, but widely documented complication of lymphoproliferative disorders, which have been known to atypically present with a negative Coombs’ test in 5-10% of cases. The diagnosis of Evans Syndrome is given when AIHA is present concurrently with thrombocytopenia. Herein is a case of an 85 year old female with Evans syndrome secondary to large B cell lymphoma, presenting atypically with Coombs’ negative AIHA as the initial major clinical manifestation. Case: An 85 year-old nonsmoking, Caucasian female with a remote history of breast cancer presented to the ED with a 3 week history of progressive weakness and SOB, as well as early satiety and weight loss over the past year. The patient had been seen by her PCP a week prior and was found to have profound anemia and a UTI, for which she was prescribed iron supplements and Levaquin, respectively. Home medication also included Remeron. On admission she admitted to “looking pale”, but denied active bleeding, darkening of the stool, abdominal pain, nausea or vomiting. She complained of a minimal cough, but no chest pain. Initial examination showed a pale female with multiple bruises on her upper arms with tachycardia to 110 bpm. Initial labs revealed Hgb 7.2, Hct 21, platelets of 39000. Further testing revealed reticulocytes 6.5%, ferritin 1442.6, and an LDH of 646, although haptoglobin was normal at 142. Both total and direct bilirubins were elevated at 3.3 and 1.29, respectively, and stool was trace positive for occult blood. Comparison of chest CT to prior 2011 study showed a large infracarinal mass. The patient was admitted to general medical floor for PRBC, platelet transfusion and further work-up. Labs over the next few days showed TIBC 171, iron saturation 51%, transferrin 122, an absence of schistocytes, as well as negative results for tick-borne illness, PND, DIC, cold agglutinin titer and Coombs’. Hematology was consulted, and a bone marrow biopsy subsequently demonstrated large B cell lymphoma. Despite resuscitative effort, the patient’s condition worsened clinically, necessitating additional PRBC transfusions on days 4 and 7. Ultimately, a rapid response was called, and the patient was found to be in respiratory failure. After lengthy discussions with patient and her family regarding her poor prognosis, she was placed on hospice and expired 48 hours later. Discussion: A broad differential diagnosis must be considered in patients presenting with anemia and/or thrombocytopenia, including TTP/HUS, DIC, as well as medication or autoimmune induced hemolytic anemias. In this case, absent schistocytes and a negative DIC panel strongly suggested alternative diagnosis. While hemolytic anemia is a known side effect of levaquin, and thrombocytopenia of Remeron, the known association between lymphoma and hemolytic anemias suggests it as a more likely single diagnosis.
Abstract Title: Episodic Ataxia Syndrome

Abstract Text: Introduction: Episodic ataxia type 2 (EA2) is a rare (1/100,000) autosomal dominant condition characterized by sporadic attacks of ataxia, vertigo and nausea that can last from minutes to days and can occur anywhere from once to twice a year to three to four times a week. The symptoms generally begin during late childhood to early adolescence and are chronic, often leading to interictal findings as well. The condition is due to mutations in the CACNA1A gene, which encodes a subunit of a brain specific calcium channel. Genetic testing is available, however diagnosis is generally based on clinical findings, family history and MRI results. Case: A 48-year-old Caucasian man with a past medical history of benign paroxysmal positional vertigo (BPPV) diagnosed 30 years prior presented to the ED with a 5 day history of dizziness with vertigo, worsening balance and recurrent falls. He has had episodes of intermittent instability and vertigo in the past however this current episode is more severe. These episodes remit, but he denies any complete improvement of his symptoms. On physical exam the patient was in no acute distress, but he was unable to stand or sit upright without swaying or losing balance. His gait was narrow based with short steps. Cranial nerves 2-12 were intact, there was no evidence of spontaneous, head shaking or head thrust nystagmus and Dix Hallpike maneuver was negative. In the ED vital signs were stable and CBC and BMP values were within normal limits. CT, chest x-ray, EKG and 2D Echo were also unremarkable. The patient was admitted to the general medical floors to rule out any cerebrovascular event. Neurology consultation was ordered and a trial of Diamox (acetazolamide) was recommended due to the possibility of Episodic Ataxia Syndrome (EAS). The patient was discharged on day 2 of hospital stay with instruction to follow up with a neurologist and schedule a MRI. Discussion: This patient had been diagnosed with BPPV and had been treated unsuccessfully for many years. However, during this time he exhibited classic symptoms of EAS, including progressively worsening vertigo, paroxysmal ataxia lasting hours to days and similar, less severe interictal ataxia. Although BPPV can also cause vertigo, which can lead to imbalance, BPPV is not progressive, has a Dix-Halpike maneuver positive for nystagmus, and does not typically have interictal ataxia. In addition, MRI results demonstrating atrophy of the anterior cerebellar vermis, or a positive genetic test can confirm any suspicion of EAS. Even with a small index of suspicion this diagnosis should be explored due to the success of treatment with Diamox, which can significantly reduce the frequency of exacerbations possibly due to its ability to increase extracellular proton concentration, therefore inhibiting ion permeation through open calcium channels.
Gultawatvichai, Patan

Last Name: Gultawatvichai  First Author: Resident
First Name: Patan  PG or MS Year: PGY-2
ACP Number: 1973854  Category: Research

Medical School or Residency Program: Roger Williams Medical Center
Hospital Affiliation: Boston University School of Medicine
Additional Authors: Tracey Cheves, Maria Tavares and Joseph Sweeney, MD

Abstract Title: Hemolysis in Additive stored red cells may exceed 1%
Abstract Text: BACKGROUND: Hemolysis of red blood cell (RBCs) is considered undesirable but is of uncertain clinical significance with regard to adverse events in recipients. FDA licenses red cell storage solutions and containers with a minimum specification of < 1% hemolysis at the end of liquid storage. However, after licensure, no routine QC is performed in Blood Centers to verify the degree of hemolysis in outdating red blood cells. STUDY DESIGN AND METHODS: Sixty allogeneic prestorage leukoreduced liquid stored red blood cell were studied on Day 42. Fifty-two were Group AB, 5 were Group A and 3 were Group O. After mixing, a sample was taken for hematocrit measurement in a Horiba ABX-micro 60. A second sample was hard spun and the supernatant removed. The hemoglobin in the supernatant was measured using a three wavelength (562nm, 578nm and 598nm) photometric method. The percent hemolysis was measured from the supernatant hemoglobin and hematocrit. Data were summarized as descriptive statistics. Correlations were Pearson’s correlation coefficient. Statistical significance was defined as a p < 0.05. RESULTS: The mean (±1 SD) hematocrit, supernatant hemoglobin and percent hemolysis were 54±4, 86±118 and 0.21±0.2 respectively. Hematocrit showed a correlation with both supernatant hemoglobin (r = 0.47, p < 0.01) and percent hemolysis (r = 0.42, p < 0.01). Two units of RBCs had more than 1% hemolysis and these are clearly seen in the dot plot in the Figure. The observation that two units exceeded 1% hemolysis gives a point estimate of 3% (95% CI, 0.4 -12%). CONCLUSIONS: A high degree of hemolysis may be present in some red blood cells at the time of transfusion. This appears to be related to the hematocrit of the product which in turn may be related to the hematocrit of the donor. This is of uncertain clinical significance. This observation suggest that routine analysis of a sample of outdating red blood cells for hemolysis should be considered as a QC process in Blood Centers.
Gultawatvichai, Patan

Abstract Title: Thrombosis Associated with Piperacillin-induced Immune Hemolytic Anemia

Abstract Text: Background: Drug induced immune hemolytic anemia is rare but is most commonly caused by antibiotics such as piperacillin or cefotetan and may result in a fatal outcome. The mechanism of the approximate cause of mortality in such cases is assumed to be anemia refractory to red blood cell transfusion. However, other mechanisms, such as thrombosis, could be relevant. Case report: A 68-year-old male underwent an elective debridement of decubitus ulcers on the buttock area, which was infected with Pseudomonas aeruginosa. The patient received 4.5 g of intravenous Zosyn® (piperacillin-tazobactam) post-operatively via a Peripherally inserted central catheter (PICC line) and subsequently for seven days post-operatively. On the seventh day, the patient presented with seizures and altered mental status. His hemoglobin on the third post-operative day was 8.9 g/dl and 6.3 g/dl at the time of presentation. Serologic findings showed a positive direct and indirect coombs test: the plasma and red cell eluate showed a panagglutinin with relative anti-e specificity consistent with an autoantibody. He was transfused with 4 units of red cells with an increase in hemoglobin to 9.1 g/dl. Piperacillin was discontinued and replaced with meropenem; IV solumedrol and intravenous immunoglobulin (IVIG) were given at the same time. The plasma showed overt hemoglobinemia. Within 48 hours he developed a massive ST segment elevation myocardial infarction (STEMI) and ischemic stroke involving left temporal-parietal lobe with a peak troponin level of 229.0 ng/ml. A cardiac arrest ensued resulting in the patient’s demise. Conclusion: This case illustrates the occurrence of thrombosis as the proximate cause of death. The absence of refractoriness to the red cell transfusion indicates that anemia per se was unlikely to be responsible and a prothrombotic environment caused by the hemolysis or transfused red cells potentially causative.
Gultawatvichai, Patan

<table>
<thead>
<tr>
<th>Last Name:</th>
<th>Gultawatvichai</th>
<th>First Author:</th>
<th>Resident</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Name:</td>
<td>Patan</td>
<td>PG or MS Year:</td>
<td>PGY-2</td>
</tr>
<tr>
<td>ACP Number:</td>
<td>1973854</td>
<td>Category:</td>
<td>Clinical Vignette</td>
</tr>
</tbody>
</table>

**Medical School or Residency Program:** Roger Williams Medical Center  
**Hospital Affiliation:** Boston University School of Medicine  
**Additional Authors:** Nadeem Mohammed, Jon Skalecki, Vincent Armenio

**Abstract Title:** The chicken before the egg: myeloproliferative disorder preceding myeloid sarcoma

**Abstract Text:** The chicken before the egg: myeloproliferative disorder preceding myeloid sarcoma

Introduction Myeloid sarcoma (MS) is a tumor mass of myeloblasts or immature cells occurring in extra-medullary site or in bones. The exact estimates of its prevalence are lacking and it is reported in 2-8% of patients with AML either as a single or multifocal tumor. The most commonly affected sites are in the skin, bone and lymph nodes. The age of patients at MS presentation is highly variable, with cases being reported in patients 1-81 years old. Case report A 29-year-old Hispanic male without any significant past medical history presented with fever, WBC of 125,000 cells/µl and absolute neutrophil count of 81,500 cells/µl. Bone marrow exam showed a cellularity of 95% to 100%, trilineage hematopoiesis with granulocytic hyperplasia of 66.2%, monocytopsis, and eosinophilia. Cytogenetics were negative for BCR-ABL, JAK2 mutation, and PDGFRA. FISH was negative for 6;6 translocation, inversion of 16, and 16q 22.1 rearrangement. He had normal male karyotype of 46 XY with 13 and 14 chromosomal translocation. The patient was diagnosed with BCR-ABL negative, myeloproliferative disorder. He was initiated on hydroxyurea for cytoreduction. Since the diagnosis, the patient lost 40 pounds over the next six months. He developed inguinal lymphadenopathy and a biopsy showed myeloid blast cells, which constituted 21% of the cells of the lymph node. Flow cytometry showed myeloid blast cells that were CD 34, CD 33, and CD 13 positive. Chloroacetate esterase was positive in 50% of the cells. The patient underwent bone marrow biopsy, which showed hypercellular marrow with 10.4% blasts. Based on the lymph node and bone marrow findings, the patient was diagnosed with myeloid sarcoma. He was treated with 3+7 induction chemotherapy. A bone marrow biopsy on day +14 of induction showed increased cellularity with 10% myeloid blasts. A bone marrow biopsy was repeated on day +28 showed 1% blast cells. His white count was elevated to 239,000 cells/µl, 41% segmented neutrophils, 20% bands, 6% eosinophils, 8% metamyelocytes, 15% myelocytes, 3% promyelocytes, and 2% blasts. He was started on Hydrea and then was admitted to the hospital for consolidative chemotherapy followed by allogeneic transplant. Conclusion MS is a rarely encountered malignancy. It can develop de novo but may also present as the first evidence for transformation of myeloproliferative disorders to leukemic disease in tumor form. The occurrence of myeloid sarcoma in a patient with acute myeloid leukemia does not alter the prognosis. Conversely, for patients with known myeloproliferative disorders, the development of myeloid sarcoma is a strongly negative prognostic factor for acute myeloid leukemia or blast crisis. Thus, more aggressive course of treatment should be considered in these patients.
**Gupta, Piyush**

<table>
<thead>
<tr>
<th>Last Name:</th>
<th>Gupta</th>
<th>First Author:</th>
<th>Resident</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Name:</td>
<td>Piyush</td>
<td>PG or MS Year:</td>
<td>2</td>
</tr>
<tr>
<td>ACP Number:</td>
<td>1750281</td>
<td>Category:</td>
<td>Research</td>
</tr>
</tbody>
</table>

**Medical School or Residency Program:** Rhode Island Hospital/Brown  
**Hospital Affiliation:** Lifespan  
**Additional Authors:** Piyush Gupta, MD, Lauren de Leon, MD, Gerardo Carino, MD

**Abstract Title:** Utilization of Palliative Care Consults in Cirrhotic Patients in the MICU

**Abstract Text:** Objective: To determine if palliative care involvement has an impact on the length of hospitalization for end stage liver disease (ESLD) patients. Introduction: ESLD is the 12th leading cause of death in USA. According to the CDC, 1.2 million hospitalizations occur annually due to complications from liver disease, costing about $3 billion/year. Given the rising incidence of HCV, alcoholic liver disease, and nonalcoholic fatty liver disease, the prevalence of cirrhosis will likely increase over the next few years. Moreover, given the high mortality rates of patients with decompensated cirrhosis, more awareness and understanding of the appropriateness of palliative care referrals is necessary. Our project aimed to determine the impact of palliative care consultation on the length of stay of ESLD patients in MICU. Methods: A retrospective chart review was completed for patients admitted to the Miriam MICU between Jul 2010 - Dec 2012 who carried a diagnosis of cirrhosis. Data collected included: age, gender, length of stay (LOS), palliative care consult day, and disposition. MELD, CTP, and Maddrey function scores were calculated to score liver disease severity. Results: A total of 220 patients were selected for the study; 39 had palliative care consults. The average length of stay for patients with a palliative care consult was 10.46 days, while the average LOS for patients without a consult was 8.91 days. Once palliative care was consulted, disposition for patients was reached within 3.5 days on average. However, those patients who had a palliative consult within 7 days had the shortest length of stay (5.96 days). Patients who had a palliative care consult had higher severity of liver disease (CTP 11.05, MELD 25.09, Maddrey 49.8) compared to those without a consult (9.5, 17.35, 37.26 respectively). Conclusions: Palliative care was consulted infrequently (17.7% of patients) and more likely to be consulted with patients who had more severe liver disease. If palliative care was consulted within 7 days of admission, the average length of stay was 5.96 days compared to 8.91 days without a consult. If palliative care was consulted, a disposition plan was able to be reached in 3.5 days, regardless of consult date. Patients who did receive a consult were more likely to be discharged to a hospice center. This data suggest that timely palliative care consultation can decrease the length of stay of ESLD patients in the MICU and facilitate appropriate discharge. Moreover, MELD, CTP, and/or Maddrey function can guide timing and appropriateness of palliative care consultations. Given the mortality rates of patients with ESLD, it appears prudent to develop criteria for appropriate consultation of palliative care, much like those that exist for end stage CHF, COPD, and dementia. Further research will be needed to more precisely define these criteria.
Abstract Title: A Rare Cause of Fulminant Hepatic Failure

Abstract Text: The definition of fulminant hepatic failure (FHF) is acute liver injury in a person without cirrhosis or pre-existing liver disease, which causes encephalopathy and impaired synthetic function, usually within 8 weeks of symptom onset. Common causes of FHF include viruses and medications, especially tylenol. A much rarer cause is an infiltrative malignancy, which has an even poorer prognosis compared to other causes of FHF because of limited treatment options, usually resulting in death within days. A 46 year-old female with a history of tobacco abuse presented to the ER with complaints of abdominal pain. Five weeks prior, she had developed abdominal distention with a gradual, increasing discomfort in addition to night sweats and a 10-pound weight loss. In the ER, she was jaundiced with a tense, distended abdomen. Initial labs revealed a total bilirubin of 9.3, AST of 223, ALT of 218, and alkaline phosphatase of 475. CT abdomen/pelvis revealed marked hepatomegaly with a heterogeneous echotexture, moderate ascites, and diffuse periportal edema. The patient was admitted for an extensive work-up, including abdominal US with doppler and serologies, including ANA, smooth-muscle antibody, anti-mitochondrial antibody, alpha-1-antitrypsin, viral studies, and AFP, all of which were unrevealing. A liver biopsy was ultimately performed. Her ALT continued to rise from 220 to 282 to 455 to 555 to 848, with AST rising from 258 to 396 to 821 to 897 to 1,831. On day six after admission, her synthetic liver function began to decline, with an increase in INR and an episode of hypoglycemia. She also became increasingly encephalopathic. She underwent a CT chest after an episode of tachycardia, where she was found to have bulky adenopathy in the mediastinum and right hilar region, suspicious for malignancy. During the same time, a CEA level returned elevated at 91.2. On day seven, her liver biopsy results returned. At this time, her AST peaked at 2,515 and ALT at 1,054, with an elevated bilirubin of 18.1, INR of 1.7, and glucose of 25. Her liver biopsy revealed metastatic small cell carcinoma. Less than twelve hours later, the patient passed away with her family at her side after she was made comfort measures only, given her overall poor prognosis, and instability for any intervention or treatment. The most common site for metastatic deposits is the liver. In most cases, the manifestations of FHF appear when the liver has been replaced by 90% of infiltrated tumor. One theory suggests that the infiltration, and replacement, of the hepatic parenchyma may lead to a critical mass hepatic destruction resulting in FHF. It is important to consider infiltrative malignancy in the differential of FHF, especially as there has been an emergence of case reports that show some utility in chemotherapy in affecting survival.
Abstract Title: Papillary carcinoma in a pure thyroid cyst

Abstract Text: PAPILLARY CARCINOMA IN A PURE THYROID CYST Ameya Hodarkar, MD, Resident PGY1, Department of Medicine, Memorial Hospital of Rhode Island, Brown University, Pawtucket, RI

Introduction: Up to 50% of all thyroid nodules are mixed, that is partially solid and partially cystic, and most thyroid cancers commonly present as solid or mixed lesions. Pure cystic lesions that have no solid component are rare and are considered to carry no significant risk of malignancy. Case Report: An 83-year-old woman with hypertension, type 2 diabetes, dyslipidemia, osteoporosis, and peripheral vascular disease was evaluated for an enlarging neck mass causing dysphagia. The mass was first noted fifteen years earlier; no details regarding prior evaluation were available. Family history was negative for thyroid disease. Physical exam was significant for an area of “cystic fullness” beneath the medial portion of the left sterno-mastoid muscle. Neck CT revealed a 5.8cm x 8cm x 4.6cm cystic lesion arising from the left thyroid lobe. TSH was normal. She was scheduled for a left thyroid lobectomy, and the excised left thyroid lobe along with cystic lesion was sent for pathological examination. The pathological report diagnosed a totally encapsulated, thin-walled, cystic papillary thyroid carcinoma. It was negative for extra-thyroidal extension, had negative margins, and was negative for lymphatic, vascular and capsular involvement. She was started on 75mcg/day Levothyroxine, and TSH was monitored. Follow up neck ultrasound six months post-surgery showed small sub-centimeter cystic lesions in the right thyroid lobe. No suspicious neck lesions or lymph nodes were noted and the patient continues to remain asymptomatic. Discussion: A large body of evidence suggests that pure thyroid cysts are not only very rare, but they are almost never malignant. In a study by Lee, et al, involving 1,056 consecutive nodules evaluated by ultrasound, 4.3% were pure cysts and none had malignancy. A retrospective review of 360 thyroid cancers at the Mayo Clinic from 2002-04 by Henrichsen et al, showed no cancers that were pure cysts, and only 2.5% of cancers had a greater than 50% cystic component. The risk of malignancy in a pure cyst has been considered to be so low that current guidelines from both The American Thyroid Association and The American Association of Clinical Endocrinology recommend no evaluation for malignancy, including FNA, for pure thyroid cysts. Conclusion: Pure thyroid cysts are rare, and their risk of malignancy is considered to be negligible. Nevertheless, pure thyroid cysts can contain malignant thyroid cells. There is insufficient evidence in the literature to either predict prognosis or advise specific therapy for patients with thyroid carcinoma discovered in a pure cyst.
Abstract Title: Role of GSK3 Beta and ERK in the Human Neutrophil Response to Fungal Beta-Glucan

Abstract Text: Complement Receptor 3 (CR3), an integrin found on neutrophils, plays an important role in the neutrophil recognition and response to fungal components in the context of extracellular matrix proteins. Co-ligation of CR3 with fibronectin (Fn) at the I-domain and β-glucan (B) at the lectin-like domain is possible due to spatially distinct locations and creates unique cellular activity not seen with ligation of either domain separately. Dual ligation of CR3 with Fn+B induces homotypic aggregation of primed neutrophils, a response representative of the immune cells encounter with fungi within tissues. To understand the signaling pathways involved in these CR3-mediated responses, we employed various molecular techniques to determine the key proteins. Mass spectroscopy revealed a significant increase in tyrosine phosphorylation of nineteen proteins in human neutrophil samples exposed to FN+B but not in samples exposed to FN alone. Western blotting and immunoprecipitation techniques validate these findings by showing an increase in two of the proteins, p-ERK and p-GSK. Further work using inhibitors U0126 (ERK inhibitor) and TZD-8 (GSK3Beta inhibitor), show differing effects on cluster formation. Use of U0126 caused a complete abrogation of cluster formation and a significant loss of ERK phosphorylation. However, use of TZD-8 caused a partial inhibition of cluster formation with little effect on GSK3Beta phosphorylation. Blotting for protein levels, we were able to show the phosphorylation of ERK increases over time while the phosphorylation of GSK decreases. Use of TZD-8 decreased the phosphorylation of ERK, while inhibition with U0126 had little effect on GSK3 phosphorylation. This result indicates a upstream role for GSK3 Beta in the phosphorylation of ERK. In addition, monoclonal antibody blocking of CR3 led to an increase in GSK3 Beta phosphorylation indicating CR3 signaling of p-ERK may be regulated through GSK3 Beta phosphorylation.
Abstract Title: A Pilot Study of Family History Acquisition by Family Medicine Residents

Abstract Text: Title: A Pilot Study of Family History Acquisition by Family Medicine Residents  Background and Objectives: A medical family history is an often under collected and underutilized component of the clinical assessment of the patient. With the growth in personalized medicine, there is increased potential for the medical family history to guide medical decision making in the primary care setting. Methods: We performed a retrospective analysis of 647 patient chart entries in an electronic medical record made by first and second year family medicine residents in an outpatient residency clinic. We collected information about the type of visit, which family members residents asked about and the medical conditions these family members had. Results: A medical family history was documented at 63% of visits. First year residents documented more pertinent negative findings than second year residents. Residents were most likely to document a family history of hypertension, cancer, hyperlipidemia or depression and include first-degree relatives of new patients. There was no difference between practices of first and second year residents with regards to diagnoses and family members included. Conclusions: This study suggests that family medicine residents may not be taking or updating family histories as robustly as they should. There are a number of barriers that may play a role in under acquisition including paucity of time, undervalue, or inadequate tools. This pilot study indicates a valuable opportunity in residency to promote and facilitate family medical history taking.
Abstract Title: Colonic Lymphocytic Involvement in Chronic Lymphocytic Leukemia

Abstract Text: Chronic lymphocytic leukemia (CLL) is a low-grade indolent systemic neoplasm of monomorphic small round B-lymphocytes in the peripheral blood, bone marrow, and lymph nodes. This disease exhibits a variety of immunologic impairments that might increase the risk of second malignancy. In fact, there is evidence that the risk of development of secondary malignancies is increased in patients with CLL. Colonic involvement in patients with CLL is extremely rare. We present a case of a patient with colonic involvement of CLL who also had prostate cancer. A 58-year-old man who originally presented with a right-sided neck swelling to the clinic. Further workup revealed a 3 x 3 cm right submandibular lymph node that was biopsied and found to be CLL on biopsy CD19 and 20+, CD23+, CD5+, and CD45+. Staging workup revealed gross adenopathy bilaterally and bone marrow biopsy confirmed the diagnosis. Two years after initial presentation, the patient was treated with rituximab and fludarabine for 6 cycles and went into complete remission. Four years after initial presentation the patient was found to have Gleason 4 +3=7 prostate cancer T3b treated with hormonal therapy and radiation therapy. On follow up, the patient had biochemical relapse and was treated with hormonal therapy and his prostate disease progressed to metastatic skeletal disease. Nine years after initial presentation, at age 67, the patient underwent routine colonoscopy and was found to have multiple polyps. Polyps in the cecum and ascending colon were shown to be SLL expanding into the submucosa and lamina propria CD79a+, CD5+, CD23+, bcl-2, and CD20+. In the transverse colon and splenic flexure polyps was found to have an atypical large lymphoid aggregate with involvement by SLL. The patient denied any fevers, chills, or sweats, fatigue, gastrointestinal or genitourinary complaints. This case illustrates gastrointestinal CLL/SLL involvement, which is uncommon and generally only occurs after transformation of CLL to diffuse large B-cell lymphoma also known as Richter’s transformation. In our patient’s case this is a rare report of SLL found in a patient’s colon while in remission of his CLL. A second finding is the occurrence of other malignant neoplasms concomitantly with CLL. Both the cellular and humoral immune responses are often impaired in CLL patients and the defective immunity in these patients may have an etiological role in the development and rapid progression of their cancers. In the follow up of CLL patient, it is critical to closely monitor them for the possible existence of a second malignant process.
Abstract Title: Disseminated Aspergillusosis in a Solid Organ Transplant Patient with Hepatitis C

Abstract Text: Aspergillus species is a weak pathogen, however, in the immune compromised individual it often results in invasive and disseminated infection that can be fatal. Diagnosis is often challenging and delayed due to its ubiquitous environmental growth, failure to grow in blood cultures, and the need for tissue biopsy to make definitive diagnosis. We present an unusual case of disseminated aspergillosis in a solid organ transplant recipient. A 55 year-old male with a history of hypertension diabetes, and ESRD, presented four months after simultaneous kidney and pancreas transplantation, with generalized malaise, dysuria, hesitancy and urinary frequency. He denied abdominal pain, nausea or vomiting. He had no sick contacts or recent travel. He was on tacrolimus, mycophenolate and prednisone for maintenance immune suppression. His other medications included amlodipine, metoprolol, trimethoprim/sulfamethoxazole and valganciclovir. Serologic studies for HIV, hepatitis B and C were negative one month prior to transplantation. On admission he had a blood pressure of 108/64mmHg, a temperature of 97.80F. He had no tenderness over the allografts site. His white cell count (WBC) was 9200/ul, with a creatinine of 1.72 mg/dl (baseline of 1.0 mg/dl), glucose of 102 mg/dl, an elevated tacrolimus level of 38.4 ng/ml and 22 wbc/hpf in his urinalysis with few epithelial cells. He was started IV fluids, empiric ceftriaxone and admitted to the transplant nephrology service. He was continued on prednisone and mycophenolate, while tacrolimus was held. On the third day of hospitalization he developed jaundice. Liver panel revealed; AST of 158 IU/L, ALT of 245 IU/L, total bilirubin of 17.7 mg/dl and direct bilirubin of 10.6 mg/dl. An abdominal ultrasound revealed a normal kidney allograft, an enlarged liver with a nodular surface concerning for cirrhosis, mild thickening of gallbladder wall and pericholecystic fluid. His antibiotic coverage was broadened to piperacillin/tazobactam to cover possible cholecystitis. Quantitative plasma PCRs for HBV, CMV, and HHV-6, HSV, VZV and adenovirus were negative. Hepatitis C virus (HCV) quantitative PCR was 3.5 x 10e7 IU/ml; his liver enzyme abnormalities were attributed to acute HCV infection. On the fourth day, he suffered a pulseless electrical activity arrest and was resuscitated. He developed shock requiring both norepineprine and vasopressin. Blood and urine cultures remained negative. Chest X ray demonstrated no infiltrates. Given clinical deterioration, vancomycin and anidulafungin were added. He developed multiorgan failure and his family opted to withdraw care. Autopsy revealed disseminated invasive aspergillosis involving the brain, lungs, myocardium, kidney, esophagus, stomach and liver with marked biliary stasis and inflammation. Investigation into the cause of his apparent acute hepatitis C is ongoing. The additive effect of acute HCV on his immunosuppressed state in the early months post transplant is presumed to have increased his risk for invasive fungal infection.
Kay, Allison

Last Name: Kay
First Name: Allison
ACP Number: Pending
PG or MS Year: BMS-3
Category: Clinical Vignette

Medical School or Residency Program: Warren Alpert Medical School
Hospital Affiliation: RIH
Additional Authors: Dr. David Washington, Dr. Mary Anne Fenton

Abstract Title: Positive pregnancy test in a woman with Stage IV non-small cell lung cancer

Abstract Text: Introduction: This case describes b-hCG secretion in non-small cell lung cancer (NSCLC) and is an opportunity to discuss the differential and significance of such a finding. Case Description: History of Present Illness A 32-year-old female with stage IV NSCLC with metastases to the brain, breast, adrenals, and colon, history of pericardial effusion with subsequent cardiac window, and history of chronic right pleural effusion with pleurex catheter placement presented to the E.R. with dyspnea and abdominal/back pain. Initial evaluation revealed a positive pregnancy test. She reported amenorrhea for the last seven months after starting chemotherapy. Pregnancy tests six and seven months ago were negative. She reported last sexual intercourse two months ago, and then later said seven months ago. She believes her fallopian tubes were previously ligated, but this was never documented. Physical Examination: Heart rate of 121 bpm, respiratory rate 20, blood pressure 113/52. Alert and oriented x 3 with labile memory. Heartbeat normal rhythm. Left lung clear to auscultation, decreased breath sounds in the upper right lung, crackles in right lung base. Abdominal exam unremarkable. Laboratory data: Electrolytes: Sodium 137, Potassium 4.1, Chloride 96, CO2 32, BUN 3, Creatinine 0.37 LFTs: ALT 21, AST 45, Alkaline phosphatase 144, Albumin 2.5, Total protein 5.8, Bili total 0.6, Bili direct <0.1 Cardiac enzymes: Troponin <0.15, B natriuretic peptide 123.3 CBC: wbc 12.5, rbc 3.4, hgb 9.8, plt 354 Urine b-hCG test: positive. Quantitative serum b-hCG: 64 mIU/ml (normal <5 mIU/ml) Diagnostic Imaging: CT PE: “1) No evidence of pulmonary embolism. 2) Significant worsening in right upper lobe and perihilar mass … Interlobular septal thickening … and centrilobular nodules … concerning for lymphangitic carcinomatosis. 3) Large loculated right-sided hydropneumothorax … 4) Pericardial metastatic disease with trace pericardial effusion.” Transvaginal and pelvic US: “No intrauterine … structures to suggest pregnancy. Both ovaries are enlarged … (right ovary: 4.9 x 6.7 x 5.5 cm, left ovary: 3.1 x 4.1 x 2.2 cm) compared to multiple prior studies and are … consistent with trauma metastases.” Patient Outcome: The detectable b-hCG was a secretion from this patient’s lung cancer. Imaging demonstrated significant progression of her disease, and her oncologist recommended against further treatment. Unfortunately, she passed away two weeks later. Discussion: Paraneoplastic b-hCG production is most common in lung cancers second to gynecologic cancers. Some case reports describe false positive pregnancy tests as the first evidence of b-hCG-secreting lung cancer. b-hCG secretion was a late manifestation of our patient’s cancer, a finding more frequent in advanced stages. Not all b-hCG is derived from a pregnancy, and in the right clinical scenario, considering alternative diagnoses may aid in decision-making and prognostication. Additionally, it is important to provide cancer patients appropriate contraceptive counseling during chemotherapy treatment.
Abstract Title: EB Virus causing Muscle aches

Abstract Text: Introduction The majority of cases of viral myositis are caused by influenza virus, enteroviruses, HIV, human T-cell leukemia-lymphoma virus (HTLV) type 1 and hepatitis viruses (B and C) and seldomly by cytomegalovirus, Epstein-Barr virus, herpes simplex virus, paramoxyvirus, parvovirus and varicella-zoster virus. We present a case of myositis due to EB virus. Case 67 yr old man with presented with one week history of malaise, fever and 4 days of lower extremity and shoulder girdle weakness and pain in the groin area. He denied any skin rash, trauma or tick exposure but had recently travelled to New Hampshire. He had history of Simvastatin induced myopathy and was switched to pravastatin 1 year ago. On physical exam, he was afebrile, hemodynamically stable with notable weakness of the hip flexors and quadriceps bilaterally due to pain, muscle tenderness, no synovitis and normal neurological exam. Lab work was significant for high aldolase, elevated CPK of 13000 IU/L and an ESR of 92. Patient was started empirically on prednisone and a complete work-up for myositis was done which showed normal TSH, negative ANA, antijO and negative lyme serology. Work-up for viral etiology showed positive anti-VCA IgM, and anti-EBNA for EB virus. MRI showed diffuse muscle edema in the anterior thigh muscles consistent with myositis. His CPK started trending down and he was discharged home on steroids with rheumatology follow-up. The muscle biopsy results showed nonspecific lymphocytic infiltration of muscle without evidence of polymyositis, prednisone was stopped and he improved over few months. Discussion Patients with viral myositis usually have diffuse myositis, elevated CPK and other signs if viral infection. Diagnosis is based on serum serologic studies or by culture results from nasopharyngeal or stool specimens. It is often difficult to ascertain if the muscle inflammation is due to the direct effect or due to immune mediated response as muscle biopsy fail to show direct effect. Management is mainly supportive care but steroids can be used for immune mediated process.
Abstract Title: Oligoarthritis in Microscopic Lymphocytic Colitis

Abstract Text: Oligoarthritis in Microscopic Lymphocytic Colitis Nazia Khan MD, Ashil Gosalia MD, Bethany Gentilesco MD, Assistant Professor of Medicine, Brown University, RI Microscopic lymphocytic colitis is a disease with intestinal mucosal inflammation causing chronic diarrhea. In a few cases, it can be associated with arthritis. A 58-year-old woman presented to the hospital with 5 weeks of progressively worsening nonbloody, watery diarrhea and 1 week of joint pains. She had been having 4-5 loose bowel movements daily with night time awakenings and stool incontinence. She had noted bloating and bilateral lower quadrant abdominal pain worse on the left, but did not report nausea, vomiting, hematochezia, or melena. For one week prior to her admission, she described pain and swelling in her knees, wrists, and left elbow that had significantly impaired her mobility to the point where she was requiring assistance with ambulation and ADLs. She had not had fevers, rashes, or sick contacts and was not sexually active. On presentation, she was noted to be febrile to 103.4, had a large swollen right knee and a warm, swollen, erythematous left wrist. She had a mild leukocytosis, elevated ESR, and CRP. Arthrocentesis of the right knee showed 35,000 WBCs with 87% neutrophils. Gram stain and aspirate were negative. CT abdomen was consistent with colitis involving the descending and rectosigmoid colon. Colonoscopy was performed which revealed a normal colon and biopsies were taken. Stool studies were positive for fecal WBCs. Rheumatoid factor was negative. Treatment with NSAIDs and loperamide was initiated and she had improvement in her joint pain and diarrhea, and she was subsequently discharged from the hospital. Biopsy results returned following discharge with microscopic lymphocytic colitis. This case illustrates the association of oligoarthritis with microscopic lymphocytic colitis, which is generally seen in 10-20% of cases. Arthritis in this population is nondestructive and is typically seronegative for rheumatoid factor. The pathogenesis is unclear and believed to be multifactorial although there have been suggestions of an autoimmune mechanism, especially given the association of this disease with autoimmune syndromes such as celiac disease, rheumatoid arthritis, diabetes, and lupus. Recognition of this disease is important to help tailor therapy. Studies have indicated efficacy of mesalamine with/without cholestyramine, budesonide, or aminosalicylate/sulfasalazine. Drugs known to be associated with the microscopic colitis, such as NSAIDs, should be discontinued.
Abstract Title: An Unlikely Mix: Pulmonary embolism, hemolytic anemia and Sjogren's syndrome

Abstract Text: Primary Sjogren's syndrome is characterized by lymphocytic invasion of exocrine glands, specifically the salivary and lacrimal glands, leading to sicca syndrome. Histoimmunochemistry of primary Sjogren's is often characterized by positive SSA, SSB, and ANA. The correlation between hypercoagulability, including pulmonary venous embolism, with several autoimmune disorders with positive antiphospholipid antibodies has been well established, though to a lesser effect with Sjogren's syndrome. We present a 62-year-old Caucasian male with a history of COPD, pulmonary lymphoid nodular hyperplasia and a recent diagnosis of Sjogren's syndrome who presented with worsening dyspnea with minimal exertion and chest pressure, pleuritic in nature, as well as brownish urine for one month. He had had an increase in supplemental oxygen requirement over the previous week and had recently traveled by car from North Carolina to Rhode Island one week prior to admission. Physical exam was notable for O2 saturation of 91% on 2L NC, dry mucous membranes, morbid obesity, occasional crackles and mild non-pitting lower extremity edema. He was found to have a macrocytic anemia with a hemoglobin of 7.9 (from 10-12 at baseline) which downtrended to 6.5, negative fecal occult blood test, urobilinogen on urinalysis, significantly elevated LDH (793), low haptoglobin (<12), an indirect hyperbilirubinemia and positive direct Coomb's test indicative of an autoimmune hemolytic process. Chest x-ray showed several right lung densities consistent with lymphoid hyperplasia. Given risk factors for pulmonary embolism, CTA was performed and showed multiple acute on chronic pulmonary embolisms as well as advancement of the patient's pulmonary lymphoid nodal hyperplasia with question of lymphoma. High dose steroids and anticoagulation were used to treat him for autoimmune hemolysis and pulmonary embolisms and he symptomatically improved. Though rare, pulmonary involvement with pseudolymphoma (pulmonary lymphoid nodular hyperplasia), is a process known to occur in the setting of Sjogren's with several cases reported in the literature. As is also seen in this patient, autoimmune hemolytic anemia, similarly, is very rare in the setting of primary Sjogren's. This case serves to highlight the intersection of several special features and management of autoimmune rheumatologic disease.
Abstract Title: An Unlikely Mix: Pulmonary embolism, hemolytic anemia and Sjogren"s syndrome

Abstract Text: Primary Sjogren’s syndrome is characterized by lymphocytic invasion of exocrine glands, specifically the salivary and lacrimal glands, leading to sicca syndrome. Histoimmunochemistry of primary Sjogren’s is often characterized by positive SSA, SSB, and ANA. The correlation between hypercoagulability, including pulmonary venous embolism, with several autoimmune disorders with positive antiphospholipid antibodies has been well established, though to a lesser effect with Sjogren’s syndrome. We present a 62-year-old Caucasian male with a history of COPD, pulmonary lymphoid nodular hyperplasia and a recent diagnosis of Sjogren’s syndrome who presented with worsening dyspnea with minimal exertion and chest pressure, pleuritic in nature, as well as brownish urine for one month. He had had an increase in supplemental oxygen requirement over the previous week and had recently traveled by car from North Carolina to Rhode Island one week prior to admission. Physical exam was notable for O2 saturation of 91% on 2L NC, dry mucous membranes, morbid obesity, occasional crackles and mild non-pitting lower extremity edema. He was found to have a macrocytic anemia with a hemoglobin of 7.9 (from 10-12 at baseline) which downtrended to 6.5, negative fecal occult blood test, urobilinogen on urinalysis, significantly elevated LDH (793), low haptoglobin (<12), an indirect hyperbilirubinemia and positive direct Coomb’s test indicative of an autoimmune hemolytic process. Chest x-ray showed several right lung densities consistent with lymphoid hyperplasia. Given risk factors for pulmonary embolism, CTA was performed and showed multiple acute on chronic pulmonary embolisms as well as advancement of the patient’s pulmonary lymphoid nodal hyperplasia with question of lymphoma. High dose steroids and anticoagulation were used to treat him for autoimmune hemolysis and pulmonary embolisms and he symptomatically improved. Though rare, pulmonary involvement with pseudolymphoma (pulmonary lymphoid nodular hyperplasia), is a process known to occur in the setting of Sjogren"s with several cases reported in the literature. As is also seen in this patient, autoimmune hemolytic anemia, similarly, is very rare in the setting of primary Sjogren"s. This case serves to highlight the intersection of several special features and management of autoimmune rheumatologic disease.
Kuznicki, Apryle

Last Name: Kuznicki  First Author: Medical Student
First Name: Apryle  PG or MS Year: MS 3
ACP Number: 2414505  Category: Clinical Vignette

Medical School or Residency Program: University of New England, College of Osteopathic Medicine
Hospital Affiliation: Kent Hospital
Additional Authors: Cheryl Brodsky, MD

Abstract Title: A Case of Severe Preeclampsia with IUGR and IUFD at 30 Weeks Gestation

Abstract Text: Intro: Preeclampsia is a multi-system disorder caused by a combination of endothelial dysfunction and vasospasm. Severe preeclampsia, defined as involving 1 or more of the following: BP >160 mmHg systolic or 110 mmHg diastolic, proteinuria >5g in 24 hrs, pulmonary edema, oliguria, persistent headaches, epigastric pain, thrombocytopenia, oligohydraminos, and decreased fetal growth or placental abruption, occurs in 25% of cases. Risk of intrauterine fetal demise (IUFD) is increased in severe preeclampsia. Additionally, early-onset preeclampsia (<34 weeks gestation) is associated with a high risk of fetal death. Case Description: A 37 yo G1P0 female with PMH significant only for IVF, presented to the hospital at 30 weeks 0 days gestation due to inability to detect fetal heart sounds by home Doppler. Ultrasound confirmed fetal demise. The patient’s BP was significantly elevated at 238/137. Although the patient had inconsistent prenatal care, high BP readings had been documented since first trimester, and labetalol was offered, but the patient refused. New onset lower extremity edema was also present. Urine dipstick was positive for proteinuria between 300-600 mg/dL. The patient’s BP was difficult to control and she received IV and PO hydralazine and labetalol, as well as magnesium sulfate. Vaginal delivery was initiated, but when the patient failed to progress in labor, a repeat US showed a transverse lie of the fetus, necessitating caesarean section delivery. A male, stillborn fetus weighing 960g was delivered. Placenta was delivered 1 minute later. No obvious structural anomalies of fetus or placenta were noted, and both were sent for autopsy. When the patient’s BP again became very elevated at 248/117, she was transferred to the ICU for management. Evaluation for secondary causes of hypertension was pursued, but renal US and urinary metanephrines were normal. Once stable, the patient was transferred back to the labor and delivery unit, and followed by Obstetrics and Internal Medicine. The patient was transitioned to nifedipine for BP control, as she desired future pregnancy. She was discharged on day 7 with appointments for close follow-up. Preliminary fetal autopsy report showed intrauterine growth restriction and no congenital anomalies. Discussion: This patient’s severe preeclampsia, was likely superimposed on a background of chronic HTN, with the rare, but devastating outcome of fetal demise. Frequent prenatal visits and early identification of risk factors for severe preeclampsia are essential for improving outcomes for mother and baby. Our patient would have benefitted from consistent prenatal care where her specific risk factors for preeclampsia, especially chronic HTN, could have been identified and managed, potentially leading to earlier diagnosis, and a better outcome. She also may have benefitted from a new test called Triage, which measures the amount of placental growth factor (PIGF) in the blood and helps predict the need for delivery.
Abstract Title: Postural Tachycardia Syndrome

Abstract Text: Introduction: Postural tachycardia syndrome (POTS) is a condition of dysautonomia, specifically a chronic orthostatic intolerance, in which a change to an upright position causes an abnormally large increase in heart rate and in the absence of orthostatic hypotension. Patients with POTS generally have intact autonomic reflexes, and they rarely have orthostatic hypotension or syncope. POTS is the most prevalent form of orthostatic intolerance. In the United States, approximately 500,000 Americans are affected by this disorder, and most patients present at relatively young age (14 to 45 years). Women predominate among patients with POTS with a female to male ratio of 5:1. The reason for this is unclear and has yet to be elucidated.

Patient Profile: Patient is a 24-year-old white female from Rhode Island who was diagnosed with gastroparesis and treated with a low fiber and a low residue diet. Shortly after, she developed spells of tachycardia. Her episodes of tachycardia were mainly associated with upright position during shower. In addition, she complained of dizziness and presyncope on standing, intermittent chest discomfort (on standing), fatigue, and exercise intolerance.

Etiology: The primary causal mechanisms of postural tachycardia syndrome (POTS) remain unclear and are likely heterogeneous. Some people develop POTS after a viral or bacterial infection such as infectious mononucleosis, bronchitis, or pneumonia, while others develop symptoms after a trauma, such as injury from motor vehicle accident. Women can also develop POTS during and after pregnancy. Investigators have reported a number of abnormalities in patients with POTS and proposed mechanisms to explain this phenomenon. Some common POTS phenotypes described are as follows: Neuropathic POTS, Central Hyperadrenergic POTS, Norepinephrine Transporter Deficiency and Blockers, Mass Cell Activation, Hypervolemia and Blood Volume Regulation.

Presentation: Patients with POTS report lightheadedness, dizziness, fatigue, impaired concentration, and blurred vision. Other orthostatic symptoms include palpitations, tremors, and anxiety. Gastrointestinal symptoms include abdominal pain, bloating, constipation, diarrhea, nausea, or vomiting. Cutaneous finding includes dependent acrocyanosis, a dark red-blue discoloration of legs, which are cold to touch.

Treatment: The optimal therapy of POTS is not established. Patients with POTS should avoid aggravating factors such as dehydration and extreme heat. Acute blood volume expansion and fludrocortisone (aldosterone analog) will improve short-term symptoms of hypovolemia and control heart rate. Some patients may benefit from midodrine or beta blocking agents. Other therapies, such as acetylcholinesterase inhibitors, remain under investigation at this time.

Conclusion: The postural tachycardia syndrome (POTS) is defined as a form of orthostatic intolerance characterized by an abnormal large increase in heart rate that occurs on standing without arterial hypotension. Therapies targeting the hypovolemia and the excess sympathetic nervous system activation may help relieve symptoms.
Lee, Eric

Last Name: Lee  First Author: Medical Student
First Name: Eric  PG or MS Year: MSIV
ACP Number: 1522275  Category: Research

Medical School or Residency Program: Warren Alpert Medical School of Brown University
Hospital Affiliation: Rhode Island Hospital
Additional Authors: Nathan Hudepohl MD, Janette Baird PhD, Michael Mello MD

Abstract Title: Factors Associated with Hospitalization in Geriatric Patients Presenting with Acute Diarrheal Illness to the Emergency Department

Abstract Text: Background: Diarrheal illness in the geriatric population contributes significantly to admissions and costs in the US, yet indications for admission remain poorly characterized. Objective: To identify demographic and clinical factors associated with admission Methods: This is a retrospective chart review study of elderly patients who presented with diarrhea to the EDs of a level 1 trauma center and a community hospital from June 2012 to May 2013. Inclusion criteria: age > 65, ED diagnosis of diarrhea, onset < 5 days. Exclusion criteria: history of inflammatory bowel disease, acute surgical process, current dialysis. From the resulting database of 714 charts, we systematically reviewed every tenth chart in chronological order to produce a subset of 120 charts for analysis. Patient level data on demographic variables (gender, age) and clinical variables (history of co-morbidities, lab results during ED visit, and initial vital signs) were analyzed. Univariate and multivariate analysis on predictors of admission were conducted. Results: 76 patients were eligible for study inclusion. 67% were female; mean age was 80 years (range 65-101); 78% were admitted; mean length of stay was 4.1 days (median = 3); 9.2% returned to the ED within 1 month for diarrhea. Admission was not associated with gender (OR 1.60; 95% CI : 0.52-4.86) or age (65-74 vs older)(OR 2.27; 95% CI : 0.57-9.01). Co-morbidities prior to the ED visit (diabetes, coronary artery disease, diuretic use, or recent antibiotic use) were associated with increased odds of admission (OR 7.25; 95% CI : 1.52-34.54), as were abnormal lab results obtained during the ED visit (OR 7.76; 95% CI : 1.52-36.97). Abnormal vital signs during the ED visit were not associated with odds of admission (OR 1.07; 95% CI : 0.25-4.73). To control for the confounding effects, an interaction term was created. Having an abnormal lab and a co-morbidity did not increase the odds of hospital admission among these patients (OR 0.06; 95% CI : 0.02-2.10). Conclusions: Results suggest clinical history and labs play a more significant role than demographics or vital signs when considering admission for a patient. Future analysis should investigate the sensitivity and specificity for admission of the specific co-morbidities and lab values. The high admission rate may also suggest clinicians err on the side of admission due to clinical uncertainty.
Liou, Kevin

**Last Name:** Liou  
**First Name:** Kevin  
**ACP Number:** 2378314  
**Medical School or Residency Program:** Warren Alpert Medical School of Brown University  
**Hospital Affiliation:** The Miriam Hospital  
**Additional Authors:** Ashil Gosalia, M.D.; Brad Manning, M.D.

**Abstract Title:** Watch what you breathe: a case of interstitial lung disease possibly induced by occupational and environmental exposures

**Abstract Text:** This case illustrates an uncommon disease with unique histo-pathological features. The patient was a 65-year-old Puerto Rican male who presented with one year of shortness of breath and productive cough, which acutely worsened over the past two months. He reported a 20-pound weight loss since the onset of symptoms, but had no other complaints. He denied any recent illnesses, sick contacts, or travel history. His past medical history and family history were non-contributory. He did not smoke, drink alcohol, or use any recreational drugs, but he owned a pet dog and lived with a son who is a heavy smoker. He retired three years ago from a factory job, where he was exposed to heavy metals, dyes, and caustic chemicals. In the past, he lived in an apartment with mold and owned birds as pets. On admission, he was afebrile with normal vital signs and oxygen saturation of 97% on 2 liters of oxygen. Physical exam was notable for loud S2, bibasilar fine inspiratory crackles, and digital clubbing. Laboratory data revealed normal serum chemistries, normal liver and kidney function, mild normocytic anemia, and elevated C-reactive protein. Iron studies were consistent with iron deficiency in the setting of chronic inflammation. Chest radiograph demonstrated cardiomegaly, airspace disease in right middle lobe, and prominent infiltrates bilaterally. Subsequent chest CT confirmed the extensive airspace disease and interstitial markings, along with multiple enlarged mediastinal nodes. Echocardiogram revealed mild pulmonary hypertension. These findings were concerning for community-acquired pneumonia superimposed on either chronic interstitial lung disease or lung malignancy. His symptoms improved with oxygen, methylprednisolone, and moxifloxacin. Bronchial alveolar lavage was negative for malignancy and infectious etiologies, so the focus shifted towards identifying other causes of his interstitial lung disease. Antibody testing was strongly positive for rheumatoid factor and weakly positive for cyclic citrullinated peptides, but further work-up for autoimmune causes was inconclusive. A lung tissue and lymph node biopsy was performed via video-assisted thoracic surgery, which demonstrated features resembling non-specific interstitial pneumonia (NSIP). NSIP is a type of idiopathic interstitial pneumonia that is associated with a wide spectrum of medical conditions, including HIV, collagen vascular disease, hypersensitivity pneumonitis, and a number of medications. Thus, a diagnosis of NSIP should alert the clinician to the possibility of other undiagnosed medical conditions. The first step in treatment is to remove inciting factors and to address underlying diseases. Patients generally respond favorably to corticosteroids and immunosuppressive agents. This particular case highlights the importance of obtaining a detailed history in order to identify possible causes of NSIP. Given the negative workup for NSIP-associated medical conditions and commonly implicated medications, the patient’s occupational and environmental exposures were identified as the likely culprits.
Lundholm, Amy

**Last Name:** Lundholm  
**First Name:** Amy  
**ACP Number:** 1364164  
**PG or MS Year:** PGY5  
**Category:** Research  
**Medical School or Residency Program:** Roger Williams  
**Hospital Affiliation:** Roger Williams  
**Additional Authors:** Saskia Cooper, Stuart Schwartz

**Abstract Title:** Rheumatologists Choosing Wisely: An evaluation of compliance with the ACR ANA testing guidelines

**Abstract Text:** In accordance with the American Board of Internal Medicine’s “Choosing Wisely” campaign, the American College of Rheumatology (ACR) published the top five rheumatologic tests or practices whose necessity should be questioned. One of these questionable practices was ordering antibodies to extractable nuclear antigens (ENA) in the absence of a positive ANA, as the likelihood of a positive ENA given a negative ANA is quite low. Using the ACR “Top 5” we evaluated compliance among three attending rheumatologists and the financial implication of noncompliance. We performed a chart review on 264 patients who were seen at University Medical Foundation Rheumatology during the past year whose physician ordered an ANA and/or selected ENAs. Overall compliance among the three attending rheumatologists was 85%. Of the 15% of patients who had ENAs ordered at the same time as the ANA, 79% had a history and/or review of systems highly suspicious for rheumatologic disease. 21% of the lab orders deemed noncompliant were due to excessive caution by the ordering physician. Based on the hospital’s laboratory pricing, noncompliance with the ACR guideline resulted in a calculated unnecessary $12,165 in laboratory testing during the one year period.
Mannino, Courtney

Last Name: Mannino  First Author: Medical Student
First Name: Courtney  PG or MS Year: MS-3
ACP Number: 1519009  Category: Clinical Vignette

Medical School or Residency Program: Brown Medical School
Hospital Affiliation: Memorial Hospital of RI
Additional Authors: Mohammed Salhab, MD, Sarah Schmidhofer, MD, Aurora Pop-Vicas, MD

Abstract Title: Psoas Abscess in an Immunocompetent Host

Abstract Text: A 48-year-old obese woman with chronic back pain presented to our emergency department with three weeks of progressive, sharp, right hip pain, radiating to the buttocks and lower back, exacerbated by movement. Within the past week, she was discharged from two other facilities with Prednisone and analgesics for presumed arthritis with minimal symptomatic improvement. The day prior to admission, her orthopedist diagnosed bursitis and referred her for admission after noting marked leukocytosis on complete blood count. In the ED, she was afebrile, tachycardic and hypotensive. Exam revealed abdominal tenderness with right hip extension (positive psoas sign). White blood cell count (WBC) was 56,100/uL with left shift, sedimentation rate was 92, C-Reactive Protein (CRP) was above 200 mg/L and creatinine was 1.62. An abdominal and pelvis computed tomography (CT) showed a right psoas abscess. She was admitted to the Intensive Care Unit and given broad-spectrum antibiotics. A catheter drained sixty milliliters of pus growing methicillin-sensitive Staphylococcus aureus (MSSA). Blood cultures throughout hospitalization remained negative. Antibiotics were de-escalated to Cefazolin, and her sepsis resolved. On day seven, the patient became febrile as her right hip pain increased. A repeat CT scan revealed an enlarging right psoas abscess. An additional catheter was placed, draining 200 milliliters of pus growing MSSA with the same microbiogram. The remainder of the infectious disease workup was negative, including blood cultures, a trans-esophageal echocardiogram and a human immunodeficiency virus test. The patient improved steadily and was discharged home on intravenous (IV) cefazolin. Five weeks later, she was symptomatically improved. Only a small residual fluid collection was seen on CT, leukocytosis was resolved and the CRP remained somewhat elevated at 32 mg/L. IV antibiotics were continued for another two weeks. This case illustrates the importance of maintaining an index of suspicion for psoas abscess in patients with worsening hip or back pain, even in young, immunocompetent patients without history of psoas trauma. The diagnosis is easily overlooked in the absence of typical comorbid conditions predisposing to primary psoas abscess, such as diabetes mellitus, intravenous drug abuse, or immunosuppression. Our patient did not have surgery or injury to any adjacent structures to imply contiguous spread of infection. Primary psoas abscesses generally occur as a result of hematogenous or lymphatic seeding from a distant infectious site, but as in our patient, that site may be occult. Low back pain radiating to the hip, positive psoas sign and elevations of WBC and inflammatory markers should raise suspicions for psoas abscess. In summary, the rarity of the condition and non-specific symptoms, in the setting of high morbidity, make this diagnosis essential.
Mao, Eric

Last Name: Mao  First Author: Resident
First Name: Eric  PG or MS Year: PGY-3
ACP Number: 1656423  Category: Research

Medical School or Residency Program: Brown University Internal Medicine
Hospital Affiliation: Rhode Island Hospital
Additional Authors: Colleen Kelly, MD; Jason Machan, PhD

Abstract Title: Apparent Racial Differences in Clostridium difficile Infection Risk may be Attributable to Healthcare Access

Abstract Text: Purpose: To identify patients at greater risk for C. difficile Infection (CDI), we investigated how race affects CDI risk nationally. Methods: A retrospective study was conducted using the Nationwide Inpatient Sample, the largest all-payer database of hospital discharges in the United States maintained by the Healthcare Cost and Utilization Project (HCUP). We identified hospital stays with likely antibiotic exposure by discharge diagnoses with an International Classification of Diseases, 9th Revision (ICD-9) code for any bacterial infection. This sample would be at greatest risk for CDI. The primary outcome was CDI diagnosis during the same hospital stay. Logistic regression, taking into account the survey design as per HCUP documentation (proc surveylogistic, SAS version 9.3, The SAS Institute, Cary, NC), was used for hypothesis testing regarding rates of CDI. “Likely use of antibiotics” and “antibiotics with point of origin” were treated as domains within which races were compared. Results: There were approximately 8 million discharges for bacterial infections. Of these, approximately 300,000 also contained a CDI diagnosis. Without stratifying by factors that affect CDI risk, discharges of white race were at significantly greater risk for CDI than other races. Discharges of Hispanic and Native American race were at significantly lower risk for CDI than other races. Those identified as white had a 4.55% (95% CI 4.35-4.76) CDI risk. Hispanics had a 3.11% (95% CI 2.84-3.40%) risk. Native Americans had a 2.59% (95% CI 2.15-3.11%) risk. There was a direct relationship between annual median household income quartile of the zip code of residence of the discharge and CDI risk. Discharges of the lowest quartile had a 3.49% (95% CI 3.31-3.68%) CDI risk. Those of the highest quartile had a 5.27% (95% CI 4.97-5.58%) risk. Discharges with private insurance had a 3.63% (95% CI 3.43-3.84%) CDI risk. Those who self-paid and did not pay had risks of 1.86% (95% CI 1.66-2.08%) and 2.22% (95% CI 1.87-2.65%), respectively. However within a subpopulation of hospitalizations with antibiotic exposure and point of origin of skilled nursing facility (SNF), there were no significant racial differences in CDI rates. Conclusions: CDI represents a deviation from the paradigm that increased healthcare access is associated with improved health outcomes. Patients of white race usually have greater access. Among patients at high CDI risk, patients of white race had greater CDI risk than other races. Patients of higher income or with private insurance had greater CDI risk than patients of low income or with Medicaid, self-pay, or no insurance during their hospital stay. Yet the effect of race on CDI disappears in the high-risk population originating from SNFs, suggesting that the apparent racial differences in CDI risk may be driven by disparities in access to healthcare.
Mao, Eric

Last Name:  Mao
First Name:  Eric
ACP Number:  1656423
Category:  Clinical Vignette

Medical School or Residency Program:  Brown University Internal Medicine
Hospital Affiliation:  Rhode Island Hospital
Additional Authors:  Heather Cassidy, MD

Abstract Title:  An Atypical Presentation of Stroke

Abstract Text:  A 72-year-old woman with no known past medical history presented with altered mental status. She stated feeling unsteady on ambulation for the past three weeks and also admitted to feeling “confused” but she was not able to provide further details. Her son has noted a gradual progression of these symptoms over three years but worse recently. The patient also complained of dysuria. She had not seen a doctor for more than ten years. On presentation, she was afebrile and her blood pressure was 223/136. She appeared unkempt. She was alert and oriented to person and place but not time. Her lung and heart exams were unremarkable. Neurological exam revealed fluent speech but limited thought content and insight, left-right disorientation, and agraphia. There were no focal deficits on cranial nerve, motor, and sensory exams. Laboratories were notable for a creatinine of 1.2 with unknown baseline and pyuria of 26 white blood cells. A non-contrast head CT revealed chronic extensive microvascular disease and old lacunar infarcts but no acute pathology. The patient was empirically treated with ceftriaxone for a urinary tract infection causing an encephalopathy in the setting of a presumed progressive vascular dementia stemming from uncontrolled chronic hypertension. She was also started on anti-hypertensives and aspirin. Patient did not exhibit significant improvement in mental status by hospital day three. Further workup included TSH, B12, RPR, and HIV, which all returned negative. MRI of the brain was performed and revealed a sub-acute left parietal lobe infarct. Neurology was consulted and attributed the patient’s symptoms to her recent stroke. The patient’s blood pressure was optimized and she was discharged to a rehabilitation center. This case illustrates an atypical presentation of a stroke that was associated with severe disability. The patient’s presentation contains components of the controversial diagnosis of Gerstmann’s Syndrome, which includes the tetrad of difficulty discriminating one’s own fingers, acalculia, agraphia, and left-right disorientation stemming from a lesion in the dominant parietal lobe. Though these deficits were originally described together as a syndrome, recent studies purport that a pure form of this described syndrome is clinically rare but different lesions to the parietal lobe can produce the aforementioned symptoms. This case highlights the importance of considering the diagnosis of stroke in patients with atypical symptoms but typical risk factors. The urinary tract infection was a red herring that delayed the diagnosis of the underlying etiology of the patient’s change in mental status. Evidence of chronic ischemic cerebrovascular lesions should also raise the awareness of the risk for recurrent cerebrovascular events. Clinicians should be vigilant for atypical presentations of stroke to prevent significant morbidity and mortality.
**Abstract Title:** Oral Mucositis: A warning sign for methotrexate induced aplastic anemia

**Abstract Text:** Introduction: Methotrexate is used to treat autoimmune processes including rheumatoid arthritis and psoriasis. Rare but life-threatening side effects include bone marrow suppression and pancytopenia. Non-life threatening side effects are more common and they include gastrointestinal upset, hepatotoxicity, stomatitis and oral mucositis. Folic acid supplementation enhances DNA synthesis and reduces these side effects. We present a case of a 66 year old female on methotrexate presenting with oral mucositis, and later developing aplastic anemia. Case: A 66 year old Caucasian female with a past medical history of COPD, hypertension and psoriasis presented with painful mouth sores for one week. The pain limited her oral intake. Physical exam was positive for multiple oral lesions on the buccal and pharyngeal mucosa measuring between 1-4 cm in size. A complete blood count revealed pancytopenia: WBC 2.4, RBC 3.16, hemoglobin 10.7, hematocrit 32% and platelets 84. Her MCV was elevated at 102.5. The patient’s methotrexate, prescribed for psoriasis, was promptly discontinued. On hospital day 4 the patient’s pancytopenia began to worsen and she developed a neutropenic fever. She was administered broad spectrum antibiotics. On hospital day 7 her cell lines reached critical levels: WBC 0.6 with 7% neutrophils, RBC 2.15, Hemoglobin 7, hematocrit 22%, platelets 13. The patient was transfused two units of packed red blood cells and one unit of platelets. A bone marrow biopsy revealed marrow hypocellularity most consistent with aplastic anemia. She was started on Neupogen and folic acid supplementation. By hospital day 12 her oral mucositis dissipated and her cell lines stabilized. She was discharged to a rehab facility on day 20. Discussion: Aplastic anemia is a rare but potentially life threatening side effect of methotrexate. The incidence estimated at 2%. Folic acid is integral in combating the toxic, myelosuppressive effects. Methotrexate is a folic acid analog and a competitive inhibitor of the enzyme dihydrofolate reductase. This enzyme converts dihydrofolate into tetrahydrofolate, a necessary building block for DNA nucleosides. Thus, methotrexate suppresses DNA synthesis affecting tissues with high rates of cell turn over including mucosal cells and bone marrow cells. Folic acid supplementation is used to enhance DNA synthesis, protecting against bone marrow suppression. Oral mucositis is a more common side effect of methotrexate with an incidence of approximately 15-18%. Poor nutritional status is associated with increased methotrexate toxicity. The patient’s aplastic anemia was likely secondary to methotrexate use and exacerbated by her lack of folic acid intake. Mucositis could be a harbinger for the development of methotrexate induced aplastic anemia. According to a 2005 study, 70% of patients with severe methotrexate induced pancytopenia also presented with oral mucositis. Recognizing her mouth sores as methotrexate induced mucositis early on could have anticipated her pancytopenia and encouraged early folic acid supplementation.
Abstract Title: Acquired Hemophilia A in an 82 Year Old Female

Abstract Text: Introduction: Acquired Factor VIII inhibitor, or Acquired Hemophilia A, presents with soft tissue bleeding and isolated aPTT prolongation. It is often associated with autoimmune disorders, postpartum, malignancy, or medications like penicillins, sulfonamides and phenytoin. Case: An 82 year old female with hypertension, hyperlipidemia and advanced Alzheimer’s dementia presented from a nursing home with fever and cough, found to be secondary to Healthcare-Associated Pneumonia. She was started on vancomycin and piperillin/tazobactam with which she improved. On hospital day 3, the patient became hypotensive with a two gram drop in her hemoglobin with associated new exam findings of a tense abdominal wall with large ecchymoses over left abdomen, trunk, and left upper extremity. She did not have any rashes, splenomegaly, epistaxis, gingival bleeding, or scleral icterus. There was no history of trauma, bleeding diatheses or anticoagulation apart from subcutaneous unfractionated heparin for DVT prophylaxis. Patient’s labs were as follows: Hgb 7.4, plt 152, aPTT 87, PT 15.2, INR 1.4, a normal fibrinogen 390, positive Factor VIII mixing study, undetectable Factor VIII, Bethesda Units of 50. CT abdomen showed left anterolateral abdominal wall subcutaneous hemorrhage, as shown in Figure 2. Finally, her mildly elevated INR was thought to be due to poor nutritional status and she was given 5mg of Vitamin K. The following day, her aPTT was 84. After discussing her grave prognosis in setting of ongoing subcutaneous hemorrhage with her family, therapy was stopped and comfort measures initiated. She passed within 24 hours. Discussion: This case illustrates a rare condition where an acquired factor inhibitor caused life-threatening bleeding. Acquired Factor VIII Inhibitors prolong the aPTT by inhibiting the intrinsic pathway of the coagulation cascade. Activity of the inhibitor is measured in Bethesda Units (BU). Our case illustrates a markedly active inhibitor which would not have responded to supplemental Factor VIII, the recommended therapy for BU less than 5. In cases where the BU are greater than 5, activated Factor VII is given to attempt to bypass the intrinsic pathway. Systemic therapy with steroids and/or immune-modulating drugs can also be given in an attempt to suppress the inhibitor. The etiology of acquired Factor VIII inhibitors in patients without hemophilia is often difficult to ascertain. It is occasionally drug related, and there have been prior reports of piperacillin/tazobactam associated inhibitors, which we considered as a possible etiology for our patient. References: Lichtman MA, Kipps TJ, Seligsohn U, Kaushansky K, Prchal JT: Williams Hematology, 8th Edition: www.accessmedicine.com. Ma, Alice D and Carrizosa, Daniel. “Acquired Factor VIII Inhibitors: Pathophysiology and Treatment.” Hematology, American Society of Hematology Education Program: January 1, 2006 vol. 2006 no. 1 432-437.
Abstract Title: Endobronchial Sarcoid Mass; A Rare Phenomena

Abstract Text: Sarcoidosis is a multisystem disorder of unknown etiology characterized pathologically by noncaseating granulomas within effected organs. It typically presents between 10 and 40 years of age and is more common amongst patients of African descent. The lung is the most frequently involved organ and the disease is detected incidentally in approximately half of all cases by findings of bilateral hilar adenopathy or reticular opacities on routine chest films. The lung parenchyma is most typically involved; however, the airways may also be affected by the presence of mucosal erythema, edema, cobblestoning, plaques, nodules and/or stenosis. We report the second case of an endobronchial sarcoid mass in the United States and seventh in the world. A 56 year old woman with chronic cough presented to Pulmonary clinic for follow-up of sarcoidosis diagnosed in 2004. She has a steroid allergy and has not undergone prednisone therapy. HRCT of her chest revealed bilateral hilar and mediastinal adenopathy as well as reticulonodular and alveolar densities predominantly in the middle to upper lung zones. The mass-like densities appeared larger when compared to a CT four years prior. Repeat CT three months later showed further increase in the size and number of the densities. The patient underwent bronchoscopy and endobronchial ultrasound (EBUS) to rule out malignancy. Compared to a bronchoscopy performed in 2004 which showed erythema only, multiple nodules were noted on the anterior and posterior walls of the trachea and the medial basilar segment of the right lower lobe appeared to be occluded by an endobronchial mass. After paratracheal and subcarinal lymph nodes were biopsied via EBUS, multiple endobronchial biopsies were obtained from the tracheal nodules and from the mass at the medial basilar segment of the right lower lobe. Pathology of the tracheal nodules showed chronically inflamed tissue and the medial basilar mass revealed granuloma formation. She is currently scheduled for follow-up. The diagnosis of sarcoidosis was confirmed in this case in 2004 via mediastinoscopic lymph node biopsy after roentgenographic findings of bilateral hilar adenopathy. Bronchoscopy at the time of diagnosis revealed erythema of the airway only. She was noted to have a slowly progressive disease course and was stage II by the time she underwent repeat bronchoscopy with biopsy of the mass. She never received steroid therapy as she is systemic steroid allergic. For our poster, we will discuss the proposed pathophysiology and typical disease progression of sarcoidosis with special emphasis on lung involvement as well as review the few previously reported cases of endobronchial sarcoid lung masses. We will also discuss the role of steroid therapy in sarcoidosis and alternative treatment modalities for patients in whom risks of such therapy outweigh the benefits.
May, Todd

Last Name: May
First Name: Todd
ACP Number: 1974979

First Author: Resident
PG or MS Year: PGY-2
Category: Clinical Vignette

Medical School or Residency Program: Kent Hospital Internal Medicine
Hospital Affiliation: Kent Hospital
Additional Authors: Daniel Dragomire, MD

Abstract Title: A Case of Lyme Disease-Associated IgA Nephropathy

Abstract Text: Introduction: Lyme disease can potentially affect the skin, heart, eyes, joints, and nervous system depending on the stage. Kidney involvement, however, is rarely reported. Among renal diseases, IgA nephropathy is the most common cause of primary glomerulonephritis in developed countries. Usually the etiology of IgA nephropathy is unknown. However, there is evidence suggesting genetic predisposition, as well as associations with certain infections including cytomegalovirus, Hemophilus parainfluenza, Staphylococcus aureus, and toxoplasmosis. In this case, involving simultaneous Lyme infection and IgA nephropathy, we examine the potential association between these two entities. Case Description: A 19-year-old Hispanic female with medical history significant for anemia and weekly headaches for the past year presented for fever, body aches, and vomiting. Symptoms started two weeks ago, at which time the patient also noticed a swollen mass in her left axilla. Additionally, the patient complained of four episodes of hematuria over the past year, each time lasting one week and not associated with her menstrual cycle. On presentation she showed the following vital signs: BP 108/68, P 124, RR 17, T 38.8 oC. Physical examination was remarkable for pharyngeal erythema, nontender anterior cervical lymphadenopathy and left axillary mass draining serous fluid. Vancomycin and Ceftriaxone were started empirically. CT head was normal. Labs showed WBC 15.8, Hgb 10.2, platelets 558, creatinine 1.06 and estimated GFR > 60. Urinalysis showed protein 100-299, and many RBC casts. Kidney ultrasound was normal. CSF fluid analysis and blood cultures were negative. Lyme Ab was positive at 3.84 confirmed by Western blot. Ultimately, kidney biopsy was performed revealing focal segmental proliferative glomerulonephritis consistent with IgA nephropathy. Ultimately, the patient’s hematuria resolved and she was discharged on Doxycycline. Discussion: Lyme disease can affect multiple organs systems, but the kidneys are not typically involved. In one case, a previously healthy 57-year-old female presented with dyspnea, fatigue, headache, ankle edema and hypertension. Acute Lyme disease was diagnosed and renal biopsy revealed membranoproliferative glomerulonephritis. Another case involved a 40-year-old male presenting with gross hematuria. Past history was remarkable for microscopic hematuria diagnosed incidentally 2 years ago without any identifiable cause. He reported being bitten by a tick 1 week ago, and developed myalgias, sore throat, headache and fever. Renal biopsy was consistent with IgA nephropathy and serology confirmed acute disseminated Lyme disease. Yet another case describes a 61-year-old male without history of renal disease presenting in acute renal failure due to Lyme-disease associated focal proliferative IgA nephropathy. The question remains, is Lyme disease a primary cause of glomerulonephritis, or can it activate previously quiescent glomerular disease? In this case, the answer is not certain, but in otherwise healthy patients presenting with hematuria and positive Lyme titers, suspicion should be raised for glomerulonephritis related to tick borne disease.
Abstract Title: The role of high dose steroid therapy in preventing irreversible ischemic end organ damage in giant cell arteritis

Abstract Text: Introduction: giant cell arteritis (GCA) affects approximately one in five hundred individuals over the age of fifty, of which, fifteen to twenty percent will develop visual symptoms. If untreated this can progress to permanent binocular blindness. We discuss the role of high dose steroid therapy in preventing progression of ischemic end organ damage in a case of GCA. Case Presentation: an 84 year-old female with no previous medical history was admitted to the hospital for evaluation of acute blindness in the left eye for one day. The patient also complained of bilateral intermittent blurry vision, jaw claudication and new onset headache for a month. Physical exam revealed bilateral, pulseless, nodular vessels on her temples. Fundoscopic exam showed bilateral macular edema with paleness of optic fundi and optic discs. Laboratory data were as follows: white blood cell count 13.3 x 10³/μl (3.5-11 x 10³/μl) with no bandemia, erythrocyte sedimentation rate 86 mm/hr (0-20 mm/hr), c-reactive protein 168.75 mg/L (0.00-7.30 mg/L) and alkaline phosphatase 178 U/L (42-121 U/L). A non-contrast computed tomography of the head showed some atrophy and chronic ischemic changes, but no acute hemorrhage, edema or mass effect. She was diagnosed with bilateral anterior ischemic optic neuropathy likely secondary to GCA and was started on high dose intravenous prednisolone 1000 mg daily for 3 days followed by a slow prednisone taper. By admission day 3 the patient had developed complete blindness in the right eye. A bilateral temporal artery biopsy confirmed the diagnosis of GCA. Discussion: high dose steroids must be initiated early if GCA is clinically suspected in order to halt the progression of ischemic end organ damage. However, our patient presented with advanced bilateral ocular damage, which could not be reversed with steroid therapy. The recommended initial steroid dose in treating GCA cases uncomplicated by end organ ischemic damage is prednisone 1mg/kg/day to a maximum of 60mg/day followed by a slow taper after 2-4 weeks if symptoms are controlled. If signs of ischemic end organ damage are present, intravenous pulse methylprednisolone (1000 mg IV daily x 3 days) is recommended, followed by oral treatment. Conclusion: our patient presented late in the disease course when she had already sustained extensive bilateral ischemic ocular damage confirmed on fundoscopic exam. Studies on outcomes in patients with GCA-related visual loss treated with IV steroids show that significant improvement in visual acuity is rarely seen after steroid therapy is started and the goal of treatment is to preserve vision in the contralateral eye. However, even when treated with high-dose steroids, some patients still develop bilateral vision loss, usually within the first five days of treatment.
Abstract Title: Cytomegalovirus pneumonitis and viremia in a patient with angioimmunoblastic lymphoma treated with rituximab

Abstract Text: Introduction: Cytomegalovirus (CMV) infection is an emerging cause of life-threatening pneumonia in patients with lymphoma treated with rituximab. Mortality rates in these patients are estimated to be as high as 30% even after institution of the appropriate antiviral therapy. We present a case of CMV pneumonitis and viremia in a patient with angioimmunoblastic lymphoma treated with rituximab. Case Presentation: a 69-year-old male was admitted to the oncology-hematology unit because of pancytopenia. He complained of shortness of breath and constitutional symptoms, which included fevers, weakness and arthralgias for a month. Two years prior to this admission, he was diagnosed with angioimmunoblastic lymphoma and received a regimen including cyclophosphamide, doxorubicin, vincristine, and achieved remission. A year after his initial diagnosis, he relapsed and was treated with cycles of oxaliplatin and gemcitabine. A month prior to this admission, he relapsed a second time and developed autoimmune hemolytic anemia (AIHA), for which he was treated with prednisone. A week prior to admission he was started on a third round of chemotherapy and received oxaliplatin and gemcitabine. On admission, his labs were as follows: white blood cell count 1.1 x 10^3/μl (3.5-11 x 10^3/μl) with segmented neutrophils 77%, band neutrophils 1%, lymphocytes 18%, monocytes 5%, hemoglobin 5.8 g/dL (13.3-17 g/dL), hematocrit 18.5% (38-51%), platelets 35 x 10^3/μl (150-450 x 10^3/μl). In the hospital, he received 3 cycles of rituximab, high dose steroids and intravenous immunoglobulins. A chest x-ray revealed a lingular infiltrate and he received broad-spectrum antibiotics for hospital-acquired pneumonia with no improvement in symptoms. Fungal markers were found to be positive and voriconazole was added for suspected fungal pneumonia, still with no symptomatic improvement. On admission day 10, a computed tomography of the chest revealed bilateral patchy airspace disease. Bronchoscopy with bronchoalveolar lavage showed no evidence of pneumocystis pneumonia but showed positive cultures for CMV, Candida Lusitaniae, Escherichia Coli and Stenotrophomonas Maltophilia. Ganciclovir and Bactrim were added but his condition continued to deteriorate and he was found to have CMV viremia by polymerase chain reaction (62400 IU/mL). The patient expired five days later due to septic shock secondary to pneumonia, CMV viremia and multiple organ failure. Discussion: CMV infection is rarely reported in lymphoma patients. This case illustrates, as in recent studies, that rituximab use is associated with increased risk of CMV reactivation and infection. The recommended treatment for invasive CMV infection is intravenous ganciclovir 15mg/kg every 12 hours adjusting for the creatinine clearance. Conclusion: rituximab therapy is increasingly being recognized as a cause of CMV disease in lymphoma patients. Studies report that even with prompt initiation of appropriate antiviral therapy, mortality rates remain high in this setting as patients are already debilitated by their illness and chemotherapy.
Abstract Title: Active neurosarcoidosis affecting hypothalamus and hypophysis

Abstract Text: Introduction: Neurosarcoidosis is present in 5% of patients with known sarcoidosis. Approximately 50% of patients diagnosed with neurosarcoidosis have neurologic complications at the time of diagnosis of sarcoidosis. Any part of the nervous system may be affected. Cranial mononeuropathy is common, with peripheral facial nerve palsy developing in 25 to 50%, sometimes bilaterally. Optic neuropathy and cranial nerve VIII involvement have also been described. Case Report: A 44 year-old male with a past medical history of hypertension, panhypopituitarism, diabetes mellitus secondary to chronic corticosteroid therapy, and central diabetes insipidus presented to the Emergency Department complaining of progressively worse shortness of breath and changes in mental status. On presentation, the patient was found to be hypoxic and hypotensive. He was intubated for hypoxic respiratory failure and was subsequently admitted to ICU for treatment of septic shock due pneumonia and adrenal crisis. He continued to improve with antibiotics and intravenous steroids. On CT of the head he had thickening of the pituitary stalk and calcifications in the bilateral hypothalamus, concordant with chronic infiltration. Lumbar puncture performed displayed mild pleocytosis. MRI of the brain showed a sub-centimeter focus on white matter signal hyperintensity in the right frontal lobe. There was associated diffusion signal abnormality as well as hypersensitivity in the hypothalamus. Thickening of the upper infundibular stalk was confirmed and its junction with the hypothalamus with enhancement through the area, although the pituitary was not affected. A non-specific 4 mm rounded focus of T2 hyperintensity and hypoenhancement was seen at the junction of the adenohypophysis and neurohypophysis, immediately inferior to the junction of the pituitary and infundibular stalk. The above findings were consistent with neurosarcoidosis. Discussion: This case was presented to increase awareness of the evaluation of neurosarcoidosis. Neurodiagnostic imaging of sarcoidosis includes neuroimaging such as a contrast enhanced MRI, which would show meningeal or parenchymal enhancement, present in 40% of patients with active neurosarcoidosis, confirming disruption of the blood-brain-barrier. Parenchymal or meningeal masses and hydrocephalus can frequently be identified. Multiple parenchymal nodules may represent inflammation extending along the Virchow-Robin spaces deep into the brain or spinal cord. Confirmatory measures include a lumbar puncture. CSF opening pressure is elevated in approximately 10% of patients, and the total protein is increased in two thirds of patients, typically up to 250mg/dL. Pleocytosis is almost always present, with mononuclear predominance. ACE CSF may be elevated. Other diagnostic test such as electroencephalography, evoked potentials and angiography are occasionally indicated to exclude other conditions. If the diagnosis still remains in doubt, meningeal, brain or spinal cord biopsy may be indicated. Patients with known sarcoidosis who present with neurologic signs and symptoms require a thorough evaluation as cranial involvement and other findings of neurosarcoidosis can be irreversible.
Michaud, Chelsea

Last Name: Michaud
First Name: Chelsea
ACP Number: 1976029
Category: Clinical Vignette
PG or MS Year: PGY-2

Medical School or Residency Program: Kent Hospital IM
Hospital Affiliation: Kent Hospital
Additional Authors: Eric Berthiaume

Abstract Title: An Unusual Case of Sepsis and Diarrhea

Abstract Text: Septic thrombophlebitis of the portal vein is a severe intra-abdominal septicemia involving the drainage of the portal venous system. The etiology is commonly diverticulitis, appendicitis, cholangitis or rarely, Crohn’s. Here we present an interesting case of pylephlebitis in a gentleman with marked hyperbilirubinemia and a history of Crohn’s colitis. A 59 year-old male with a history of well controlled Crohn’s colitis presented with six days of chills, abdominal pain and diarrhea. He was initially treated as an outpatient for a Crohn’s flare with prednisone and ciprofloxacin however did not improve. With the onset of jaundice, a CT scan of the abdomen was performed, revealing middle and left portal vein thrombosis. In the emergency department, he was found to be febrile at 40C rectally with active rigors and abdominal tenderness in the right upper quadrant. Labs revealed a WBC of 14,300 mCL, 93% neutrophils, total bilirubin of 15 mg/dL, and a direct bilirubin of 9 mg/dL with normal transaminases. The patient was started on meropenem and the following day, blood cultures revealed E. coli and B. fragilis bacteremia. On day 3, the patient had continued fevers, delirium, rising bilirubin to 21.2 mg/dL, and was found to be in DIC. Hypercoaguable and autoimmune workups were negative. MRCP was negative for any biliary ductal dilatation. A liver biopsy revealed moderate acute and chronic inflammation involving portal tracts, acute cholangitis, marked pericholangitis, mild steatosis and mild fibrosis. Due to the negative MRCP and resolving cholestasis, a transient extrahepatic obstruction such as biliary sludge or passed choledocholithiasis was suspected as the likely precipitating event for acute pylephlebitis. The patient improved on IV antibiotics over the next several days without any further intervention and was eventually discharged home.

Pylephlebitis is a rare entity that can complicate any intra-abdominal infection or inflammatory process. While diverticulitis, appendicitis and cholangitis are the most common causes, it has also been associated with inflammatory bowel disease due to colonic translocation resulting in portal bacteremia. Ascending cholangitis from primary sclerosing cholangitis must also be considered in a patient with a history of IBD. In this particular case, however, the negative MRCP argues against PSC. As this patient demonstrated no clear source of infection but had histologic evidence of cholangitis with profound hyperbilirubinemia resolving over the course of his hospitalization, the most probable inciting event was a transient biliary obstruction prior to his presentation. Bacteroides fragilis and Escherichia coli are the most common pathogens to be implicated. Bacteroides species have unique virulence factors that contribute to thrombosis. Because mortality rates for pylephlebitis remain quite high, it is imperative that this diagnosis be made in a timely manner, especially for those patients with other cause for abdominal pain since it may be easily overlooked.
Abstract Title: Pediatric Idiopathic Orbital Inflammatory Syndrome with an Atypical Prodrome

Abstract Text: PURPOSE Idiopathic orbital inflammatory syndrome (IOIS) typically presents with proptosis, extraocular motility limitation, and pain on eye movement in children. These symptoms may be accompanied by systemic complaints, the most common of which is fever. We present a case of IOIS in a pre-adolescent boy with a gastrointestinal prodromal period. METHODS Case Report RESULTS A previously healthy 11 year-old Caucasian boy without a history of trauma presented to his primary care physician with left eye irritation and foreign body sensation. He was treated for a presumed corneal abrasion with antibiotic ointment and drops without relief. The patient then developed significant nausea and vomiting that persisted over a three-week period, resulting in a 14-pound weight loss. He underwent an unremarkable gastrointestinal (GI) outpatient assessment. During the GI study, however, the patient was noted to have a new left facial twitch and restriction of extra-ocular motility, warranting immediate evaluation with neuroimaging. Magnetic resonance imaging (MRI) of the orbits revealed diffuse enlargement and enhancement of the left medial rectus, left superior oblique, and left superior rectus muscles and an enlarged left lacrimal gland. On ophthalmological examination, visual acuity was normal, but the patient was found to have left proptosis, left upper lid edema, extraocular motility limitation of elevation and adduction of the left eye, and pain with eye movement. After infectious and neoplastic etiologies were excluded, in the setting of normal thyroid, ACE, ANCA, and additional rheumatological serologies, the patient was administered high dose oral prednisone. He exhibited marked improvement within 24 hours. CONCLUSIONS This case suggests that gastrointestinal manifestations with severe weight loss may herald the development of orbital signs in pediatric IOIS.
Abstract Title: Reed Syndrome: Hereditary leiomyomatosis and the risk of renal cell carcinoma

Abstract Text: Introduction: Reed Syndrome is an autosomal dominant disease characterized by the presence of concurrent benign tumors of smooth muscle origin in the skin. Patients may be at risk for development of renal cell carcinoma. Renal cell tumors are predominantly type II papillary, prompting the importance of early detection. A dermatologic diagnosis requires one of the following: Multiple cutaneous leiomyomas, with at least one histologically confirmed lesion, or a single leiomyoma, in light of significant family history. We present a young male with a 5-year history of numerous painful, firm, pink papules on his right chest. Case: A 24-year-old male presented for a benign skin complaint and upon further questioning reported a 5-year history of what patient described as “scar-like” bumps on his right chest that are painful to the touch. Patient denies any trauma or injury to the area. Patient denies having similar findings elsewhere on his body. Family history is negative for renal cancer and leiomyomas. On examination his right chest has multiple (50) 4-7mm pink, firm papules, grouped together, and some in a linear fashion. Biopsy results were consistent with multiple cutaneous leiomyomas, and the patient was subsequently sent to the genetic clinic on suspicion of Reed Syndrome. Patient underwent genetic testing for the germline FH mutation. Genetics discussed typical manifestations of Reed Syndrome and need for surveillance, as well as autosomal dominant inheritance of Reed Syndrome and the phenomenon of somatic mosaicism. Genetic risk to offspring was also addressed. Genetics has also considered testing skin fibroblasts from the affected part of the body to rule out mosaic disease. In addition, abdominal MRI was ordered for RCC surveillance. Discussion: Multiple cutaneous and/or uterine leiomyomatosis, known as Reed Syndrome, is a rare disorder defined by cutaneous and uterine leiomyomas and uncommonly, renal cell carcinoma (HLRCC). Affected individuals are characterized by a germline mutation of the FH gene encoding the Krebs” cycle enzyme, located at 1q42.3-43, inherited in an autosomal dominant manner. Cutaneous leiomyomata appear as skin-colored to light brown papules or nodules distributed over the trunk, extremities, and occasionally the face, appear at a mean age of 25 years, increasing in size and number with age. Renal tumors causing hematuria, lower back pain, and a palpable mass are usually unilateral, solitary, and aggressive, occurring in 10%-16% of affected individuals, with a median age of detection of 44 years. Somatic FH mutations have been found in nonsyndromic leiomyomas, suggesting that FH is a target of 1q43 deletions, and indicate that somatic FH mutations appear to be limited to tumor types observed in hereditary leiomyomatosis and renal cell cancer. Treatment of multiple painful leiomyomas can be difficult; local therapies include nitroglycerol, topical anticholinergic agents, topical anesthetic, cryotherapy, and CO2 laser ablation.
Najem, Catherine

Last Name: Najem  
First Name: Catherine  
ACP Number: 1972609  
PG or MS Year: PGY-2  
Category: Clinical Vignette

Medical School or Residency Program: Roger Williams Medical Center
Hospital Affiliation: Boston University
Additional Authors: Alvaro Menendez, MD; Oscar Bernal, MD

Abstract Title: Livedo reticularis and Sturge Weber Syndrome: An unusual presentation

Abstract Text: Livedo reticularis and Sturge Weber Syndrome: An unusual presentation

Introduction

Livedo reticularis (LR) is a common finding characterized by cyanotic discoloration. The causes of acquired LR include conditions that result in vasospasm, vessel obstruction, as well as medications, neoplasms, infections and some neurologic disorders. Case discussion

The patient is an 18 year old Hispanic female with a past medical history of Sturge Weber Syndrome with leptomeningeal angioma, who was admitted with a witnessed new onset focal seizure, followed by post ictal status, and severe headache. The patient travelled to Jamaica two weeks prior to her presentation. A week after her trip, she was prescribed Azithromycin for cough and nausea. Two days prior to her admission, the patient developed a reticular non pruritic rash on her left upper extremity, and a severe bilateral frontal headache. The remainder of the review of systems was unremarkable. On admission, the patient was afebrile. On physical examination, she was fully oriented, without neck stiffness. Neurologic findings were remarkable for left sided hemiparesis and left facial droop. The patient was placed on anticonvulsants and a lumbar puncture was performed. Admission laboratory values were significant for absence of leukocytosis, normal liver panel, and elevated CRP. Cerebrospinal fluid (CSF) analysis demonstrated lymphocytic pleocytosis with normal glucose and total proteins. Chest XRay did not reveal any acute pulmonary disease. CT scan of the head did not show any intracranial mass or acute hemorrhage. The patient developed fevers during her hospitalization, was started on broad spectrum antibiotics, which were stopped after multiple negative bacterial cultures of blood and CSF. Brain magnetic resonance imaging of the arteries and veins demonstrated a right sided old leptomeningeal enhancement, without evidence of dural sinus thrombosis or aneurysms. Respiratory virus panel and flu testing were negative. Antinuclear antibodies, rheumatoid factor, complement levels, and anti-neutrophil cytoplasmic antibodies were normal. Cold agglutinins were positive with a titer 1:64. Mycoplasma pneumonia testing was positive only for IgM. Dengue fever antibodies and arbovirus antibody panel were normal. Rapid plasma reagin test, human immunodeficiency virus antibody were non reactive. Advanced CSF studies were negative for herpes DNA(PCR), mycoplasma PCR, Varicella Zoster virus PCR, West Nile virus immunoglobulins, cryptococcal antigen, bacterial, fungal and acid fast bacilli cultures. Based on clinical and serologic findings, the likelihood of mycoplasma encephalitis and mycoplasma-induced livedo reticularis was raised. The patient improved after few days, without any residual neurologic deficits.

Discussion: Mycoplasma pneumonia infections spectrum includes aseptic meningitis, encephalitis, CNS vasculitis and livedo reticularis, with or without respiratory symptoms. This case was presented to increase awareness of the role of mycoplasma pneumonia as an agent causing neurologic disease, statement supported by the presence of elevated antibody titers despite the inability to isolate the organism in the CSF.
Abstract Title: The other subset of the Vasculitides: an emergency not to forget

Abstract Text: Introduction: ANCA negative pauci-immune glomerulonephritis is a rare form of glomerulonephritis. ANCA serology is a major diagnostic tool for pauci-immune glomerulonephritis. More than 5% of pauci-immune crescentic glomerulonephritis cases are ANCA negative. Case discussion: The patient is a 66-year-old Caucasian woman with a past medical history of diabetes mellitus, who presented with the complaint of painless gross hematuria and fatigue of ten days duration. She reported decreased urine output, and swelling of both legs, associated with mild exertional dyspnea. The remainder of the review of systems was unremarkable. On evaluation in the emergency department, she was afebrile but hypertensive (182/100mmHg). Her lungs auscultation revealed decreased air entry bilaterally. Her abdomen was soft and slightly distended, but non tender. She had periorbital edema and bilateral pitting edema in her lower extremities, reaching the knees. Laboratory evaluation showed normocytic anemia, blood urea nitrogen of 44mg/dl, a creatinine level of 3.8mg/dl, hyperkalemia, hyperphosphatemia and hypocalcemia. Her estimated creatinine clearance was 11.9, with a fractional excretion of sodium of 2.5%. Her creatinine level 3 weeks ago was 1.4 mg/dl. Her urine analysis on presentation revealed 3+ proteins, gross RBC, 1-3 WBC. A chest X-Ray done on admission showed cardiomegaly with mild congestion. Her kidney ultrasound was normal. She was admitted to the hospital with a diagnosis of acute kidney injury and nephrotic syndrome. During her hospitalization, the patient’s creatinine increased till it reached the level of 6 mg/dl on the fourth day. ANA, ANCs, complements, HIV serology, hepatitis B and C, anti-GBM antibody were all negative. A kidney biopsy was performed on day 3, and the patient was started on pulse dose methylprednisolone. Kidney biopsy demonstrated focal segmental necrotizing and crescentic glomerulosclerosis with weak mesangial staining for IgA and C3. CT scan of the chest and sinuses were negative for granulomas. The patient’s ANCs serology were repeated and remained negative. A diagnosis of ANCA negative pauci-immune crescentic glomerulonephritis was raised. The patient was placed on oral prednisone as well as cyclophosphamide and pneumocystis jirovecii prophylaxis. She was started on hemodialysis alternating with plasmapheresis every other day. Discussion: ANCA negative patients are usually younger than ANCA positive patients (39+/17 versus 56+/14), which makes our patient’s presentation unusual at her age. On the other hand, the prevalence of nephrotic syndrome is higher in ANCA negative patients. Extra-renal involvement is unusual in this group, delaying the diagnosis, increasing the risk of a poorer renal outcome, and leading to 35 percent mortality rate over 5 years. Our case highlights the importance of having a “high index of suspicion” in the appropriate individual. Emergent diagnosis by kidney biopsy and induction therapy with glucocorticoids and cyclophosphamide are warranted. The randomized MEPEX trial support one more time, that plasma exchange enhances renal function recovery of patients who present with severe kidney dysfunction.
Abstract Title: Strawberry tongue and skin desquamation: Kawasaki or not Kawasaki?

Abstract Text: Strawberry tongue and skin desquamation: Kawasaki or not Kawasaki? Introduction Kawasaki disease (KD) is an acute systemic vasculitis of unknown etiology. It generally affects young children, although it has been reported in adults, where it is often misdiagnosed due to its non specific clinical presentation. Case discussion The patient is a 24 year old nursing student female, with a past medical history of methicillin sensitive Staphylococcus aureus (MSSA) throat infection with adenitis and recurrent urinary tract infections, who presented with the complaint of swollen lips and bleeding tongue, along with oozing ulcers on arms, legs, face and the right fifth finger. The ulcers started initially one week prior to her presentation as papillary lesions that quickly progressed to larger painful erythematous weeping ulcers. She reported few days of fever and generalized fatigue. She failed outpatient therapy with oral dicloxacillin. The remainder of the review of systems was remarkable for a lack of weight loss, sinonasal and pulmonary symptoms. On the day of her presentation, the patient was febrile. On physical examination, she was fully oriented, had swollen lips and tongue. The latter was beefy in appearance and was bleeding. Multiple open lesions of 3mm to 2cm in size were distributed largely on the arms, scattered on the legs, with multiple ulcers on the face and a single lesion on the right fifth finger. These ulcers were clearly marginated, non purulent, with brightly erythematous underlying tissue oozing serous fluid. Bullae were not appreciated. Laboratory values were impressive for leukocytosis and normocytic anemia. Blood cultures and wound culture grew MSSA. Repeat cultures grew the same organism. Transthoracic and transesophageal echocardiograms were negative for valvular abnormalities and definite vegetations. ESR, antinuclear antibodies and anti-double stranded DNA antibodies were normal. Hence, based on the serologic and clinical findings, the diagnosis of impetigo with MSSA infection was made and the patient was placed on vancomycin therapy. Her symptoms improved remarkably within two weeks. Her swollen lips and tongue were attributed to dicloxacillin reaction. Discussion: Impetigo is a contagious superficial bacterial infection, observed most frequently in children and adults with occupational exposures. Non bullous impetigo is the most common presentation, where the principal pathogen is Staphylococcus Aureus. However, patients who exhibit fewer than five of the six classic clinical features of KD (as in our patient): fever, polymorphous rash, reddened swollen lips and strawberry tongue, are considered to have incomplete KD, in the absence of other infectious etiologies. Although adult KD is rare, coronary artery sequelae occur in 20% of the cases. Hence, having a “high index of suspicion” for incomplete KD in the differential of febrile illness in the appropriate individual is crucial. Otherwise, those patients will continue to escape our attention and the cardiac complications will be inevitable.
Left Ventricular Assist Device use in a case of Fulminant Viral Myocarditis secondary to Coxsackie B3

Giorgio Napoli, MD; Michael Gilson, MD  
The true epidemiology of myocarditis is difficult to quantify due to its variability of presentation, etiology and course; however an estimated incidence of 10 cases in every 100,000 persons is found to have myocarditis. Of this small number, the approximate prevalence of a fulminant presentation, that being acute cardiogenic shock secondary to pump failure, amongst biopsy proven myocarditis is 10%. Biopsy proven viral myocarditis is even more rare considering biopsy is usually forgone for empiric treatment.  

In this report I present a case of viral myocarditis secondary to Coxsackie B virus confirmed by serology titers. Compared to the historically good long-term survival rate of other causes of myocarditis, even when presenting as a fulminant course, Coxsackie B virus is known to cause severe myocarditis with a high mortality rate. The patient highlighted in this report was an otherwise healthy middle-aged female, with no recent travel, sick contacts or outdoor exposure, presenting in acute cardiogenic shock in the setting of 4 days of nonspecific viral like symptoms. Her initial assessment was concerning for acute coronary syndrome given regional ST segment elevations on EKG. While being supported by vasopressors and inotropes, the patient proceeded to cardiac catheterization, which revealed minimal vascular disease and an estimated ejection fraction of 30% by contrast ventriculography. It was realized that this patient was suffering from myocarditis and was empirically treated with steroids, continued on pressor agents and begun on IVIG. The patient continued to decompensate and evolved to complete heart block, which spurred reassessment for pace maker placement and ventricular assist device. In this instance a minimally invasive percutaneous heart pump catheter known as the Impella was inserted via fluoroscopy to assist pump function. The use of this device in fulminant myocarditis has been documented in very few case reports prior to this, and is usually used as a bridge until improvement. The patient began to clinically improve slightly despite multiple comorbid conditions including anuric acute renal failure and acute shock liver. Cardiac function rebounded after 3 days of assistance with the Impella device, however the patient was unable to wean off of pressers. Sadly, after a very complicated and turbulent 14-day hospital course, the patient began to decompensate again, and the patient’s family agreed to focus on comfort rather than further therapy, and the patient passed peacefully. This case provides a review of a rare clinical entity treated with novel interventions and therapy.
Abstract Title: Small cell lung cancer with tracheal metastasis

Abstract Text: Introduction: Primary lung cancers and especially small cell type, very rarely metastasize in the trachea. Most encountered endotracheal metastasis are from extrapulmonary malignancies; mostly breast, kidney and colorectal. Case Presentation: a 73 year old lady presented to our institution with one week history of exacerbated cough and shortness of breath. She is an ex-smoker African American, with past medical history significant of colon cancer diagnosed in 2003 status post left colectomy/adjuvant chemotherapy, chronic obstructive pulmonary disease and vocal cord paralysis. On presentation, Patient was afebrile, hemodynamically stable and saturating well on room air. Physical exam was relevant for hoarseness, bilateral wheezes and right basal crackles. Chest Xray showed right lower lobe consolidation and right lung nodule with questionable primary or metastatic disease. IV Solumedrol, Azithromycin and Ceftriaxone were started for COPD exacerbation and underlying pneumonia. A CT chest done for further characterization of chest Xray findings showed five intraluminal tracheal masses extending to proximal right mainstem bronchus and a medial right lower lobe mass. Compared to a CT chest, abdomen and pelvis done in 2007 for colon cancer restaging; pulmonary findings were new. Bronchoscopy was done and biopsies from endotrachial tumor and right mainstem bronchus were taken. Histopathological examination of biopsy material was compatible with small cell carcinoma. A PET scan and MRI brain were done for staging and treatment plan. Patient was found to have a limited disease and was started on Carboplatin and Etoposide with concurrent radiotherapy. Discussion: Tracheal metastasis of primary lung cancer is extremely rare, although direct tracheal involvement by primary lung cancer is often seen and classified as T4 lung cancer. The exact mechanism of metastasis is unknown. The exact mechanism of endobronchial metastasis is unknown. The possible mechanism may be due to involvement of peribronchial lymphatics with subsequent progression into the submucosal space. Management of endotracheal metastasis depends upon primary tumor, anatomical location, and the presence of other metastases.
Abstract Title: Hypercalcemia in Aggressive Lymphoma

Abstract Text: INTRODUCTION: Hypercalcemia is a challenging complication of malignancy. It is present in 20-30% of malignancies and is an indicator of poor prognosis. CASE: A 59 year-old male with untreated diffuse large B-cell lymphoma (DLBCL) presents with fatigue, nausea and vomiting. When he was first diagnosed over a year ago, he presented with a large left breast mass and deferred chemotherapy to follow holistic practices, such as the Budwig diet. One month prior to current hospitalization, he experienced poor appetite, increased constipation and 20lbs of unintentional weight loss. He also reported enlargement of his left breast mass that now drained foul, purulent discharge. He denied any abdominal pain, fever, or palpitations. Physical exam revealed: tachycardia (HR 100s), an 8cm x 14cm malodorous fungating mass with central ulceration and necrosis in the left lateral chest, a 7cm x 4cm round firm mass in the left axilla, hypoactive bowel sounds, and soft, non-tender abdomen. Notable admission labs included: Ca 16, K 4.2, BUN 47, Cr 3, Phosphorus 5.5, LDH 138, Urate 13.3, Albumin 2.2. EKG revealed normal sinus rhythm at 90bpm without interval changes. He was given aggressive IV fluid resuscitation, palmitronate, allopurinol, and rasburicase. The medical team was initially concerned for tumor lysis syndrome but subsequent labs showed normal LDH and K levels and elevated phosphorus, ruling against this diagnosis. It was then thought that hypercalcemia was the primary cause for acute renal failure which led to hyperurecemia and hyperphosphotemia. Further work-up revealed: low PTH (6.4), negative SPEP/UPEP, normal PTH-rP (18), and elevated vitamin D 1,25-OH (244). Over several days, the patient's electrolyte abnormalities and renal function improved. CT and PET imaging revealed localized lymphoma in the left chest with axillary lymphadenopathy. Surgical biopsy of the mass confirmed Stage IIIEB DLBCL. The patient was stabilized and is currently undergoing R-CHOP chemotherapy. DISCUSSION: Hypercalcemia in malignancy causes high mortality where 50% of these patients die within 30 days. Presenting symptoms may include: confusion, fatigue, anorexia muscle weakness, diffuse pain, constipation, polyuria, or polydipsia. Hypercalcemia in malignancy is generally due to one of four mechanisms: 1) local osteoclastic hypercalcemia involving bone metastastases, 2) Humoral hypercalcemia mediated by PTH-rP, 3) Vitamin D 1,25-OH mediated hypercalcemia, or 4) ectopic hyperparathyroidism. Most cases are due to PTH-rP. Our case exemplifies vitamin D-mediated hypercalcemia, which occurs in <1% of malignancies. Management of these cases is similar in that IV fluids and bisophosphonates are first-line therapies. Second line medications include: calcitonin, glucocorticoids, and furosemide. If not treated adequately, these patients risk death from arrhythmias or profound renal failure. CONCLUSION: This patient depicts a rare case of vitamin-D mediated hypercalcemia in lymphoma and reviews standard management for these electrolyte abnormalities.
**Abstract Title:** One Heart Breaking Headache

**Abstract Text:** Abstract: Apical Ballooning Syndrome (ABS), also known Takotsubo’s cardiomyopathy, is becoming a more frequently noted condition accounting for 1-2% of suspected ACS. It most frequently occurs in postmenopausal women, often as a response to some stressful event. The etiology is not well understood, but has been associated with catecholamine release and vasospasm. We present a 73 year old woman initially presenting with delayed speech and mild expressive aphasia, thought to be a complicated migraine, preceding ABS diagnosed by cardiac echocardiography and catheterization. She was treated supportively and made a satisfactory recovery. Case Report: Our patient is a 73 year old woman with a past medical history of migraines, TIAs, mitral valve prolapse, chronic pain on opiates, treated breast cancer and pulmonary hypertension who presented at the urging of her neighbor for fatigue and altered mental status. Her initial examination was most notable for delayed recall, mild bradykinesia, and mental slowing. The rest of neurologic exam was otherwise non focal. She had experienced similar symptoms a few weeks prior in Virginia and work up there, including MRI, was negative. The rest of a review of systems was negative. Her vital signs were within normal limits. Interestingly, in addition to a mild hyponatremia, her admission labs were notable for a mildly elevated troponin to 0.35. Her EKG displayed deep t waves concerning for Wellens’ sign. A head CT was normal. Her altered mental status improved within several hours. Given the broad differential for her altered mental status, as well as the recent negative work up, neurology was consulted who favored complicated migraine. Unfortunately, the next morning she was found to be hypotensive with systolic blood pressure in the fifties while still mentating clearly. Aggressive fluid resuscitation was given with modest improvement. Echocardiogram showed an ejection fraction of 30% with hypokinetic left ventricle and akinesis at the apex. She was taken for cardiac catheterization which showed only minimal vessel disease and was diagnosed with ABS. Over the next several days, her blood pressure improved and she was eventually discharged to a skilled rehabilitation facility. Discussion: ABS, while becoming more recognized, is far from completely understood. Common theories include catecholamine induced vasospasm or direct myotoxicity. It has also been postulated that hormonal changes associated with menopause could play a role. Interestingly, vascular endothelial disorder has been noted in both migraine and cardiac events and other case reports have noted the connection between the two. The association between migraine, other vascular phenomena such as Raynaud’s syndrome and ABS has only begun to be explored and may lead to incite into etiologies of both conditions in the future.
Abstract Title: A Case of Legionnaire’s Disease with Concurrent C. Difficile Colitis

Abstract Text: A 39-year-old man without significant past medical history presented with 3 days of increased fever, cough, nausea, vomiting, and diarrhea. Patient was brought in by his family and noted to be confused, with worsening shortness of breath on the day of admission. Patient had not had any recent antibiotics, and of note, patient had a habit of standing in front of the air conditioner in his apartment. In the ED, patient was initially tachycardic to 147 that improved to 106 with 3L of intravenous fluids. Patient had a chest X-ray revealing left lower lobe pneumonia, and patient’s admission labwork was significant for WBC count of 13.8, lactate 2.6, creatinine 3.81, lipase 258, sodium 125, and elevated liver enzymes ALT 138 and AST 616. Patient was given IV ceftriaxone and azithromycin for severe sepsis secondary to community-acquired pneumonia. With patient’s concurrent pneumonia and severe diarrhea, a urine legionella was sent and returned positive. As part of his diarrheal workup, a Clostridium difficile PCR also returned positive. Patient was admitted for further care of severe sepsis and end-organ dysfunction. In the MICU patient was given intravenous normal saline followed by lactated ringers and sodium bicarbonate drip for severe volume repletion from diarrhea and for severe non-gap metabolic acidosis, which had caused compensatory respiratory alkalosis. Patient was initially tachypneic to 30-35 and febrile to 101.8. Patient was given IV flagyl and po vancomycin for C. diff colitis in addition to IV azithromycin for legionella. Despite copious fluids, the patient initially struggled to meet his diarrheal output of >10L stool from rectal tube per day. Patient’s stool output improved on successive days to 6L and 3.5L, with eventual removal of rectal tube. With improvement in patient’s acidosis, the patient’s breathing dramatically improved with an oxygen saturation 98% on room air. The patient’s mental status returned to baseline, and other markers of secondary organ dysfunction including transaminitis, AKI, and thrombocytopenia all improved. Patient was followed by the infectious disease team and transferred to the medical floor after which he was eventually discharged. This case of Legionnaire’s disease with concurrent C. difficile colitis typifies the toxic presentation of Legionellosis that presents with predominantly gastrointestinal complaints and respiratory decompensation not only from pneumonia, but also compensation for severe diarrhea. This patient’s metabolic derangements of severe non-gap metabolic acidosis, hypokalemia, hyponatremia, leukocytosis, renal and hepatic dysfunction are nonspecific but common sequelae of Legionnaire’s disease. The organism was detected with the urine legionella antigen - a rapid, sensitive, specific, and relatively inexpensive diagnostic test. The patient’s concurrent C. difficile infection was unexpected in the absence of risk factors like prior antibiotics or immunocompromise, but it was also treated successfully with antibiotics.
Brain metastasis: A rare site for primary colorectal adenocarcinoma

Introduction
Colorectal cancer (CRC) is the third most common cancer in the USA. The most common sites for metastases are regional lymph nodes, liver, lung and peritoneum. Brain metastases (BM) are far less frequent and were found in 2-4% at autopsy and represents only 4-6% of brain metastasis. This incidence is likely to increase as new systemic treatment options for CRC prolong survival and do not cross the blood brain barrier. The prognosis for patients with brain metastasis is poor, with less than six months survival. Several prognostic factors for patients with brain metastasis of CRC are age, shorter interval from CRC diagnosis to BM diagnosis, number of metastases and amount of chemotherapy.

Case Report
We report the case of a fifty two year old female presenting with new onset seizure. She developed sudden onset mental status change and began to walk repetitively in circles until collapsing, developing full body tonicity and cyanosis with loss of consciousness. Medical history is significant for colon adenocarcinoma diagnosed in 2002, treated with surgical resection and chemotherapy. An elevated surveillance CEA in 2011 led to the finding of right lung metastases involving mediastinal lymph nodes, treated with chemotherapy and radiation. In 2013, she underwent cryoablation for a metastatic lesion of her right hip. On arrival to emergency department, the patient was alert and oriented with no focal neurological deficits and reported a headache with mild nausea. Vital signs were stable. Blood work was remarkable for mild hyponatremia. Head CT revealed masses in the right frontal lobe and cerebellum suspicious for metastases. MRI showed two masses in the right frontal region with surrounding vasogenic edema and mild subfalcine herniation to the left, with a mass in the medial left cerebellar hemisphere, all lesions less than three centimeters in size. The patient was admitted and given dexamethasone and levetiracetam and underwent a right frontal craniotomy with tumor resection. The patient recovered postoperatively without further episodes of seizure. Pathology revealed poorly differentiated adenocarcinoma with positive immunohistochemistry staining for CK20, pancytokeratin and CDX-2, compatible with known primary colorectal adenocarcinoma.

Discussion
This case illustrates a patient with colorectal adenocarcinoma with metachronous metastases to bone, lung and brain treated systemically with chemotherapy. A twelve year period elapsed between diagnosis of primary CRC and brain metastasis. Extended treatment for CRC has resulted in improved survival for patients with metastatic CRC and is associated with a 3% increased incidence of brain metastases. It has been shown that lung metastasis develops prior to brain metastasis and the lungs are the most common extracranial lesion in these patients. As occult brain lesions may be subclinical, it is recommended that screening with brain imaging be done after development of lung metastases in patients with CRC.
**Abstract Title:** Amylase in an Unusual Place – A Roundabout Diagnosis of Esophageal Rupture

**Abstract Text:** Intro: When presented a patient with a new pleural effusion, Light’s Criteria are applied to determine whether the fluid is transudative or exudative. Physicians combine this data with the patient’s history to determine the cause of the effusion, which includes common differential diagnoses such as heart failure, infection and malignancy. This method alone leads to the etiology in 75% of cases. However, occasionally the fluid results present a mixed picture or our differential is too narrow and we must expand testing on the pleural fluid. We have a case of an otherwise healthy adult male with a new pleural effusion that contained an unusual lab finding in the pleural fluid. Case: A 66-year-old male presented to the ER with chest pain, cough, and malaise. His medical history was pertinent for a hemorrhoidectomy 3 weeks prior. In the post-operative period he had vomited violently multiple times secondary to anesthesia inducing sharp upper back pain. He presented to us 24 hours after surgery. His vital signs were stable, and on exam he had upper thoracic muscular tenderness. A chest x-ray revealed a left lower lobe infiltrate. Labs were all normal. The patient was discharged from the ED with antibiotics. Over the next 3 weeks, his chest discomfort persisted and worsened. Additionally, he developed a non-productive cough and lightheadedness. On presentation he was tachycardic, tachypnic, and febrile with a leukocytosis of 11,800/mm3. A new chest x-ray revealed a consolidated left lower lobe infiltrate with a moderate effusion. Decubitus films revealed an air-fluid level suspicious for an abscess and a loculated effusion suspicious for an empyema. CT revealed a loculated hydro pneumothorax. Thoracentesis revealed elevated protein, LDH of 40,021U/L, and a pH of 6.3 consistent with an empyema. An important additional finding was an elevated amylase > 4,600 U/L. This shifted the differential to include a gastrointestinal cause. A swallowing study revealed perforation of the distal esophagus. Effusion cultures grew oral flora that likely migrated from colonized oral mucosa. The patient was transferred for esophageal repair. Discussion: Post-emetic esophageal rupture is not uncommon. Esophageal perforations carry a high mortality. Oral flora and digestive enzyme migration into a sterile space can give rise to major complications. Rapid repair should be performed. Pain and vomiting are common complaints. Fewer than 30% of patients with spontaneous esophageal rupture demonstrate subcutaneous emphysema. This makes physical exam findings unreliable for diagnosis. A chest x-ray is also unreliable as 97% will show an abnormality, but only ~ 25% will be read as possible esophageal perforation. A patient presenting with chest pain following bouts of vomiting and new cough +/- an abnormal chest x-ray should prompt consideration for esophageal perforation.
Abstract Title: A Rare Case of Localized Amyloidosis in Colon Cancer

Abstract Text: Introduction: Amyloidosis is characterized by the extracellular accumulation of a homogeneous, eosinophilic, fibrillar protein in organs and tissues which commonly show systemic involvement. Localized gastrointestinal amyloidosis is an uncommon condition and amyloidosis associated with tumor is extremely rare. Here we report a case of localized amyloid deposits in colon cancer, which has never been reported before to our knowledge. Case: A 72 year old male with right colon cancer with liver metastasis and lung metastasis, status post chemotherapy, was admitted for worsening abdominal pain with nausea and vomiting. Past medical history included gastroesophageal reflux disease. Physical was remarkable for mildly distended abdomen with diffuse tenderness. No peritoneal signs. Lab results were unremarkable. CT scan showed a 2cm x 4cm collection suggestive for an abscess in the right colon with walled-off perforation. After being given intravenous antibiotics and fluids, the patient underwent a lap-assisted right hemicolectomy. The pathology result showed moderately-differentiated colonic adenocarcinoma containing amyloid deposits consisting of amorphous, eosinophilic, acellular material within the tunica media of the adjacent artery, which is positive with Congo red staining. Abscess adjacent small bowel and lymph node resection revealed no carcinoma or amyloidosis. Molecular analysis also showed KRAS mutation Gly12Cys (GGT→TGT). Further studies with immunostaining revealed the specific type of amyloid deposits in the cancer tissue. Amyloid A and amyloid P immunostains highlighted amyloid deposits within vascular wall of the artery, which suggests the AA pattern of secondary amyloidosis. The patient was discharged soon after post-op recover and did well on clinic follow up. Discussion: Secondary systemic amyloidosis has been described in patients with malignant diseases, including Hodgkin’s disease, multiple myeloma, renal cell carcinoma, lung cancer, bladder cancer and papillary thyroid cancer. Gastric amyloidosis associated with gastric malignancies, such as carcinoma and stromal tumor, is extremely scarce in the previous literature. In our patient, there are local serum amyloid A and serum amyloid P deposits in the colon cancer tissue, which suggests a localized secondary AA amyloidosis. Other possible causes of secondary amyloidosis were extensively investigated and ruled out. To our knowledge, this is the first case report of a concurrent existence of colon adenocarcinoma and localized amyloid deposits in tumor tissue. Given the negative history of amyloidosis, lack of evidence of systemic involvement, and colon cancer tissue pathological findings of localized AA deposits, the colonic adenocarcinoma is suspected to have played a causative role in the development of amyloidosis, though other mechanisms, such as a precursor of the amyloid protein originating from the tumor or a tumor-derived enzyme that cleaves a serum precursor of amyloid protein, may also be considered. However, the mechanisms of amyloid formation in association with colon cancer are unknown. Further investigation in this field is warranted.
Pyoderma Gangrenosum: How a Rare Disease Reconnects a Patient with Long Overdue Health Care

Pyoderma gangrenosum (PG), a rare noninfectious dermatologic condition, manifests as pustules, ulcers, or bullae. Disease progression classically begins with painful inflammatory pustules that either regress or evolve into rapidly enlarging necrotic ulcers. Though most common on the lower extremities, PG can occur on any cutaneous surface. Extracutaneous manifestations of the liver, pancreas, spleen, cornea, and visceral mucous membranes have also been reported. Half of PG cases are associated with an underlying disorder, most commonly IBD, and PG may precede or succeed presentation of its associated disease. PG may also mimic other common conditions, such as abscesses, post-traumatic ulcerations, diabetic foot ulcers, ulcerated breast cancer, anti-phospholipid antibody syndrome, vascular occlusive disorders, solid tumors, medication reactions and cryoglobulinemia. Correct diagnosis is critical for appropriate treatment. A 50 year-old man with a history of Crohn’s disease (CD) and DM2 presented to the ED with a chief complaint of multiple cutaneous lesions. Over the preceding three months, painful pustules had appeared, with some expanding to form purulent ulcerations and exposing the muscle beneath. Three years prior, he had stopped taking all medications when he lost insurance. He was hospitalized five months ago for an acute flare of CD; adalimumab was restarted through the aid of a prescription program, but he never resumed his metformin. Vital signs were normal. Physical exam revealed multiple discrete pustules and a huge pustular ulcer (24cm x 11.5cm) encompassing most of the left upper back, with irregular, violaceous borders and surrounding induration and erythema. Two smaller, stage III ulcers were noted on the right buttock. Routine labs showed glucose of 360 mg/dl and HbA1c of 15.4%. He was admitted for management of uncontrolled diabetes and wound care. During his hospitalization, a diagnosis of PG was made via: (1) clinical presentation: afebrile, lack of evidence of infection, history of CD, and lesions consistent with classic progressive pustular to ulcerative PG (2) biopsy showing ruptured suppurative folliculitis without microorganisms, and (3) negative tissue culture. Differentiating PG from more common presentations of cutaneous ulcers, especially in a diabetic, was crucial, as PG is treated with steroids rather than broad-spectrum antibiotics. This case illustrates how the diagnosis of PG affected clinical decision making, and how a patient with uncontrolled chronic disease was brought back into the health care system. Because PG is rare, occurring in less than 1% of IBD patients, physicians must be aware of the characteristic skin lesions and consider PG in those with nodules leading to purulent ulcers, particularly in patients with uncontrolled disease and barriers to health care. Incipient or sub-clinical IBD must also be considered in any patient presenting with PG due to the high frequency of coincidence of IBD. [Clinical photos and tissue biopsy images available]
Abstract Title: Multiple Cardiac Complications from Chest Radiation Therapy

Abstract Text: Chest radiotherapy is utilized in a variety of malignant and non-malignant neoplastic conditions. Since its advent, this therapeutic modality has undergone significant improvement to focus ionizing radiation to neoplastic targets while minimizing exposure to local structures. These adjacent tissues frequently suffer long term complications as a result to radiation beam exposure. The structures of the heart are no exception to this. Reported here is a case of multiple concurrent structural and electromechanical cardiac complications as the result of chest radiotherapy exposure a decade and a half prior. The patient is a 49-year-old woman with medical history notable for a large mediastinal hemangioma that underwent surgical resection and subsequent chest radiation therapy fifteen years prior. Nine months prior she was admitted to the Coronary Care Unit for third degree AV nodal block requiring implantation of dual-chamber permanent cardiac pacemaker. Transthoracic echocardiogram was notable for normal left ventricular size and function, with mild mitral valve insufficiency and moderate aortic valve insufficiency. Transesophageal echocardiogram suggested the cause to be degenerative. She was discharged home but unfortunately lost to follow up. The patient represented at this time in acute congestive heart failure. She was admitted to the General Medicine service. Her exam was notable for Kussmaul sign. The patient was started on intravenous diuretics. ECG showed paced rhythm. Repeat echocardiogram was unchanged from prior. Pacemaker interrogation showed no clinically significant arrhythmias. Cardiology consultation was obtained for right and left heart catheterization with respect to possibility of radiation-induced restrictive cardiomyopathy or constrictive pericarditis. Catheterization showed left ventricular end diastolic pressure equal to right ventricular end diastolic pressure, with increased pulmonary capillary wedge pressure and moderately increased pulmonary arterial pressure. There was no interventricular dependence. This was consistent with restrictive cardiomyopathy with left ventricular diastolic dysfunction. The incidence of cardiac complications from chest radiation can occur years or even decades after exposure, leading to obvious problems with under-recognition of the clinical association. Radiation therapy can affect almost any cardiac structure, causing atherosclerotic coronary disease, regurgitant valvular disease, restrictive cardiomyopathy and diastolic dysfunction, pericardial disease, and conduction abnormalities including sinus node and AV node dysfunction. No data-driven consensus on follow up intervals and serial monitoring of patients is available, but all clinicians should have a heightened awareness of these potential complications in patients with prior chest radiotherapy involving cardiac fields. Annual history and physical examination should be performed with attention for ischemia, conductive disease, or pump failure. Closer follow up should be considered for those with known ischemic heart disease or risk factors, as well as those with known structural heart disease. Any symptoms warrant consideration for serious cardiac pathology and should prompt aggressive diagnostic evaluation.
Patel, Aleema

Last Name: Patel  First Author: Resident
First Name: Aleema  PG or MS Year: PGY-1
ACP Number: 2373318  Category: Clinical Vignette

Medical School or Residency Program: Roger Williams Medical Center (Boston University Affiliate) Internal Medicine
Hospital Affiliation: Roger Williams Medical Center
Additional Authors: Joanne Szczygiel, MD; Bernard Zimmermann, MD

Abstract Title: Dermatomyositis: An Initial Manifestation of Recurrent Endometrial Cancer

Abstract Text: Introduction: Dermatomyositis is a chronic, systemic inflammatory myopathy characterized by proximal muscle weakness, elevated muscle enzymes, and dermatologic findings. Dermatomyositis has a known association with an increased risk of cancer. Studies have shown that certain malignancies, such as cervical, ovarian, lung, pancreatic and bladder cancers are commonly associated with dermatomyositis. Case Report: 65 year old woman with a history of endometrial cancer treated with total hysterectomy and radiation a year ago who presented to the hospital with proximal muscle weakness. Five weeks prior to presentation, she developed an acute erythematous, pruritic maculopapular rash on her anterior chest and upper extremities. For this rash, she was prescribed a prednisone taper by her primary care doctor, which was ineffective. She was referred to a dermatologist who performed punch biopsies of her rash. Pathology results were consistent with a drug eruption and she was advised to discontinue her pravastatin, which she had been taking for several years. She was also prescribed triamcinolone cream. One week prior to presentation, she developed proximal muscle pain and weakness affecting her upper extremities more than her lower extremities. She had difficulty raising her arms, combing her hair or dressing herself. On admission, vital signs were within normal limits. Physical exam was notable for an erythematous maculopapular rash over her anterior chest extending down her upper extremities to her forearms. She also had some erythema seen at the back of her neck. She was noted to have periorbital erythema and edema as well as periungal erythema, but no Gottron's papules or mechanic's hands. Neurologic exam revealed decreased strength of her upper extremities with intact sensation. Labwork revealed a CPK 3353 IU/L, normal creatinine and liver function tests. Abdominal CT scan showed a hepatic cyst, while a follow up MRI revealed multiple hepatic and right renal cysts, atrophic left kidney and retroperitoneal adenopathy with a possible mass. She underwent a core needle biopsy and fine needle aspiration of the retroperitoneal mass which revealed findings consistent with endometrial adenocarcinoma. The patient was thought to have paraneoplastic dermatomyositis and had a left deltoid muscle biopsy which indicated a focal inflammatory myopathy. She was started on prednisone and referred to her gynecologist for further treatment of her recurrent, metastatic endometrial cancer. Discussion: A diagnosis of cancer can precede, be diagnosed concurrently with or several years after a diagnosis of dermatomyositis. This case illustrates a diagnosis of dermatomyositis in the setting of cancer recurrence. Onset of dermatomyositis in a patient with a prior history of malignancy requires a thorough evaluation for cancer recurrence.
Abstract Title: *Infliximab Induced Immune Thrombocytopenia*

Abstract Text: Introduction Thrombocytopenia is commonly encountered in medical patients, and the differential diagnosis is extensive. Drug induced immune thrombocytopenia is an uncommon cause, but one that can be potentially life threatening, and should be included in every differential diagnosis for thrombocytopenia. Case Presentation A 74 year old Caucasian female with past medical history of ulcerative colitis, erythema nodosum, hypertension, and hyperlipidemia presented to the emergency department with complaint of bleeding gums. She first noticed this the evening prior when brushing her teeth. In addition, she noticed blisters on her tongue and small areas of bruising on her torso. She had recently begun infliximab for ulcerative colitis, and her last dose was administered approximately two weeks prior. The patient’s medication list also included prednisone, mesalamine, metoprolol tartrate, and pravastatin. She had taken aspirin in the past but it was discontinued once infliximab was started. Her vitals included a temperature of 36.1 degrees Celsius, pulse of 87 beats per minute, and blood pressure of 169/88. On exam the patient was noted to have blood blisters on her tongue and multiple areas of petechia on her torso and left upper chest. Initial labs demonstrated a platelet count of 3,000. The remainder of her labs were within normal limits. She was admitted with diagnosis of thrombocytopenia. Concern was raised for drug induced immune thrombocytopenia (ITP) secondary to infliximab. She received a platelet transfusion, prednisone, and intravenous immunoglobulin (IVIg) after consultation with hematology. The patient’s platelet count stabilized and she had no further signs of bleeding. Her platelet count was 23,000 at discharge. Six weeks later, her platelets returned to normal at 145,000. Discussion It is unclear how many cases have been reported of drug induced ITP secondary to infliximab in the setting of inflammatory bowel disease (IBD). This patient’s case is particularly interesting because the diagnosis of immune thrombocytopenia could not only have been caused by infliximab, but also by ulcerative colitis. However, it seemed more likely that she had drug induced ITP due to the fact that her platelet count was reportedly normal before infliximab was initiated and she had no prior history of thrombocytopenia. The treatment of drug induced ITP involves discontinuing the suspected medication and providing therapies aimed at stopping platelet destruction, along with transfusing platelets if indicated. Platelets should only be transfused if the thrombocytopenia is severe, or if there is risk of intracranial or intrapulmonary hemorrhage. Corticosteroids and IVIg are often administered but their efficacy in drug induced ITP is uncertain. Second line medical therapies include options like rituximab or azathioprine. Other patients require splenectomy. A newer class of medications called thrombopoietin mimetics have shown promise, demonstrating higher rates of platelet response along with fewer side effects than other therapies.
**Abstract Title: FDG-PET and its Utility In Diagnosing Infectious Spondylodiskitis**

**Abstract Text:** Introduction: Infectious spondylodiscitis is a condition that includes spondylitis, discitis and vertebral osteomyelitis, and can account for 2-4% of all bone infections. A diagnosis of spondylodiscitis requires multimodal diagnostic procedures including imaging, tissue histology, and bacterial cultures. This study was a meta-analysis aimed to evaluate the diagnostic performance of 18F-FDG PET on suspected spondylodiscitis, based on previously published literature. Patients and Methods: We searched PubMed and EMBASE for pertinent studies up to July 2013. We implemented a patient-based meta-analysis of diagnostic data for FDG PET (the index test) against clinical, laboratory, and/or radiologic evidence of disease (the reference standard). A bivariate analysis was implemented to account for variability beyond the threshold effect. The individual patient data analysis was used to assess confounding factors that moderate diagnostic performance. Results: Twelve studies provided the diagnostic data on FDG PET and spondylodiscitis, comprising 224 patients. The combined sensitivity across studies was 0.97 [95% confidence interval (CI), 0.83-1.00], the specificity was 0.88 (95% CI, 0.74-0.95). For prior probabilities greater than 0.50, the corresponding positive predictive value was 0.96 (0.93-0.98), and the negative predictive value was 0.85 (0.82-0.88). In the individual patient data analysis, metallic implants, dual PET/CT scanners and the addition of other imaging modalities to confirm disease were significant outcome moderators; only PET/CT remained significant in the adjusted analysis. PET/CT scanners improved the diagnostic performance, as opposed to the clinical data (age, sex, lesion site), which did not alter outcome. Conclusions: FDG PET is a robust diagnostic test when spondylodiscitis is suspected and is excellent for exclusion of infectious spondylodiscitis given its low negative likelihood ratio (<0.1). Importantly, this diagnostic test is unaffected by other confounders, including the presence of implants, when PET/CT is used, as patients with implants are at risk for developing spondylodiskitis.
Prodromou, Michael

**Last Name:** Prodromou  
**First Name:** Michael  
**ACP Number:** 1490486  
**PG or MS Year:** PGY3  
**Category:** Clinical Vignette

**Medical School or Residency Program:** Warren Alpert Medical School of Brown University  
**Hospital Affiliation:** Rhode Island Hospital/The Miriam Hospital  
**Additional Authors:** Harlan Rich, MD

---

**Abstract Title:** An Unusual Cause of Gastric Outlet Obstruction

**Abstract Text:** Gastric polyps are usually incidental findings on endoscopy, as they tend to be small and asymptomatic. Larger gastric polyps have been reported to cause symptoms, including dyspepsia, anemia associated with ulceration and bleeding, and rarely, intermittent gastric outlet obstruction. A 56 year old female with a past medical history of hypertension and hyperlipidemia presented to clinic with 2 months of increasing nausea, mid epigastric abdominal pain described as a dull ache, early satiety and a 16 pound weight loss over the previous one month. She had a longstanding history of gastroesophageal reflux, which had also been worsening over a few months. Her abdominal pain was so severe that she presented to the Emergency Department, which revealed a pedunculated-polypoid mass along the posterior-inferior wall of the gastric antrum just proximal to the pylorus. An outpatient EGD was performed. The esophagus was normal; examination of the stomach revealed a single 40 mm pedunculated and sessile polyp with no evidence of bleeding. The multilobulated head was found to have ball-valved across the pylorus into duodenal bulb; the stalk was obstructing the pyloric channel. The head was delivered back into the stomach with the endoscope and an open Roth net. The base was very thick, precluding endoscopic resection. The polyp was extensively biopsied and was found to be hyperplastic in nature, with no evidence of malignancy. As the polyp was found to be causing intermittent gastric outlet obstruction and the patient’s symptoms, the patient underwent resection of the mass with pyloroplasty. Pathology obtained from the procedure revealed a hamartoma. Over the next few months, she complained of postprandial abdominal discomfort. Repeat EGD was performed, revealing a patent pylorus and a small gastric ulcer. Otherwise, the patient’s symptoms of nausea and early satiety were resolved. There have been only 45 reported cases of gastric polyps causing intermittent gastric outlet obstruction. The majority were diagnosed in older females, with histology being hyperplastic in nature. There are no set guidelines with regards to removal of gastric polyps that are asymptomatic. However, in cases where gastric polyps cause symptoms, such as our patient, treatment varies based on polyp size. Endoscopic resection is favored for smaller polyps, and surgical excision is used for larger polyps.
Prodromou, Michael

**Last Name:** Prodromou
**First Name:** Michael
**PG or MS Year:** PGY-3
**ACP Number:** 1490486
**Category:** Clinical Vignette

**Medical School or Residency Program:** Warren Alpert Medical School of Brown University
**Hospital Affiliation:** Rhode Island Hospital/The Miriam Hospital
**Additional Authors:** Kevin M. Dushay

---

**Abstract Title:** Nonspecific Interstitial Pneumonia Responsive to Steroid Treatment

**Abstract Text:** Nonspecific interstitial pneumonia (NSIP) is a type of idiopathic interstitial pneumonia that is associated with many medical conditions, including HIV, connective tissue diseases, and a number of drugs including flecainide, amiodarone and methotrexate. A 56 year old female with a past medical history of Type II Diabetes, Hypertension, Hyperlipidemia, Myocardial Infarction and Rheumatoid Arthritis (taking infliximab and methotrexate), presented with weakness, fever and worsening shortness of breath over the prior several months, with dyspnea on exertion and five pillow orthopnea. She denied any leg swelling, but did endorse subjective fevers with night sweats, as well as a few months of chronic worsening daily nonproductive cough. Two days prior to admission, she went to bed and slept for twenty hours. When she awoke, she was unable to get out of bed due to weakness. She ultimately collapsed while walking to the bathroom and as such, her husband brought her to the hospital. On presentation to the Emergency Department, she was afebrile, but hypotensive and tachycardic. She had a chest X-ray which revealed multifocal hazy airspace opacities. A CT PE revealed no evidence of PE, but did show bilateral airspace disease and ground glass opacities with mediastinal and hilar lymphadenopathy. Her blood pressure improved with normal saline. She was also found to have an elevated anion gap with a lactate of 3.2, AKI with a creatinine of 3, up from a baseline of 1.3. Other labs included a BNP of 305 and a troponin of 0.24. The patient was admitted to the Medical Intensive Care Unit for further care. Her respiratory status was very tenuous, with rapid desaturations every time she moved. The patient was started on Vancomycin, Piperacillin-Tazobactam and Trimethoprim-Sulfamethoxazole, but did not improve. She was unable to tolerate a bedside bronchoscopy in the MICU, and therefore underwent a VATS lung biopsy; pathology revealed nonspecific interstitial pneumonia with diffuse alveolar damage. Therefore, she was given three days pulse dose IV steroids with methylprednisolone, and was successfully weaned from the ventilator, eight days after her initial hospitalization. A repeat X-ray at the end of her hospitalization revealed minimal airspace disease; a follow up chest CT three months later revealed near complete resolution of the ground glass opacities. Follow up echocardiogram also revealed improved right ventricular systolic pressures. NSIP typically affects patients between 50-60 years of age. Approximately two-thirds of patients improve with steroids, but the disease carries a 15-25% mortality rate at five years. Our patients NSIP was thought to be secondary to infection, methotrexate, infliximab toxicity, or rheumatic lung disease. Infliximab was held indefinitely and methotrexate was discontinued. She was discharged with improvement in her respiratory status with azathioprine, methylprednisolone, and atovaquone for PCP prophylaxis.
Abstract Title: A Cure for Heartache: Flu Vaccine!

Abstract Text: We describe a case of Influenza infection complicated by acute cardiomyopathy and severe LV dysfunction in a patient with no prior history of heart failure. A 42-year-old woman was admitted in January with 6 days of progressive shortness of breath and cough. She had not had fever or chills. Initial evaluation noted RR 24 with 50% oxygen saturation on room air. Main findings on physical examination were diffuse bilateral crackles on chest auscultation. WBC was 5700 with 80% PMNs. Rapid influenza A and B were negative. Chest radiograph had diffuse bilateral patchy infiltrates, pulmonary vessel congestion and mildly enlarged cardiac silhouette. Ceftriaxone, azithromycin and oseltamivir were started. BNP, checked on day 4 because of progressive oxygen requirements, was more than 600. A 2D echocardiogram showed severe global hypokinesis with an ejection fraction of 25%. Despite starting ACEI and furosemide, refractory hypoxemia developed requiring intubation and mechanical ventilation. A nasopharyngeal PCR was positive for influenza A. Cultures of sputum obtained by bronchoscopy did not yield any bacterial or fungal pathogens and blood cultures from admission were negative. Her clinical condition gradually improved and she was successfully extubated four days after intubation. A repeat echocardiogram done ten days after admission revealed normal LV function. Notably, this patient with a history of asthma had never received the seasonal flu vaccine. Our case raises several important points. First of all, myocarditis is a very rare, serious and unpredictable complication of influenza. Asthma is a risk factor for complications of flu. Moreover, flu can be very serious even in healthy persons. Finally, vaccination could have prevented the illness, its complications and potentially ameliorated its severity.
Quddus, Abdullah

Last Name: Quddus  First Author: Resident
First Name: Abdullah  PG or MS Year: PGY 3
ACP Number: 1766535  Category: Clinical Vignette

Medical School or Residency Program: MHRI/Brown University
Hospital Affiliation: VA Providence hospital
Additional Authors: Hammad Shafqat, Amos Charles

Abstract Title: Rhabdomyolysis: rare side-effect of a common antibiotic

Abstract Text: This is a 65 year-old-man who presented with altered mental status. He had been more confused, somnolent, and weak for the last two days. No reported fevers, chills or night sweats. His medical history was remarkable for AIDS, congestive heart failure, COPD on oxygen (3L/min), chronic adrenal insufficiency, hypothyroidism, severe psoriasis and hypertension. His home medications included trimethoprim-sulfamethoxazole (TMP-SMZ), darunavir, raltegravir, ritonavir, azithromycin, dapsone, acitretin, albuterol, furosemide, tiotropium, temazepam, and topical agents for his psoriasis. No recent medication changes except for TMP-SMZ, which was started 5 days ago for a urinary tract infection. He had no known allergies. His initial exam was notable for normal temperature, blood pressure 110/45 mmHg, heart rate 70, respiratory rate 16 and oxygen saturations of 96% on 3 L/min nasal cannula. Neurologically he was not oriented to time, place or person. He had chronic bilateral expiratory wheezes on chest auscultation. He had a diffuse flaky skin consistent with his chronic severe psoriasis. Muscle strength was decreased in all extremities. His labs revealed a WBC 8.8, hemoglobin 10.8, elevated creatinine 4.1 mg/dL, elevated potassium 6.8 mmol/L, AST 385 units/L, ALT 71 units/L and a CPK of 27291 units/L. Urine analysis was unremarkable. CT chest, abdomen and pelvis were unremarkable. MRI of brain was unrevealing. Of note, his last CD-4 count, 3 weeks prior to presentation, was 83 with a suppressed viral load of 27 copies/mL. He was started treatment for rhabdomyolysis with aggressive fluid hydration. His CPK was rechecked 4 days later and found to be 7500. His initial set of blood cultures were negative. His mental and neurologic status started improving and renal function recovered. However, hospital course was complicated by MRSA bacteremia and persistent paralysis of his left foot. MRI left leg was normal apart from intramuscular edema involving compartments of the left thigh and a portion of the left sciatic nerve. We describe a case of trimethoprim-sulfamethoxazole induced rhabdomyolysis in a patient with AIDS. Rhabdomyolysis is a rare and very serious condition. On review, we could find only 5 other cases of rhabdomyolysis following treatment with TMP-SMZ. Interestingly, all were reported in immune compromised hosts (4 had AIDS while one was following stem cell transplant). This association is concerning since, according to IDSA guidelines, TMP-SMZ is a first line drug for PCP prophylaxis. Our patient was never known to have any TMP-SMZ or sulfa allergies. He had been on TMP-SMZ PCP prophylaxis in the past but was switched to dapsone due to patient preference. He developed rhabdomyolysis following recent re-introduction of TMP-SMZ. We suggest close monitoring for this serious side effect in immune compromised patients.
Abstract Title: Medical Orders for Life Sustaining Treatment (MOLST) - Where are we in Rhode Island?

Abstract Text: Introduction: Medical Orders for Life Sustaining Treatment (MOLST) is an emerging, portable order as part of a national initiative to clarify goals of care and improve end-of-life care for patients. Currently, many states are developing a physician or medical order that not only follows the patient between care settings, but is actionable in a setting of emergency. Advanced directives are limited by their complicated language, barriers to complete, and low adoption rates (it is estimated that only one-fifth to one-third of americans have completed an advanced directive). Case: Here we describe a hypothetical case of a 72 year old woman with acute myelogenous leukemia refractory to chemotherapy admitted for complicated urinary tract infection. The patient, who is of sound mind on admission, makes it clear to medical staff that her wish is to not undergo any "heroic efforts" at the end of life, and her code status is made DNR/DNI. The patient is medically managed over a two day course and discharged home. Two months later, the patient is found unresponsive by a neighbor; 911 is called and CPR is initiated; the patient is intubated and brought to the intensive care unit of hospital different from her previous admission. Without any documentation of the discussion two months prior, the next of kin along with the primary team decides to keep the patient full code, and the patient is treated in the ICU for the next six days with pressors and mechanical ventilation, only before passing away from health care associated pneumonia. Conclusion: We next turn to the issue that this case highlights: advance directives can be difficult to interpret, and can be "overruled" in setting of emergency medical care (e.g., calling 911 in a patient found down). Family meetings and documented code status may only last for the duration of one admission. Here we describe an alternative tool, MOLST, which is a portable, medical order that is intended to ensure patient’s wishes are upheld in all care settings. In this paper we describe the political timeline of the intervention, as well as a map showing state-by-state adoption thus far. We describe the progress of POLST in Rhode Island, and discuss the implications of its use in both primary care and acute care settings. With the signing of Rhode Island General Laws §23-4.11-3.1 in 2012 and its enacting in January of 2014, we argue that with appropriate education, MOLST can become an important tool available to physicians and other licensed professionals.
Abstract Title: Prosthetic Valve MSSA Endocarditis – The Clock Is Ticking

Abstract Text: Introduction: Prosthetic Valve Endocarditis (PVE) is a feared complication of bioprosthetic or mechanical valve replacement. Physical findings such as Janeway’s lesions and Roth’s spots are important clinical signs. A thorough neurological exam is also important to identify septic emboli to the central nervous system. Case: A 64-year-old woman was admitted for nausea, vomiting, diarrhea, and weakness. The patient was in her usual state of health until about four days prior to admission when she began developing non-bloody, nonbilious emesis, along with subjective fevers, chills, and myalgias. She was planning to go for a dental procedure, but was admitted before she could have the appointment. The patient presented to the ED with blood pressure of 70/50 resistant to fluids. This is in the setting of coronary artery disease, severe aortic stenosis with bioprosthetic TAVR, hypertension, hyperlipidemia. The patient was admitted for septic shock, ischemic ATN requiring CVVHD, pressor support, and intubation. Blood cultures drawn on admission were positive for MSSA, and the patient underwent a TEE showing a 15 millimeter vegetation on the bioprosthesis. The patient was treated with Nafcillin and Rifampin. On physical exam she was noted to have both Janeway lesions and Roth spots of the fingers and toes. A neurological exam was performed which showed asymmetric weakness of the right side, along with dysarthria. The patient underwent an MRI showing a left frontal brain abscess. Cardiothoracic surgery was consulted, who deferred valve replacement until clinically improved. Neurosurgery was consulted who deferred surgical management of the abscess until the primary source of emboli was eliminated. Over a course of thirty days, the patient slowly improved and was transitioned from CVVHD to intermittent to off-dialysis, however had persistent cyclical fevers, delirium, and severe pain throughout this course. A repeat TTE showed evidence of dehiscence of the abscess, and subsequent TEE showed new aorto-right atrial fistula. Surgery was re-consulted who agreed to replace the valve. The day prior to surgery, the patient developed complete heart block with hypotension requiring pressors. The patient was taken to the OR the following day where the aortic valve was removed, but then developed severe hemorrhage, acidosis, and cor pulmonale. The patient expired despite initializing inotropic agents and an intra-aortic balloon pump. This case reviews the management of infective endocarditis. In an age where TAVRs are becoming more prevalent among the elderly, we discuss risk factors and new research on timing of surgery. We review classical physical exam findings for endocarditis. Finally, we discuss the difficult concept of “optimized for surgery,” and argue that early, imperfect conditions are superior to ones where the surgeon’s hand is forced.
Abstract Title: Lung cancer; a misfortune not only for the old.

Abstract Text: Introduction: Lung cancer is the second most common cancer in both men and women in the United States in their sixth to eight decade of life but is a less common presentation in persons aged 45 years or less. Smoking remains the single most important factor that can cause squamous cell carcinoma (SCC) of the lung even in the younger age group. Case presentation: A 41-year-old man presented to the emergency department seeking medical care for ‘a bout of bronchitis’, complaining of a four day history of occasional cough, dyspnea on exertion, and right sided chest and lower back pain. Cough was non-productive and without hemoptysis. His past medical history included dialysis dependant end-stage renal disease, uncontrolled hypertension and hyperlipidemia. Further investigation revealed a 30 pack-year smoking history. No occupational exposures or family history of malignancy was reported. Physical examination was remarkable for stable vital signs, decreased breath sounds on the right side with dullness to percussion up till the mid thoracic region, and pitting edema of his lower extremities. Remainder of his examination was unremarkable. Laboratory investigation was significant for hyponatremia, hyperkalemia, hypocalcemia, hyperglycemia, elevated BUN and creatinine and an elevated LDH. A chest x-ray obtained on admission showed significant right sided opacity suggesting a moderate pleural effusion. A diagnostic thoracentesis was consistent with exudative effusion and a cytologic evaluation revealed malignant squamous cells. A computed tomography (CT) scan of the chest showed a large right infra-hilar mass, obstructing right lower lobe bronchi with possible endobronchial involvement. The CT scan also showed multiple enlarged mediastinal lymph nodes with lytic lesions in several vertebral bodies. Based on clinical and laboratory findings, a presumed diagnosis of stage IV SCC of the lung was made. At this point, the patient decided to shift his care to another city without undergoing further management. Discussion: Lung cancer is less common in individuals less than 45 years of age with approximately 3-12% of all lung cancers occurring before this age. Amongst this population, majority of the cancers are adenocarcinomas and only 14-16% are squamous cell in origin. Adenocarcinomas tend to be more peripheral while SCC are more central in origin. More than 20-pack year smoking history is almost exclusively present. Young patients have poor prognosis due to low early suspicion and seeking medical attention in advanced stages. Median survival is approximately 13 months and more young patients undergo cancer directed surgery as compared to older patients. Comorbidities play a significant role and patients undergoing dialysis are potentially at increased risk of lung cancer. Prolonged tobacco dependence remains the most important cause of SCC of the lung at any age and smoking cessation counseling should be given utmost importance at every clinical visit regardless of age.
Abstract Title: Severe transaminits and acute hepatitis: an unsuspected culprit

Abstract Text: Introduction: Drug induced hepatitis can present as asymptomatic transaminitis or fatal liver failure. Several medications are known to cause acute hepatitis but azithromycin induced hepatotoxicity has been reported infrequently in literature. Case: A 40-year-old woman presented to the emergency department with one week history of progressive worsening nausea, vomiting and right upper quadrant pain after completing a five day course of azithromycin for outpatient treatment of mild community acquired pneumonia. While her breathing improved on the antibiotic, her abdominal pain continued to worsen. She did not have any prior liver issues nor was she taking any hepatotoxic medications. A review of her systems was negative for easy bruising or fever. On presentation, her physical examination was remarkable only for diffuse right upper quadrant abdominal tenderness without hepato-splenomegaly or noticeable jaundice. Laboratory investigation showed markedly high aspartate aminotransferase (AST) level of 5758 IU/L and an alanine aminotransferase (ALT) level of 5048 IU/L. Her laboratory work up was also significant for a total bilirubin level of 1.3 mg/dL with an indirect bilirubin level of 0.9 mg/dL, negative HAV, HBV and HCV serologies, and undetectable salicylate and acetaminophen levels. Antimitochondrial, antinuclear and F-actin antibodies were also undetectable. A right upper quadrant ultrasound was unrevealing. The patient was admitted to the medical floor and was given supportive management. By the fourth day of hospitalization, her symptoms subsided and repeat laboratory values showed near resolution of transaminitis to an AST level of 74 IU/L and ALT level of 1062 IU/L with a total bilirubin level of 0.6 mg/dL. Azithromycin was deemed the probable culprit for the acute hepatitis based on the Naranjo et al. probability scale and the patient was discharged to be followed up as an outpatient with the gastroenterologist. Two months after her discharge, she remained asymptomatic with complete resolution of her elevated transaminases. Discussion: Hepatic dysfunction can be caused by many antimicrobials, including macrolides, with potential life threatening liver failure. Azithromycin, an erythromycin derivative, has been reported to induce acute hepatitis within days of initiation, or cholestatic liver injury which presents days to weeks after initiation of azithromycin. Less than 2% people develop elevated liver enzymes from azithromycin use and discontinuation of the drug results in normalization of liver enzymes within four to eight weeks. The heptotoxicity from azithromycin is possibly due to a hypersensitivity reaction or metabolite-dependant lesions leading to ductal cholestasis. This case emphasizes the fact that although uncommon, physicians should be aware of the potential serious azithromycin-induced hepatotoxicity even after a short course of the medication. Once recognized, the antimicrobial should be immediately stopped and re-exposure avoided.
Abstract: Lyme Carditis: An interesting trip to third-degree heart block and back

While advanced atrioventricular (AV) nodal disease is invariably an indication for permanent pacemaker implantation, Lyme carditis (LC) being a reversible cause presents an exception to this practice. Case Presentation: A 33-year-old woman with no prior cardiac history presented to the emergency department with complaints of palpitations and intermittent headaches. A review of her systems was positive for bilateral hip pain without joint swelling, and a new rash on her left thigh that she noticed three days ago. Travel history revealed a hiking trip to New Hampshire in August, a month prior to the presentation. Her physical examination was noteworthy for a 10 cm fading bull’s-eye lesion on the posterior aspect of her left thigh. Initial laboratory data including cardiac biomarkers was unrevealing. An initial electrocardiogram (EKG) revealed first-degree AV block with PR-interval of 320 msec. Based on history and clinical findings, a diagnosis of disseminated Lyme was made and she was admitted to cardiac telemetry monitoring and started on intravenous ceftriaxone. In following hours, repeat EKGs showed progression of the first-degree AV block to second-degree Mobitz I AV block and subsequently to a third degree AV block with junctional escape rhythm. The patient continued to have intermittent palpitations but no temporary cardiac pacing was needed. Lyme disease was confirmed by positive immunoglobulin-M serology and western blot. Chest x-ray was unrevealing while an echocardiogram showed preserved LVEF without wall motion abnormalities or pleural effusion. After the second antibiotic dose, her AV dissociation reversed from third-degree AV block to second-degree Mobitz I AV block. With subsequent doses, the heart block reversed to a first-degree block with a PR-interval of 220 msec. Her symptoms dramatically resolved by the third day of antibiotic use and she was discharged to complete a 21 day course of intravenous ceftriaxone. Discussion: Lyme disease, caused by the spirochete Borrelia burgdorferi, is a multi-organ disease with 4-10% of adults presenting with cardiac manifestations comprising LC. Transient AV conduction disturbances are the most common initial presentation of LC. Electrophysiological studies have shown that the heart block in LC may be along different levels of the conduction pathway with most blocks above the bundle of His, typically in the AV node. Heart blocks can progress from first degree to third degree within minutes and are typically resolved within six weeks with permanent heart blocks being very rare. Intravenous ceftriaxone or oral doxycycline can be equal in efficacy for treatment of disseminated Lyme. LC usually presents as part of the early disseminated disease and should be considered as an important cause of electrocardiographical conduction abnormalities in young patients with no prior cardiac history especially in endemic areas of New England. Complete resolution of the conduction abnormalities is the most frequent outcome.
Abstract Title: Lyme Carditis: An interesting trip to third-degree heart block and back

Abstract Text: While advanced atroventricular (AV) nodal disease is invariably an indication for permanent pacemaker implantation, Lyme carditis (LC) being a reversible cause presents an exception to this practice. Case Presentation: A 33-year-old woman with no prior cardiac history presented to the emergency department with complaints of palpitations and intermittent headaches. A review of her systems was positive for bilateral hip pain without joint swelling, and a new rash on her left thigh that she noticed three days ago. Travel history revealed a hiking trip to New Hampshire in August, a month prior to the presentation. Her physical examination was noteworthy for a 10 cm fading bull’s-eye lesion on the posterior aspect of her left thigh. Initial laboratory data including cardiac biomarkers was unrevealing. An initial electrocardiogram (EKG) revealed first-degree AV block with PR-interval of 320 msec. Based on history and clinical findings, a diagnosis of disseminated Lyme was made and she was admitted to cardiac telemetry monitoring and started on intravenous ceftriaxone. In following hours, repeat EKGs showed progression of the first-degree AV block to second-degree Mobitz I AV block and subsequently to a third degree AV block with junctional escape rhythm. The patient continued to have intermittent palpitations but no temporary cardiac pacing was needed. Lyme disease was confirmed by positive immunoglobulin-M serology and western blot. Chest x-ray was unrevealing while an echocardiogram showed preserved LVEF without wall motion abnormalities or pleural effusion. After the second antibiotic dose, her AV dissociation reversed from third-degree AV block to second-degree Mobitz I AV block. With subsequent doses, the heart block reversed to a first-degree block with a PR-interval of 220 msec. Her symptoms dramatically resolved by the third day of antibiotic use and she was discharged to complete a 21 day course of intravenous ceftriaxone. Discussion: Lyme disease, caused by the spirochete Borrelia burgdorferi, is a multi-organ disease with 4-10% of adults presenting with cardiac manifestations comprising LC. Transient AV conduction disturbances are the most common initial presentation of LC. Electrophysiological studies have shown that the heart block in LC may be along different levels of the conduction pathway with most blocks above the bundle of His, typically in the AV node. Heart blocks can progress from first degree to third degree within minutes and are typically resolved within six weeks with permanent heart blocks being very rare. Intravenous ceftriaxone or oral doxycycline can be equal in efficacy for treatment of disseminated Lyme. LC usually presents as part of the early disseminated disease and should be considered as an important cause of electrocardiographical conduction abnormalities in young patients with no prior cardiac history especially in endemic areas of New England. Complete resolution of the conduction abnormalities is the most frequent outcome.
Abstract Title: Sporadic case of rapid mental deterioration

Abstract Text: Introduction: Transmissible spongiform encephalopathies (TSEs) are a broad range of human and animal diseases involving conversion and deposition of abnormal proteins into the brain called "prions". There are five recognized prion diseases, the most common, accounting for 90%, is Creutzfeldt-Jakob disease (CJD). There are four types of CJD: sporadic (sCJD), familial, iatrogenic, and variant forms. There is approximately 1 case of sCJD in 1,000,000 worldwide per year. Neuronal loss, accumulation of abnormal prion protein, absence of an inflammatory response and a histologically spongiform appearing brain are features of prion disease. Rapidly progressive mental deterioration and myoclonus are the two most common clinical manifestations of sCJD. Case Presentation: A 60 year old male with no significant medical history presented with difficulty in executing simple tasks at work, problems with memory, and has become more irritable with visual hallucinations for the past two months. He denied fever, headaches, diplopia, recent travel, or ingestion of uncooked foods. On admission, he was afebrile, hemodynamically stable, neurologically alert and oriented, but with delay in rapid alternating movements and unsteady gait. Routine labs were normal. A CT of the chest, abdomen and pelvis to rule out neurological manifestations of any paraneoplastic syndrome and it was normal. An MRI of the brain showed cortical ribboning hyperintensities in the right frontal lobe, the right caudate (body and head), and occipital gyri region without mass effect. Multiple serological studies were negative for HIV, fungal markers, ANA, and ANCA's including CSF analysis for gram stain, culture, Lyme, and HSV. Further investigation into CSF showed negative 14-3-3 proteins, yet highly elevated tau proteins. An EEG showed diffuse moderate slowing throughout and intermittent sharp wave complexes 1-2Hz in right hemisphere, consistent with CJD. His general condition rapidly deteriorated over the course of three months and ultimately died of complications due to aspiration pneumonia, sepsis, and respiratory failure. Discussion: This is a case of sporadic CJD where the pathophysiology involves transformation of normal prion protein into abnormal prion protein (PrPSc). There is a wide differential for progressive dementias, yet none have a disease course with such rapid deterioration and fatality as CJD, with death occurring within 1 year of symptoms. There are no reliable tests to diagnose CJD. Brain MRI and EEG may be useful. The CSF analysis for 14-3-3 and tau proteins have been found to be helpful in the diagnosis. Some extraneural sites of PrPSc have been found in olfactory tissue, spleen, and skeletal muscle offering a possibility for tissue diagnosis outside the central nervous system. Preliminary studies with quinacrine and chlorpromazine have been shown to prevent conversion of normal prion protein into PrPSc.
Abstract Title: UNDERSTANDING PATIENT PERCEPTIONS OF RESIDENT WELL-BEING AND TRANSFERS OF CARE

Abstract Text: Background: Duty hour reform has focused on the association between resident fatigue and medical errors. Pressure from the public and the Institute of Medicine to further restrict duty hours and increase supervision of residents continues to shape residency training in the U.S, which must comply with the 2011 Accreditation Council for Graduate Medical Education (ACGME) Common Program Requirements. Objectives: Despite strong public impetus, there has been little patient engagement in revision of duty hour regulations. To address this gap, we sought to produce the first cross-sectional study of patient perceptions from a large and diverse sample of hospitalized patients regarding the impact of duty hour regulations on continuity of care and patient safety following implementation of the 2011 Common Program Requirements. Methods: A 32-question instrument was designed, and following Institutional Review Board approval, we sampled patients at both Rhode Island and Miriam Hospital between June and August 2013. All adult inpatients under the care of a resident team were eligible for inclusion. Patients without decision-making capacity were excluded. Significant differences were established using one-sample hypothesis tests of a multinomial distribution. Results: A total of 513 surveys were obtained from 810 patients (63.3% response rate). Most patients believed that average resident shifts were no longer than 16 hours (78.2%) and that residents should not be assigned to shifts longer than 12 hours (57.1%). Nearly half of patients (49.7%) wanted to be notified if a resident had worked longer than 12 hours. More than 60% felt that medical errors occur commonly due to fatigue, and that further reducing work hours would reduce medical errors (61.5%). Notably, 67.8% reported that the residents caring for them did not seem fatigued. While 64.1% of patients believe that important information can be lost during transfers, only 21.1% felt less confident after a handoff, and only 37.5% (OR 0.56, p<0.01) believed that medical errors were commonly due to transfers of care. Finally, given the choice between “a familiar doctor, who may be fatigued at the end of a long shift,” and “an unfamiliar doctor, who is just starting a shift and has received sign-out,” significantly more patients chose the unfamiliar “fresh” doctor (57.2% vs. 42.8%, p<0.01). Discussion: While patients reported concerns about the potential risk of medical errors from resident fatigue, they noted less worry over risks from transition of care. Although fatigue mitigation is important, many program directors and residents have expressed concerns that duty hour restrictions have resulted in more transitions of care, inadvertently leading to errors and compromising resident learning. This study demonstrates a gap between patient and physician perceptions of duty hour regulations and highlights an opportunity to foster further public education, empowering patients to meaningfully contribute to public discourse on residency training.
Abstract Title: Calcium Channel Blockers: Their Role in Decreasing Diastolic Heart Failure Hospitalization

Abstract Text: Introduction: Congestive Heart Failure (CHF) is a major public health concern with an estimated 5.8 million people in the United States carrying a CHF diagnosis. Up to 50% of CHF cases occur in patients with preserved left ventricular ejection fraction and no significant valvular abnormalities, commonly known as diastolic heart failure. Aside from volume decongestion, ischemia treatment, heart rate control primarily in the setting of atrial fibrillation, and blood pressure optimization, no pharmacological therapy has been proven to be effective in decreasing diastolic CHF Recurrence. Observational data and in vitro studies had shown a favorable role for non-dihydropyridine calcium channel blockers (NDP-CCB) in improving diastolic dysfunction parameters. We elected to study the role of NDP-CCB on the rate of diastolic CHF rehospitalization in a retrospective cohort of patients treated at an urban community hospital.
Methods: Inclusion criteria included: (1) Adult patients ≥18 years old admitted with CHF diagnosis between Jan. 1st 2003 to Jan. 1st 2007 (defined by dyspnea, volume overload on physical exam, elevated BNP and/or congestion on chest x-Ray), (2) a left ventricular Ejection Fraction (LVEF) of ≥40% based on Transthoracic or Trans-esophageal Echocardiography (ECHO) pursued within 0 to 6 months of the index hospitalization, (3) no acute coronary syndrome, and (4) on no NDP-CCB intake at time of hospitalization. 156 patients met the enrollment criteria and were randomized into two groups. First group (group 1) or control group included 109 patients discharged from the hospital without CCB and the second group (group 2) included 47 patients discharged from the hospital with CCB. Both groups were followed for an average of 3 years (1-5 years). Results: Baseline characteristics were comparable. The mean rate of CHF rehospitalization in the CCB group was significantly lower (0.94) than the Non – CCB users (1.55), with a P value of 0.003. There was a statistically significant difference in atrial fibrillation incidence between the 2 groups, with 21 patients from each group having atrial fibrillation (19.3% of the Non CCB users compared to 44.7% CCB users, P value 0.001). After a univariate analysis of the role of atrial fibrillation, a reduction in cardiac rehospitalization rate remained significantly lower in the CCB group (0.95 in CCB group and 1.76 in the Non-CCB group; p value of 0.005). Conclusion: Our results demonstrated a significant reduction by non-dihydropyridine calcium channel blockers in the rehospitalization rate for heart failure with preserved left ventricular function. A prospective design with a larger population, better control of potential confounding factors like atrial fibrillation, and a longer follow-up is needed to validate this conclusion.
Abstract Title: An Abnormal Presentation of Recurrent Testicular Lymphoma

Abstract Text: Introduction: Diffuse large B cell lymphoma is the most common histological subtype of Non-Hodgkin’s Lymphoma, approximately 25% of all cases. This case shows an abnormal disease progression of a testicular lymphoma that manifested many years later as bilateral adrenal masses and CNS (leptomeningeal) involvement. Case: A 77 year old gentleman with history of testicular diffuse large B-cell lymphoma, status post left inguinal orchiectomy, R-CHOP chemotherapy, and radiation to the scrotal and adjacent femoral lymphatics eight years ago was admitted to the hospital for lethargy, hypotension and generalized weakness which was consistent with adrenal insufficiency after confirming with labs and imaging. Patient was having similar symptoms and was admitted to another hospital 2 weeks prior to coming to us. CT Chest, abdomen, and pelvis was done and showed bilateral adrenal masses. Biopsy was consistent with diffuse large B cell lymphoma. He was initially treated with high dose hydrocortisone, which was later weaned down to physiological doses of hydrocortisone and fludrocortisone. Large volume LP was done which was positive for lymphocytosis however flow cytometry was negative. MRI Lumbar spine, showed an abnormal thin linear enhancement along the surface of the spinal cord and cauda equina compatible with leptomeningeal disease. Patient was discharged with an Omaya reservoir to have intrathecal methotrexate and steroids initiated. Patient has now completed 5 cycles of R-mini-CHOP with improved motor and sensory physical examination as well as improved ability to ambulate. Discussion: The case represents an abnormal presentation of extra nodal DLBCL initially arising in the testis then recurring as bilateral adrenal masses and CNS involvement eight years later. In this case, it is unclear whether patient received adequate CNS prophylaxis when he was initially treated. The patient’s original primary lymphoma (testicular) represents only about 1-2% of all Non-Hodgkin lymphomas. Although extra nodal recurrence (usually contralateral testicle or CNS) is common in testicular DLBCL, it is quite rare for the recurrence to occur in adrenal glands, kidneys, and bone. Initial treatment failure normally occurs 1-3 years after, whereas this failure occurred eight years later, which is outside the normal window of recurrence. There is no data to support whether the recurrence in the adrenals occur unilaterally versus bilaterally, although there is sufficient data to support metastatic disease is usually bilateral. If the adrenal glands are the primary site of the lymphoma, this is also usually bilateral. In conclusion, we are reporting a rare and important case to highlight recurrent testicular lymphoma leading to bilateral adrenal masses and CNS involvement manifesting as adrenal insufficiency and persistent motor weakness and sensory disturbances.
Abstract Title: Amiodarone Induced Lung Toxicity Presenting as Community-Acquired Pneumonia

Abstract Text: Amiodarone induces several forms of pulmonary toxicity; including chronic interstitial pneumonitis, organizing pneumonia, acute respiratory distress syndrome and solitary lung masses. Toxic effects of Amiodarone are usually seen with higher cumulative doses typically exceeding 400 mg daily for several months. We present a case of Amiodarone induced toxicity at a much lower dose. A 59 year-old-man with a past medical history of hypertension and paroxysmal atrial fibrillation presented with upper respiratory tract symptoms including cough, rhinorrhea, pleuritic chest pain for 10 days and worsening dyspnea on exertion for 3 days. He was found to be hypoxemic by his primary care physician and was sent to the emergency department. Eight months prior to this presentation, he was diagnosed with paroxysmal atrial flutter. Given the need for multiple cardioversions, antiarrhythmic therapy was initiated with Amiodarone 200 mg orally daily. Three weeks later, he presented with symptomatic atrial tachycardia and was found to have pericardial effusion with early tamponade. He received a second cardioversion and a pericardiocentesis of one liter. He was maintained on Amiodarone 200 mg orally once daily. In the emergency department he was saturating 79% oxygen on room air. He was afebrile and normotensive. Physical exam was remarkable for diffuse expiratory rhonchi. Laboratory data was significant for a white cell count of 14.1K. Chest radiography showed bilateral diffuse alveolar/interstitial infiltrates. Urine antigens were negative for Streptococcal pneumonia and Legionella, blood and sputum cultures were negative. Chest Computed Tomography scan showed extensive intralobular septal thickening with ground glass opacities in a crazy-paving pattern in both lung fluids sparing the periphery. Due to the concern of possible toxicity, Amiodarone was discontinued. The patient was started on Ceftriaxone and Azithromycin for community acquired pneumonia, as well as Oseltamivir Phosphate for influenza-like symptoms. Over the next 24 hours, oxygen requirements worsened from 2 to 5 liters per minute. Video-assisted thoracoscopic lung biopsy was performed and the patient was started on IV steroids. Histopathology revealed findings characteristic of Amiodarone toxicity; foamy macrophages in the air spaces and cytoplasmic lammellar inclusions. Saturation improved slowly after starting the steroids and his oxygen requirements decreased. He was discharged with oxygen and oral steroids after a long hospital course. This case illustrates that Amiodarone can induce lung toxicity even at low cumulative doses. Although the onset of symptoms is usually insidious, it may sometimes presents acutely, mimicking community-acquired pneumonia.
Abstract Title: Cocaine use and ptosis; what’s the connection?

Abstract Text: Neuromuscular transmission blockage and thus symptoms of myasthenia gravis (MG) can be exacerbated by cocaine abuse. A 48-year-old African American woman presented to the emergency department with three days of right-sided acute on chronic chest pain and one week of blurry vision associated with frontal headache and jaw fatigability. The blurry vision began after using cocaine the week prior, with no similar symptoms previously. Her medical history was notable only for cocaine abuse. Physical examination showed normal vital signs, right-sided chest tenderness to palpation, bilateral ptosis exacerbated by sustained upward gaze, and binocular diplopia resolved by closing one eye. Cranial nerve and cerebellar exams were also unremarkable. Her initial chemistry lab and inflammatory markers were all normal. Urine toxicology was positive for cocaine. Head CT and brain MRI were negative for intracranial causes of ptosis. Her chest pain was non-cardiac one. A remote history of an incidentally discovered, biopsy-proven thymoma followed radiographically for several years after which the patient was lost to follow-up with her previous caregivers. Pyridostigmine was initiated for treatment with rapid symptomatic improvement. The suspected diagnosis of MG was confirmed by presence of anti-bodies to acetylcholinesterase receptors (AChR). The patient was later discharged with follow-up with neurology, counseling to avoid cocaine use and evaluation by general surgery for thymectomy. This case highlights two important points. First, cocaine can not only exacerbate but also unmask myasthenia gravis symptoms, potentially by blocking sodium channels and inhibiting action potential conduction. Second, it illustrates the importance of investigating all mediastinal masses. Upto 70% of patients with AChR anti-body positive MG have thymic hyperplasia, and up to 12% have thymomas. Thymoma incidence in United States is higher in African Americans and represents 0.2% - 1.5% of all malignancies. Current recommendations support complete surgical resection of approachable thymomas even if incidentally discovered.
**Abstract Title:** A Woman with May-Thurner Syndrome and Phlegmasia Cerulia Dolens

**Abstract Text:** Introduction: The incidence of DVT in the United States each year is close to 600,000, and we are all aware of the 50% incidence of pulmonary embolism in this setting. A much rarer complication, which is also life threatening is phlegmasia cerulia dolens (PCD). PCD occurs due to massive thrombosis and blockage of venous outflow of the extremity. One of the main risk factors for PCD is May-Thurner syndrome (MTS), in which an overriding right common iliac artery compresses the left common iliac vein against the lumbar spine. Case: A 45-year-old woman, with past medical history of HTN, DM, tobacco use, PVD, and B/L DVTs presented to our hospital with an acute onset of left lower extremity swelling and pain. She was currently being treated with, among other things, plavix, full dose aspirin, cilostazol, and lovenox, however compliance was a chronic issue and she stated that she stopped some of her medications about a week prior. The patient was unable to ambulate, and her entire leg was erythematous with purple hue. Her left lower extremity was cold to the touch, and pulses were unable to be palpated nor found on Doppler. Ultrasound revealed occlusive thrombosis in the common femoral, great saphenous, femoral, popliteal and peroneal veins. She was taken to Interventional Radiology where IVC and lower extremity venogram revealed previous IVC filter as well as a stenosis and the abovementioned clot originating at the left common iliac vein. Mechanical thrombolytic therapy and thrombectomy was performed with tPA infusion with ultrasound-accelerated catheter-directed thrombolysis running overnight, and she was transferred to the ICU. Upon evaluation the next day her leg was significantly less swollen and the color had returned to normal. She was evaluated again in IR and venogram revealed a significant reduction in clot burden, however significant non-occlusive clot remained. Angioplasty was performed on thestenotic lesion at the IVC/left iliac junction followed by stent placement. Due to the severity, tPA infusion with thrombolysis was elected to again run overnight. The next day venogram was repeated and revealed further interval lysis and good venous flow reestablished. tPA therapy was concluded and the patient was started on full dose heparinization. A full hypercoagulable workup performed by Hematology was negative and pt was discharged on lovenox. Discussion: The compression of the left common iliac vein in MTS leads to intimal hyperplasia and venous stasis, which leads to an increased risk for DVT. This is a risk factor for PCD, in which the thrombosis extends from the deep veins to the collateral veins, resulting in venous congestion, edema, and can progress to irreversible gangrene. The literature has not agreed on a standard of care for phlegmasia cerulia dolens but catheter-directed intravenous thrombolysis is generally well accepted.
Saraiya, Ami

Last Name: Saraiya
First Name: Ami
PG or MS Year: PGY-1
ACP Number: 2361966

Medical School or Residency Program: Rhode Island Hospital/Brown University
Hospital Affiliation: Rhode Island Hospital

Additional Authors: Rashid Hussain, Joshua Giaccotto and Gerardo Carino

Abstract Title: Early Prone Positioning to Treat Transfusion-Related Acute Lung Injury (TRALI)

Abstract Text: Introduction: Prone-positioning has been associated with improvements in oxygenation and reduction in ventilator-induced lung injury. Additionally, recent data suggests that early use of prone positioning in patients with ARDS improved mortality (1). We present the case of a 39 year-old male who developed ARDS secondary to TRALI. The patient was successfully treated with prone positioning over the span of three days. Case Report: A 39 year-old male with a history of cholangiocarcinoma complicated by biliary stricture with recent stenting was admitted to the intensive care unit for septic shock from cholangitis. He was initially supported with fluids, antibiotics and vasopressors and evaluated by interventional radiology (IR) to provide source control with a percutaneous biliary drain. The patient had developed a mild coagulopathy with an INR 1.7 due to his sepsis. Thus, prior to the procedure, the patient was transfused with three units of fresh frozen plasma. Immediately post-procedure, the patient had a decline in his systemic vascular resistance and developed profound hypoxia. A chest x-ray revealed the development of extensive bilateral airspace disease, necessitating intubation in the setting of acute respiratory failure. The patient was diagnosed with TRALI, as supported by a number of findings including a marked transient drop in his leukocyte count, found when routine labs were drawn during his decompensation. He was started on a low tidal volume ventilation strategy, yet was only able to obtain a PO2 of 62 mmHg on 100% Fio2 with a PEEP of 18. Thus, the decision to prone the patient was made. He was proned within 16 hours of his development of TRALI and showed immediate improvements in oxygenation and saturation. Following the protocol of Guerin, et al (1), he received two 16-hour proning sessions over the next two days and continued to improve. After day 3 of admission, the patient was able to spontaneously breathe and was extubated. He remained hemodynamically stable and discharged home by day 13. Discussion: Multiple studies have shown that proning leads to improved oxygenation due to a number of mechanisms, including improved recruitment, V/Q mismatch and decreased lung compression by adjacent tissues. A recent study now suggests a mortality benefit with the early use of prone ventilation in ARDS patients. Our patient with TRALI and ARDS quickly recovered after he was ventilated in the prone position. Prompt diagnosis of ARDS and a low threshold for the use of prone positioning may improve patient outcome in the intensive care unit. Reference: Guerin C, et al Prone positioning in severe acute respiratory distress syndrome. N Engl J Med 368:2159–2168
Introduction: In the US Lyme disease is the most commonly reported tick-borne illness, with an estimated 30,000 reported cases in 2012. Typical manifestations include cutaneous, neurologic and rheumatologic symptoms. Cardiac involvement is rare, most commonly seen as atrioventricular block in 0.8% of cases, and can fluctuate between first, second and third degree. The prognosis is usually excellent, though recently three sudden cardiac deaths in young patients were reported. Case: A 58yo M with PMH of thalassemia minor presented for SOB. He had been playing softball when he suddenly felt very short of breath; it took him a while to recover which was unusual for him. Over the course of the week he noted increased DOE. He saw his PCP where an EKG revealed complete heart block. Of note, 4 weeks prior he had removed a small tick from his right leg. Two weeks later he noted a circular rash on his left arm, which he attributed to poison sumac. He also reported fatigue, but denied joint pain or headache. CBC and BMP were WNL and LFTs were abnormal (AST 66/ALT 97/Alk Phos 451). Lyme C6 peptide was positive and confirmation by Western blot was sent. PCR for Babesia and Anaplasma were negative. Initial EKG showed complete AV dissociation and RBBB with a ventricular rate of 48. Patient remained in complete heart block while being monitored on telemetry in the hospital. He was started on ceftriaxone 2gm IV daily for presumptive Lyme carditis. Cardiology evaluation was completed for possible pacemaker placement in case Lyme serologies were negative. On the third day, he was discharged with a PICC to receive IV ceftriaxone until resolution of the 3rd degree block, with plan to transition to PO doxycycline for 21 days total once in sinus rhythm. After discharge, Western blot was confirmed positive. Discussion: Lyme carditis is caused by diffuse infiltrates affecting multiple areas of the heart and usually occurs within weeks to a few months after infection with Borrelia Burgdorferi. Patients may be asymptomatic or have dyspnea, dizziness, syncope, or chest pain. Symptomatic patients require hospitalization, monitoring on telemetry and treatment with intravenous antibiotics. There is little data to guide how long patients should be hospitalized or monitored. Variable degrees of atrioventricular block are the most common manifestation. With the appropriate treatment, high degree AV block typically resolves within one week, while more minor conduction disturbances may persist for up to six weeks. Prognosis is very good, however, the CDC recently released a report describing 3 cases of SCD associated with Lyme carditis in young patients, aged 26 to 38. Prompt recognition and early appropriate therapy is essential, especially in Lyme-endemic regions, and patients should be asked about cardiac symptoms.
Scaramangas-Plumley, Daphne

**Last Name:** Scaramangas-Plumley  
**First Name:** Daphne  
**ACP Number:** 1481800  
**Medical School or Residency Program:** Roger Williams Medical Center  
**Hospital Affiliation:** Boston University  
**Additional Authors:** William Levin, MD

**First Author:** Resident  
**PG or MS Year:** PGY-2  
**Category:** Research

**Abstract Title:** A case of left ventricular cardiac sarcoidosis manifesting as dyspnea on exertion

**Abstract Text:** Introduction: Sarcoidosis is an idiopathic multi-organ disease characterized by noncaseating granulomas. Cardiac involvement can be the presenting feature of sarcoidosis and may include complete heart block, arrhythmias, or heart failure. Most cases remain subclinical although some data reveals at necropsy over 20% of patients with sarcoidosis have evidence of cardiac involvement. Manifestations of the disease are related both to the extent and location of granulomatous infiltration. Case Presentation: A 50yo female without significant PMH was referred for outpatient cardiology evaluation after an EKG done on routine physical was concerning for previous inferior wall MI and ventricular ectopy. She was post-menopausal, a non-smoker and had no history of heart disease. She was very active, running 3 miles daily for many years, and only reported mild intermittent dyspnea on exertion over the last few months. Her cardiac examination was unremarkable, with heart sounds of normal intensity and without murmurs. A 2D echocardiogram revealed mild to moderately impaired LV function with predominantly inferior wall hypokinesis, in addition to basal inferoseptal, mid-inferoseptal and apicoseptal hypokinesis. The patient was able to exercise for 9 min to a heart rate of 166, without evidence of ischemia. Aspirin, beta-blocker and statin therapy were initiated pending further evaluation. A left heart catheterization revealed no significant lesions. She continued to run with intermittent dyspnea and without chest discomfort. Cardiac MRI revealed extensive subepicardial late gadolinium enhancement consistent with fibrosis, global biventricular dysfunction and LVEF of 47%. This pattern suggested a diagnosis of cardiac sarcoidosis, extensive myocarditis or vasculitis, Fabry’s disease or less likely, RV dysplasia. Incidentally a 1.2cm suprahilar LUL opacity was noted, leading to a chest CT significant for bilateral ill-defined upper lobe nodules without hilar adenopathy. The patient was referred for endomyocardial biopsy, which confirmed the diagnosis of cardiac sarcoidosis. The patient was started on tapering doses of prednisone, and she continued to feel well overall. Given the patient’s extensive late gadolinium enhancement on MRI, an ICD was placed. Discussion: Cardiac involvement may be the initial manifestation of sarcoidosis and the diagnosis can be challenging. Cardiac biopsy typically has a sensitivity of 20 to 30%, a consequence of patchy myocardial involvement and therefore a negative biopsy should not necessarily omit the diagnosis. Steroids remain the mainstay of therapy, although randomized clinical trials are lacking to guide the optimal dosing and duration of therapy. ICD placement should be strongly considered in this population, especially in patients with evidence of extensive myocardial damage and fibrosis or in the presence of arrhythmias, as studies have shown an increased rate of adverse events and sudden cardiac death. As such, placement of an ICD for primary prevention is a Class IIa recommendation.
Abstract Title: Trends in epidemiology and survival of head and neck cancer at a community-based hospital in Rhode Island

Abstract Text: Background: Most of the squamous cell carcinomas of the head and neck (SCCHN) result from tobacco and alcohol exposure. However, human papillomavirus (HPV) has been recognized as an increasing etiologic factor for SCCHN, particularly in younger men. Worldwide epidemiological studies demonstrate increased incidence of HPV-associated SCCHN, characterized by pharyngeal location and favorable prognosis despite locally advanced presentation. The objective of this study was to analyze the evolving demographics of SCCHN patients and their survival in a community-based setting in Rhode Island. Methods: We analyzed cancer registry data at Memorial Hospital of Rhode Island (MHRI) for all patients with head and neck cancers diagnosed or treated between 2002 and 2012. Trends in the distribution of age, gender and primary site of tumor were analyzed using a log-binomial regression. Overall survival was the primary survival endpoint, calculated using Kaplan-Meier method. Results: A total of 328 cases were identified in the database. The most common histology was SCCHN in 81.7% (N=268) patients followed by lymphomas 6.1% (N=22), adenocarcinoma 2.1% (N=7) and other carcinomas in 9.4% (N=31) patients. SCCHN was seen predominantly in men (N=198, 73.9%). The median age at diagnosis was 63 years and did not change over time (P = 1.00). A majority of the patients were in 61-80 year (49%) or 40-60 year (41%) age groups. There was also no evident trend in the proportion of men and women (P=0.13). A majority of SCCHN were located in larynx (40.6%) followed by pharynx (37.7%), oral cavity (19.4%) and nasal cavity (2.2%). A significant trend of increasing proportion of SCCHN involving the pharynx was seen (risk ratio, RR, 1.06 per year, P=0.033). The proportion of pharyngeal SCCHN increased from 27.4% before 2006 to 42.4% after 2006. Using the American Joint Committee on Cancer stage groupings, 38.4% of patients had early stage (stage I/II) cancer, while 52.4% had locally advanced disease (stage III, IVA or IVB). Among patients treated at MHRI, primary surgery was the treatment of choice for in situ (83%) carcinoma. Stage I/II patients were treated with surgery (57.5%) and/or radiotherapy (67.5%). Concurrent chemoradiotherapy was the modality of choice (81.2%) in the locally advanced group. Overall survival at 3 years was 70% (95% confidence interval,CI, 57-79%) for early-stage and 47% (95% CI 36-57%) for locally advanced tumors. Median survival for metastatic (stage IVC) disease was 7 months. Conclusion: Among SCCHN diagnosed at our institution, a significant increase in proportion of pharyngeal tumors was seen over the past decade, which may be attributed to the association with HPV infection. The treatment modalities and survival were consistent with national guidelines and statistics.
Abstract Title: THE PROGNOSTIC SIGNIFICANCE OF ELEVATED TROPONINS IN PATIENTS WITH SEPSIS

Abstract Text: Objective To investigate the relationship between elevated troponins in patients with sepsis and mortality. Background Troponin elevation is common in sepsis and reflects myocardial injury, but the role of cardiac troponins in risk stratification of patients with sepsis is still debated. Methods Observational studies from Pubmed, Medline and those manually searched up to December 2013 were reviewed. Studies in which a 2 x 2 table could be constructed between troponin and mortality were selected for meta-analysis. We pooled odds ratios and risk ratios using the Mantel Haenszel calculations with fixed effect. Heterogeneity was considered present at I² > 50%. Results Fourteen studies encompassing 1,568 patients were included. The prevalence of elevated troponin was 63.3 %. Death occurred in 36.8% of septic patients with elevated troponin compared with 19.3% of septic patients without troponin elevation. Elevated troponin was found to be significantly associated with mortality (risk ratio 2.03; 95% CI 1.70–2.43; p <0.00001), with low heterogeneity across studies (I²=0%) Conclusion Troponin elevation in patients with sepsis predicts a higher risk of mortality. Further studies are needed to determine if selection of this subset of patients for more aggressive therapy leads to a reduction in mortality.
Sheyn, Olusegun

Last Name: Sheyn
First Name: Olusegun
ACP Number: 2132084

First Author: Resident
PG or MS Year: PGY-2
Category: Clinical Vignette

Medical School or Residency Program: Harlem Hospital Center
Hospital Affiliation: Department of Medicine Harlem Hospital Center in Affiliation with Columbia University Medical Center
Additional Authors: Mallika Pradhan, Damian Kurian

Abstract Title: CORONARY ANEURYSM PRESENTING WITH RECURRENT ACUTE CORONARY SYNDROME

Abstract Text: Introduction Patients with coronary artery aneurysms may have acute coronary events in the absence of the traditional risk factors for coronary artery disease. This is thought to be due to thrombosis in the aneurismal artery. We report a case of coronary aneurysm presenting with recurrent acute coronary syndrome. Case report A 44 year old non-smoking Asian man with past medical history of myocardial infarction (MI) at the age of 28 years and with no other co-morbidities, presented with severe retrosternal chest pain of 4 hours duration, with radiation to the left shoulder. He did not have coronary artery disease risk factors, and as reported by the patient, his coronary angiogram at the time of his previous MI was non-obstructive. His EKG at the time of admission showed right bundle branch block with T wave inversion in the inferio-lateral leads. His serum troponin I level was 9ng/mL, so he was admitted to the coronary care unit for non-ST elevation myocardial infarction (NSTEMI). He was started on anti-ischemic therapy and had an echocardiogram which revealed left ventricular hypertrophy, normal systolic function, but no regional wall motion abnormalities. His serum troponin I level rose to 24.3ng/mL and then 46.1ng/mL, but he did not have continuing chest pain, and he remained hemodynamically stable. Cardiac catheterization was performed, revealing coronary aneurysms with ectatic flow in right coronary artery, but no obstructive lesions. He was managed conservatively and was discharged on aspirin, clopidogrel and high dose statin, and he is being followed-up at the cardiology clinic. Discussion Coronary aneurysm is an uncommon condition usually found incidentally on coronary angiography. It may be congenital or acquired due to Kawasaki disease, atherosclerosis or from chronic inflammation. It can cause acute coronary syndromes when it thromboses or ruptures. Non-atherosclerotic causes of acute coronary syndrome such as cocaine induced vasoconstriction, coronary dissection, the ‘broken heart’ syndrome and coronary aneurysm should be considered in younger patients in the absence of traditional risk factors for coronary artery disease. Conclusion The possibility of underlying coronary artery aneurysm should be considered in patients presenting with acute coronary syndromes in the absence of apparent risk factors for coronary artery disease or coronary vasoconstriction.
Abstract Title: SARCOIDOSIS CO-EXISTING WITH IMMUNE THROMBOCYTOPENIC PURPURA

Abstract Text: Introduction Sarcoidosis is a multisystem granulomatous disorder of unknown etiology that may be associated with various immune disorders. The co-existence of sarcoidosis and immune thrombocytopenic purpura (ITP) is however rare. We report a case of sarcoidosis co-existing with ITP. Case Description A 35 year old man with a history of excised right nasal polyp, presented with epistaxis of 12 hours duration. He denied cough, fever, weight loss or night sweats. On examination, he had normal vital signs and a few petechiae on his upper and lower limbs. Labs revealed a platelet count of 13,000/uL, with few large platelets on peripheral smear and an elevated serum ACE level of 71IU/L. Chest X ray revealed bilateral hilar adenopathy and reticulonodular opacities, predominantly in the upper lobes. CT chest and abdomen revealed pulmonary micronodules, as well as wide spread lymphadenopathy and hypodensities in the liver. Histology of excised nasal polyp revealed multiple non-caseating granulomata, negative for fungal and acid fast organisms. PPD and HIV tests were negative and peripheral blood flow cytometry was negative for lymphoproliferative disorder. On the second day of admission, his platelet count dropped from 13,000/uL to 1,000/uL. He was transferred to the ICU and was transfused with 2 units of platelets. He also received IV immunoglobulins (IVIG) and IV methylprednisolone. A diagnosis of ITP co-existing with probable sarcoidosis was made. He was discharged on the 5th hospital day with a platelet count of 153,000/uL, which remained stable on outpatient follow-up. He had a bronchoscopy and biopsy as outpatient, with finding of epithelioid non-caseating granuloma, multi-nucleated giant cells and negative special stains for organisms, consistent with sarcoidosis. Discussion The largest case series of co-existent sarcoidosis and ITP reported in the literature included only 20 patients. Of these only 25% had the 2 conditions diagnosed simultaneously. We were prompted to investigate for a co-existing disease when we got an abnormal chest radiograph in this patient. The differential diagnosis was broad, but his chest radiograph and CT findings, elevated ACE level, and the prior finding of non-caseating granulomas on pathology of his excised nasal polyp, led to the presumptive diagnosis of sarcoidosis, which was later confirmed by bronchoscopy and biopsy. Co-existent sarcoidosis and ITP is rare. Autoantibody-related platelet destruction, bone marrow involvement by the granulomas, and hypersplenism are three potential mechanisms of thrombocytopenia in sarcoidosis. Our patient’s clinical course and his response to IVIG and methylprednisolone suggest a role of antiplatelet autoantibodies in his thrombocytopenia.
Abstract Title: Ascending flaccid quadriparesis in a young woman: A painful story!

Abstract Text: Introduction Severe hypokalemia can result in rhabdomyolysis, muscle weakness and cardiac arrhythmias. Thyrotoxic periodic paralysis or familial hypokalemic periodic paralysis can also cause periodic paralysis. In addition, recurrent hypokalemia from other causes such as renal tubular acidosis, profuse diarrhea, or hyperaldosteronism can also result in periodic paralysis. We report an unusual cause of recurrent hypokalemia, and paresis. Case Presentation A 33-year-old woman presented with 5-day history of painful weakness of all four extremities. The weakness started from the lower extremities and ascended to involve the upper extremities. Past history was significant for substance abuse and recent use of heroin, marijuana and cocaine. There was no family history of periodic paralysis. Physical examination was remarkable for systolic hypertension, and exquisitely tender limbs and flaccid paresis of all four limbs with normal sensory examination and deep tendon reflexes. Investigation revealed sodium of 138 meq/L, severe hypokalemia (potassium of <2 meq/L), chloride of 97 meq/L, bicarbonate of 28 meq/L, and high creatinine phosphokinase (CPK of 5838 IU/L). Serum cortisol, aldosterone, and magnesium level, renin activity, thyroid stimulating hormone and arterial blood gas analysis were all normal. Urine toxicology was positive for opioid, cocaine and tetrahydrocannabinol (THC). The trans-tubular potassium gradient (TTKG) was 2.3, excluding any renal potassium wasting. The electrocardiography (EKG) revealed prolonged QTc interval of 598 milliseconds, and ST segment depression. With a diagnosis of hypokalemia-induced quadriparesis secondary to cocaine and heroin abuse, the patient was admitted under telemetry monitoring and started on potassium supplementation. With improvement in serum potassium, she had resolution of weakness and pain as well as normalization of EKG changes and elevated CPK. She was discharged home with outpatient substance abuse rehabilitation program. She returned to emergency room in one month with mild paraparesis developing one day after snorting heroin, hypokalemia (potassium of 2.9 meq/L) and urine toxicology positive for opioid and THC. After potassium supplementation, she had resolution of her symptoms and was discharged home. Discussion This case highlights that drug abuse, albeit rare, can be a cause of recurrent hypokalemia and paresis, particularly in young adults. Illicit drugs such as cocaine, and heroin (when contaminated with clenbuterol) can increase in elevated beta-adrenergic activity, resulting in shift of potassium to intracellular compartment. Although rarely reported in literature, it is possible that illicit drug-induced hypokalemia are often overlooked because of the lack of awareness. Urine toxicology should be performed as a part of hypokalemia evaluation, particularly in patients with known or suspected drug addiction.
Singh, Davinderpal

Last Name: Singh
First Name: Davinderpal
ACP Number: 1486520

First Author: Resident
PG or MS Year: PGY-4
Category: Clinical Vignette

Medical School or Residency Program: Roger Williams Medical Center
Hospital Affiliation: Roger Williams Medical Center
Additional Authors: Elizabeth Bourret, Richa Tandon

Abstract Title: Burkholderia cepacia: An unusual cause of osteomyelitis

Abstract Text: Case Burkholderia cepacia: An unusual cause of osteomyelitis Case report A 50 year old NH resident with PMH of DM, ESRD on hemodialysis, hepatitis C infection, seizure disorder, bed bound due to bilateral leg deformities, recent HD catheter-related MSSA bacteremia, candidemia and presumed infective endocarditis treated with 6 weeks of Cefazolin and Caspofungin, presented with a non-healing right ankle ulcer for the last 2 years. He was afebrile in the ER with stable vitals. There was a 1x1 cm chronic looking ulcer at the right ankle. It had fibrotic wound base, undermining wound edges and serous drainage present. Probe-to-bone test was positive. Laboratory tests showed WBC count 6.1, ESR 22 and CRP 35. X-ray of the foot showed increased soft tissue swelling with no obvious bony deformity. Blood cultures drawn in ER showed no growth. The patient underwent a bone biopsy and removal of non-viable soft tissue and bone. He was empirically started on Vancomycin and Piperacillin-Tazobactam. Bone cultures grew Burkholderia cepacia, sensitive to Trimethoprim-sulfamethoxazole and Minocycline, and intermediate to Meropenem. The pathology report was consistent with chronic osteomyelitis. He was discharged with six weeks of Minocycline 100mg orally twice daily and follow up was arranged with ID and Podiatry. Discussion Burkholderia cepacia is an important opportunistic nosocomial pathogen. It is a motile, free-living, glucose-non-fermentative gram negative aerobic bacilli. It is usually non-pathogenic in healthy people. It has been reported to cause respiratory tract infections in cystic fibrosis and granulomatous disease patients. It causes bacteremia in cancer and hemodialysis patients and pneumonia in mechanically ventilated patients. Other reported infections include skin and soft tissue infections in burns and surgical wounds, septic arthritis, meningitis, peritonitis and UTI after urethral instrumentation. There have been very few reported cases of osteomyelitis with this organism. B. cepacia cervical osteomyelitis was reported after rhinoplasty by Smith et al. Our patient did not have the usual predisposing conditions found in patients with B. cepacia infections, e.g., IVDU, cystic fibrosis, granulomatous disease however he did have DM and was on HD. It is possible that he was infected during his previous treatments for this non-healing ulcer or prior hospitalizations thus suggesting a nosocomial infection. B. cepacia is not susceptible to a wide range of antibiotics. Effective antibiotics include Meropenem, TMZ-SMZ, chloramphenicol and Minocycline. B. cepacia is commonly found in the environment, thus infection control plays an important role in preventing infections with this potential pathogen. Our case highlights the importance of considering B. cepacia as a potential pathogen in patients with conditions such as DM and on HD. It is important to recognize this pathogen early given it is resistance to many of the usual antibiotics used for treatment of osteomyelitis.
Abstract Title: Rebel Without A Cause: An Unusual Case of Miller Fisher Syndrome

Abstract Text: Introduction: Miller Fisher Syndrome (MFS) is an unusual variant of Guillaine-Barré Syndrome (GBS) that is characterized by the triad of areflexia, ataxia and ophthalmoplegia. It typically follows a respiratory or digestive tract infection and diagnosis is confirmed with anti-GQ1b antibodies. We report the case of a patient with MFS without any evident precipitating event. Case Report: A 21-year-old male presented to the Emergency Department with progressively worsening tingling of the hands and feet for five days. During that time he developed diplopia, dysarthria, dysphonia and left ptosis, respectively, with two episodes of nausea and vomiting the day before admission. Review of systems was negative for abdominal pain, diarrhea and other abdominal symptoms. He also denied fever and chills, respiratory symptoms or recent vaccinations. Vitals were normal. Examination revealed a normal appearing young male with bilateral ptosis greater on the left, poorly reactive pupils, a sixth cranial nerve palsy, a dysphonic voice with a nasal quality and decreased palatal mobility. Deep tendon reflexes were absent throughout while strength and power were preserved. Cerebellar exam revealed mild terminal dysmetria on the finger-to-nose test and moderate dysmetria on the heel-to-shin test with a wide-based mildly ataxic gait. The remaining physical exam was unremarkable. Initial laboratory results were normal. His blood alcohol level was less than 10 and his urine toxicology was negative. Head CT as well as brain MRI revealed no abnormalities. Lumbar puncture yielded one white blood cell and normal protein and glucose with no evidence of cytoalbuminologic dissociation. Additional workup included anti-GQ1b antibodies, VDRL, Lyme, HSV, Enterovirus and West Nile Virus as well as a myasthenia panel. Electromyography was nondiagnostic. On the second day his symptoms progressed with more prominent sixth nerve palsy and bilateral ptosis with evolving dysphagia. Intravenous immunoglobulin at 0.4g/kg/day was initiated based on the presentation consistent with MFS and clinical deterioration. Subsequently, his symptoms improved with resolution of ataxia and ptosis. During hospitalization, anti-GQ1b antibody titer returned positive (1:100). He was treated for a total of five days and discharged after continued improvement. Conclusion: Approximately five percent of GBS occurs as the Miller Fisher variant; and greater than seventy percent of GBS are preceded by a known precipitating cause. While MFS is easily identified by its characteristic presentation, the absence of a known prior infection or inciting event such as vaccination may mask a prompt diagnosis. Treatment delays result in clinical deterioration and in some instances diaphragmatic paralysis ensues. Thus, it is of clinical importance to associate the diagnostic triad characteristic of MFS and to have a high level of suspicion even in the absence of a clear inciting event.
Abstract Title: Fleeting hip pain in a twenty-seven year old woman

Abstract Text: 27 year old female with a past medical history of chlamydial infection, presented with acute onset left hip pain. She had a similar presentation one year ago, which resolved with NSAID therapy. She reported that two days prior to admission, she was awakened by a sharp pain, exacerbated by movement, in her left hip. Her pain gradually progressed. She denied fever, recent gastrointestinal or upper respiratory infection, other joint pain or swelling, morning stiffness, eye symptoms, chest pain, shortness of breath, and rashes. Of note, she was nine weeks pregnant with her third child. Her vital signs and basic laboratory studies were normal. She was admitted to the hospital and treated with acetaminophen and pain medications. Ultrasound evaluation of the hip showed a fluid collection, which was aspirated, and showed an inflammatory joint effusion. No crystals were seen, and culture was negative. Her pain improved significantly following this, and she was discharged home the next day. Transient synovitis of the hip is the most common cause of hip pain in children age 3-10 years. Rare cases have been reported in adults. Patients usually present within two days. The hip is held flexed, abducted, and internally rotated, maximizing space within the hip joint. There is a male predominance of 2:1. The etiology is unknown; association with viral infection has been proposed due to increased antibody titers, seasonal variation, and increased interferon levels. Patients typically have normal laboratory values and vital signs, ESR < 20 mm/hr and T < 99.5. Management is with NSAIDs and bed rest. Pain resolves rapidly in 2-10 days. The recurrence rate is around 4%, most frequently occurring in the first year, in 70% of cases. Avascular necrosis occurs following transient synovitis in about 2.5% of cases.
Sperling, Scott

Last Name: Sperling
First Name: Scott
ACP Number: 1420248

First Author: Resident
PG or MS Year: PGY-2
Category: Clinical Vignette

Medical School or Residency Program: Brown University
Hospital Affiliation: Rhode Island Hospital
Additional Authors: Harikrashna Bhatt MD

Abstract Title: Prolactinoma: A Massive Effect on Bone Mineral Density in a Young Patient

Abstract Text: Osteoporosis is a major health concern, affecting millions of Americans, and is a result of low bone mineral density (BMD) with microarchitectural disruption leading to increased risk of fracture. Measurement of BMD by DEXA can be used to diagnose post-menopausal women and men over 50 with osteoporosis, but pre-menopausal women and men under 50 can only be characterized as "below the expected range for age" in regards to BMD based on the reported Z-score, which compares a person's bone density to an average individual of the same age and sex. There are numerous secondary causes of low bone mineral density including primary hyperparathyroidism, hyperthyroidism, prolonged glucocorticoid use, and hyperprolactinemia. Our patient is a 37 year old gentleman without significant past medical history who initially presented to his primary care physician with complaints of lumbago and diffuse arthralgias. An x-ray of his back was concerning for decreased bone mass and a followup DEXA scan was notable for a Z-score of -3.6. Physical examination revealed intact neurologic function. Secondary workup was significant for normal renal and liver function. Celiac disease, multiple myeloma, and glucocorticoid excess were excluded. Endocrinologic evaluation revealed normal thyroid function. His calcium and phosphorus were normal, while he was noted to be vitamin D deficient. His prolactin was elevated to 974 ng/mL (normal 2-17), with low FSH, and low-normal LH and testosterone. The elevated prolactin prompted further investigation with an MRI of the brain that illustrated a pituitary macroadenoma measuring up to 3.2 cm with extension into the sphenoid sinuses and mild superior mass effect upon the optic nerves. In consultation with endocrinology, the patient was started on cabergoline, a dopamine agonist, 0.25 mg twice weekly along with calcium and vitamin D supplementation. Repeat prolactin levels two months after initiation of therapy were 568. Formal ophthalmologic examination revealed normal visual fields. The patient awaits a follow up MRI at 6 months. Studies on hyperprolactinemia resulting in bone loss have generally focused on post-menopausal women, but here we present a case of BMD below the expected range in a 37 year old gentleman. Men tend to present with macroadenomas (10 mm or greater) resulting in headaches, visual symptoms, and hypogonadism, with the latter a result of abnormalities in GnRH secretion. Hypogonadism is thought to be the main mechanism in which these individuals develop low BMD, although more recent in vitro studies suggest that prolactin may have a direct effect on osteoblasts and bone mineralization. This case highlights the importance of carefully analyzing data and determining its generalizability to a broader population, as one cannot directly apply what is known about prolactinomas in women and older gentlemen to the young man in this case.
Abstract Title: Intussusception complicating adult-onset IgA-associated vasculitis

Abstract Text: INTRODUCTION: IgA-associated vasculitis, formerly known as Henoch-Schönlein purpura (HSP), is a systemic, small vessel inflammatory disorder involving the skin, kidneys, gastrointestinal tract, lungs, and central nervous system. The disease is mediated by the circulation of immunoglobulin A (IgA)-containing immune complexes which deposit in the walls of vessels and the renal mesangium. Most patients diagnosed with this disorder are aged 2-7 years and disease onset is rare in adults. Intussusception is a rare gastrointestinal complication of IgA-associated vasculitis and few cases have been reported in adult patients. We present a case of an adult patient who developed intussusception shortly after diagnosis with IgA-associated vasculitis. CASE REPORT: The patient is a 59yr old male with a six-month history of IgA-associated vasculitis, initially diagnosed by skin biopsy, who developed severe nausea, abdominal pain and edema four days prior to admission. On exam, he had diffuse abdominal tenderness with significant abdominal and pedal edema. Several scattered, punctate skin lesions were noted over the hands, abdomen and legs, with subtle macular skin discolorations over his distal legs. More pronounced ecchymotic lesions were noted over the abdomen. High-dose corticosteroid therapy was initiated promptly on admission. Due to progressive abdominal symptoms, a computed tomography scan of the abdomen and pelvis was performed which revealed an area of small-bowel intussusception. Corticosteroids were tapered and his symptoms resolved slowly over the next several days without surgical intervention. CONCLUSION: Adult-onset IgA-associated vasculitis is a systemic disorder characterized by rash, subcutaneous edema, arthritis, abdominal pain and renal manifestations. While intussusception is the most common gastrointestinal complication of active disease in children, it is remarkably rare in adults. Hemorrhage and edema are suspected pathological lead points for the development of intussusception. Other severe complications include gastrointestinal hemorrhage, bowel infarction and perforation. Limited treatment options exist for the acute and chronic treatment of adult-onset IgA-associated vasculitis. To date, early treatment with glucocorticoids has failed to demonstrate a reduction in severe gastrointestinal complications, possibly due to the small numbers of patients studied.
Stewart, Earl

Last Name: Stewart               First Author: Resident
First Name: Earl                   PG or MS Year: PGY-1
ACP Number: 1449143               Category: Clinical Vignette

Medical School or Residency Program: Brown University Internal Medicine
Hospital Affiliation: Rhode Island Hospital, The Miriam Hospital
Additional Authors: Elizabeth Horn, M.D.

Abstract Title: An Unusual Presentation of a Hemophagocytic Syndrome: A Call for Early Detection

Abstract Text: Hemophagocytic lymphohistiocytosis is a syndrome marked by proliferative systemic inflammation and is described as being either a familial/primary syndrome or a sporadic/secondary one. For the purpose of this report of a 52-year-old female presenting with laryngeal edema, malaise, and isolated thrombocytopenia, we reiterate the importance of early identification and management of this potentially lethal and elusive condition in patients meeting diagnostic criteria and further suggest that in some patients isolated thrombocytopenia may be the initial clue for a diagnosis of hemophagocytic lymphohistiocytosis when all other diagnostic criteria are absent. This is the case of a 52-year-old female with a past medical history of HTN, basilar artery aneurysm clipping secondary to a Grade III SAH with subsequent total blindness due to bilateral optic nerve degeneration, duodenitis, prior tobacco use, and alcohol abuse presented to TMH on 11/09/2013 with complaints of feeling ill for one week. This patient’s diagnosis of HLH finally came after an extensive hospital course and more intensive studies of a bone marrow aspirate after a total of 20 days of hospitalization, which was physically and psychologically taxing to the patient, which she often verbalized. This patient’s case serves to note isolated thrombocytopenia of unclear etiology, although only fulfilling one of the eight criteria for HLH and therefore is not the only one that may present first in these patients, may be an early clue to make a more rapid diagnosis of a hemophagocytic condition and thus lead to implementation of the diagnostic algorithm earlier in a patient’s hospital course, therefore helping to ensure the best possible outcome from a psychological, emotional, and physical perspective.
Abstract Title: An 85-year-old Gentleman at the End of Life: A Spiritual Conversation

Abstract Text: Despite several studies, clinician inquiries about patient spirituality and the practice of compassionate care are lacking, likely due to limited healthcare professional education and training, design of clinical practices, time within an already limited office visit, and payment constraints. There has also been a lack of clarity of the role of spiritual care professionals in involvement in the medical team. “Whole-person care,” is based on the biopsychosocial and spiritual model of care, which is care encompassing physical as well as psychological, social, and spiritual domains of care. This is the case of an 85-year-old gentleman with a history of T4N0Mx urothelial carcinoma status post cystoprostatectomy in 2012 who was admitted from the Fain Cancer Center with complaints of worsening dyspnea on exertion over the last 2-3 days with whom I engaged in a spiritual conversation at the end of his life. His case implicates the importance of understanding spiritual concerns of patients on a more routine basis in an effort to deliver more holistic and compassionate care according to the biopsychosocial and spiritual model of patient care to provide for the best possible outcomes. This case also serves as an avenue to explicate ways clinicians can become more involved and comfortable in identifying and diagnosing spiritual distress and issues in patients as it allows an opportunity to review current standards and guidelines, evidence-based tools for practice, and treatment algorithms that allow for clinicians caring for patients to integrate spiritual assessments more readily into day-to-day medical practice.
Stewart, Earl

Last Name:  Stewart  First Author:  Resident
First Name:  Earl  PG or MS Year:  PGY-1
ACP Number:  1449143  Category:  Clinical Vignette

Medical School or Residency Program:  Brown University Internal Medicine
Hospital Affiliation:  Rhode Island Hospital, The Miriam Hospital
Additional Authors:  Elizabeth Horn, M.D.

Abstract Title:  A 52-year-old Female with Hoarseness: An Unusual Presentation of a Hemophagocytic Syndrome

Abstract Text:  Hemophagocytic lymphohistiocytosis (HLH) is a syndrome marked by proliferative systemic inflammation and is described as being either a familial/primary syndrome or a sporadic/secondary one. The disease is fairly rare with incidence being measured at 1.2 cases per million persons per year in the familial form with secondary or sporadic forms likely being even more rare. The condition also has a 1:1 male-to-female ratio, and an autosomal recessive form of inheritance. For the purpose of this report of a 52-year-old female presenting with laryngeal edema, malaise, and isolated thrombocytopenia, we reiterate the importance of understanding the myriad ways hemophagocytic syndromes tend to present and, given the relative rarity of this subset of diseases, how the diagnosis is often made after systematically excluding other common and more likely diagnoses. This is the case of a 52-year-old female with a past medical history of HTN, basilar artery aneurysm clipping secondary to a Grade III SAH with subsequent total blindness due to bilateral optic nerve degeneration, duodenitis, prior tobacco use, and alcohol abuse presented to TMH on 11/09/2013 with complaints of feeling ill for one week. HLH has been classically shown to present in a variety of disparate ways, including with evidence of infection, coagulation, cytopenias, hyperbilirubinemia, skin manifestations, lymphadenopathy, weight loss, and CNS involvement. Never before has there been a documented presentation of hemophagocytic lymphohistiocytosis been obscured by a chief complaint of hoarseness due to aryepiglottic fold thickening, and this patient's case serves to signify the multitude of ways conditions under the umbrella of hemophagocytic syndromes may present and often may be obscured by more subtle clinical and physical findings.
**Stump, Mariah**

**Last Name:** Stump  
**First Name:** Mariah  
**ACP Number:** 1964739  
**Medical School or Residency Program:** Brown University Internal Medicine  
**Hospital Affiliation:** Rhode Island Hospital

**Additional Authors:** Julianne Reardon, MS-III, Bethany Gentilesco, MD

---

**Abstract Title:** Staph lugdunensis Endocarditis: Positive cultures without vegetations

**Abstract Text:** Introduction: Staphylococcus lugdunensis is a coagulase-negative staphylococcus (CNS), which ranges from a harmless skin bacterium to a life-threatening pathogen, particularly in infective endocarditis. Unlike other CNS, S. lugdunensis can cause severe disease reminiscent of the virulent infections attributable to S. aureus. It is unique among CNS because of its propensity for causing aggressive native valve infective endocarditis. Unlike S. epidermidis, S. lugdunensis should be presumed to be a true pathogen.  

Case: A 53 year old male with low back pain status post two laminectomies in 1996 presented with severe neck and back pain. He reported headache and fever for two day’s duration. Broad spectrum antibiotics were initiated and a CT guided lumbar puncture revealed clear fluid with no cells and both glucose and protein were high. After blood cultures from admission grew oxacillin-resistant S.lugdunensis, Vancomycin only was continued. Transesophageal echocardiogram revealed a vegetation on the mitral valve consistent with subacute bacterial endocarditis and progressive severe mitral valve insufficiency. The infectious disease service and CT surgery were consulted and mitral valve surgery was recommended given virulence of S. lugdunensis. The source of bacteremia remained elusive as potential sources were eliminated through imaging including MRI of cervical, thoracic and lumbar spine which were negative for epidural abscess and MRI of R bunion negative for osteomyelitis. MRI of brain was negative for emboli or aneurysm. Patient was managed with IV Vancomycin and pain control and was discharged for mitral valve surgery which was performed nine days after presentation. However, despite patient’s presentation and valvular evidence of mitral insufficiency, the surgical pathology showed marked valvular myxoid degeneration with no acute or chronic inflammation identified and was ultimately negative for vegetations. Patient was managed with four additional weeks of IV Vancomycin from the first negative blood culture. Given the highly virulent organism, the decision to pursue surgery seems reasonable in retrospect. The paucity of literature on S. lugdunensis makes evidence based decision making a challenge although it is presumed that early surgery (as with S. aureus) improves mortality. Had it been known that there was myxoid degeneration rather than vegetations on the valve, it is likely surgery would still have been pursued given the virulence of the organism. Aggressive treatment and infectious disease consultation are necessary in the management of S. lugdunensis bacteremia, with or without true endocarditis.
Tahir, Omair

Last Name: Tahir
First Name: Omair
ACP Number: 2311407
Medical School or Residency Program: Brown University
Hospital Affiliation: Memorial Hospital of Rhode Island
Additional Authors: Thomas Guerrero, Abdallah Kharnaf, Arman Uznuyan, Kurush Setna

Abstract Title: Vasculitis: What is the culprit? Coincidence or unknown association.

Abstract Text: Introduction Levamisole has been previously used as an anthelmintic and an anti-inflammatory drug but later pulled off the market for multiple side effects. It has been increasingly used as a cutting agent in illicit substances, primarily cocaine. We report a case of unknown association between levamisole induced vasculitis in the setting of HCV-related mixed cryoglobulinemic vasculitis. Case Report A 42 y-old-man with rash on his lower extremities and joint pain. Physical findings were consistent with polyarthralgias and a tender, raised, non blanchable purpuric rash mostly in his lower extremities and buttocks. He did endorse having a history of IVDA with cocaine and heroin. Blood cultures and transthoracic echo were normal. Results from blood work showed significant elevated rheumatoid factor and reduced C3, C4 levels. Urine analysis showed 13 RBC. Serum cANCA, pANCA, ANA, STS, ASO, EBV, CMV, HIV, Hepatitis B panel were negative. He had elevated liver function tests and was found to have positive HCV antibody with raised serum cryoglobulin levels. Results from urine toxicology were positive for cocaine and later confirmed to be positive for levamisole. Skin biopsy showed focal leukocytoclastic vasculitis. Discussion The differential diagnosis of a patient with IVDA is broad. But relevant to this case was infectious etiologies with endocarditis and hepatitis on top, drugs, and cryoglobulinemic syndromes have to be considered. Levamisole vasculitis is commonly underdiagnosed because of association with raised inflammatory markers like ANCA and RA. To our knowledge there are very few reports of ANCA normal levamisole associated vasculitis. We recommend checking urine levamisole levels to confirm the diagnosis. The levels should be checked as early as possible due to small half-life of the contaminant.
Vasculitis: What is the culprit? Coincidence or unknown association.

Abstract Text: Introduction Levamisole has been previously used as an anthelmintic and an anti-inflammatory drug but later pulled off the market for multiple side effects. It has been increasingly used as a cutting agent in illicit substances, primarily cocaine. We report a case of ANCA negative-levamisole induced vasculitis in the setting of HCV-related mixed cryoglobulinemic vasculitis. Case Report A 42 y-old-man with rash on his lower extremities and joint pain. Physical findings were consistent with polyarthralgias and a tender, raised, non blanchable purpuric rash mostly in his lower extremities and buttocks. He did endorse having a history of IVDA with cocaine and heroin. Blood cultures and transthoracic echo were normal. Results from blood work showed significant elevated rheumatoid factor and reduced C3, C4 levels. Urine analysis showed 13 RBC. Serum cANCA, pANCA, ANA, STS, ASO, EBV, CMV, HIV, Hepatitis B panel were negative. He had elevated liver function tests and was found to have HCV positive with raised serum cryoglobulin levels. Results from urine toxicology were positive for cocaine and later confirmed to be positive for levamisole. Skin biopsy showed focal leukocytoclastic vasculitis. Discussion Antineutrophil cytoplasmic autoantibody (ANCA) vasculitis is generally positive in cases of levamisole induced vasculitis. To our knowledge there are very few reports of ANCA normal levamisole associated vasculitis. We recommend checking urine levamisole levels in the setting of IVDA with cocaine even in ANCA negative patients. The levels should be checked as early as possible due to small half-life of the contaminant.
Abstract Title: Perinaud’s Oculoglandular Syndrome - an uncommon presentation of Cat Scratch Disease

Abstract Text: Introduction: Cat Scratch Disease (CSD) is a common bacterial infection transmitted by cats. Regional lymphadenopathy is the hallmark of the disease. Ocular manifestations are rare. We report a case of an atypical ocular presentation of CSD. Case Report: A 14 yr old male with a medical history of asthma, living with a 6 month old kitten, presented with 3 weeks of painful swelling of the left eyelid and left side of the face. His PCP initially diagnosed him with blepharitis and conjunctivitis, and prescribed polymyxin and trimethoprim eye drops. The symptoms worsened over the subsequent weeks with increasing left eye lid redness and pain associated with swelling extending to left submandibular and posterior auricular region. Intermittent pain developed with extreme eye movements, as well as blurred vision. Upon evaluation in the ER, he was afebrile, with a WBC of 7.2, and an MRI of the brain and orbit was done to exclude orbital cellulitis. The findings were consistent with subcutaneous edema and enhancement in the left preseptal soft tissues and left lacrimal gland, with extension along the left cheek, face and neck likely consistent with preseptal cellulitis and associated left intra parotid lymphadenopathy (LAD). His left eyelid redness and swelling worsened despite receiving Ampicillin-Sulbactam that subsequently was switched to Cefazolin after two days. The patient then became febrile to a temperature of 101.4°F, and the Pediatric Infectious disease consult recommended adding Clindamycin to cover community acquired Methicillin Resistant Staphylococcus aureus (MRSA), as well as requested an ophthalmology assessment. The detailed eye exam revealed left eye conjunctivitis with peri orbital edema, diffuse conjunctival injection with papillary changes in the palpebral conjunctiva, and preauricular and submandibular LAD. Visual acuity, color vision and field of vision remained intact. Bartonella titers were ordered due to the kitten exposure, and returned IgG positive with a titer of 1:256, with IgM negative. Signs and symptoms combined with laboratory findings on presentation were suggestive of Perinaud’s ocuglandular syndrome. Discussion: Perinaud’s ocuglandular syndrome is an uncommon form of CSD, reported in 2-8% of patients with CSD. Hallmarks consist of conjunctivitis, conjunctival granulomas, and adjacent preauricular LAD. Eye lid swelling is often mild if it occurs. The route of infection for Perinaud’s ocuglandular syndrome is suspected to be from transmission of the causative organism, Bartonella henselae, via cat bite or licks near the eye as well as by self inoculation from another site. Presentation of ocular manifestations with regional lymphadenopathy should increase suspicion for Perinaud’s ocuglandular syndrome. Prompt identification of the symptoms, in addition to inquiry about exposure history and testing for serologic laboratory confirmation is important for the diagnosis of this rare clinical syndrome.
Abstract Title: Severe Acidemia, lactic acidosis, gastrointestinal symptoms and metformin – A record of survival from cardiopulmonary arrest due to metformin toxicity

Abstract Text: Metformin is a commonly used oral hypoglycemic agent in the United States of America. Although it’s generally safe, metformin can lead to significant toxicity in patients with abnormal kidney function, hepatic insufficiency or acute infection. We present a case of severe metformin-induced lactic acidosis and cardiopulmonary arrest. A 54-year-old woman with type 2 diabetes mellitus and hypertension presented with a 3 day history of severe watery diarrhea, nausea, vomiting and mental status change. She reported taking all of her medications including insulin, metformin, lisinopril, and hydrochlorothiazide until the day of the admission. On arrival, emergency medical service found a blood glucose level of 47 mg/dL for which glucagon was administered. In the Emergency Department, she was confused and hypotensive with a blood pressure of 70/39 mm Hg. Her serum chemistries were remarkable for lactic acid 16.3 mmol/L, HCO3 2mEq/L, anion gap 30, osmolar gap 21, creatinine 8.07 mg/dL and arterial blood gas pH of 6.57. She soon became unresponsive, experiencing a pulseless electrical activity. Cardiopulmonary resuscitation, including intubation and mechanical ventilation was initiated. She regained spontaneous circulation in 3 minutes. In the ICU, she remained hypotensive on pressors with severe unrelenting acidemia. Due to profound acidemia, renal replacement therapy with intermittent hemodialysis was initiated. Acute kidney injury was presumed to be secondary to ischemic acute tubular necrosis from profound hypovolemia and hypotension. As the degree of acidemia was considered to be out of proportion with sepsis, metformin toxicity was suspected. Following a prolonged dialysis treatments, her severe acidemia gradually resolved. Stool and blood cultures were negative. Serum metformin level later came back 42 mcg/mL (therapeutic level: 1-2 mcg/mL). The patient was extubated 5 days after admission. She was discharged from the hospital after 15 days, without any neurological complications from the cardiac arrest. Dialysis was ultimately discontinued as her renal function returned normal within a month of hospital discharge. This case teaches us a couple of important lessons. First, metformin, though usually considered safe, can cause serious and life-threatening complications in patients with an acute kidney injury or renal insufficiency. Second, we have to keep a level of high suspicion for metformin toxicity when patients present with gastrointestinal symptoms, severe lactic acidosis and hypoglycemia. A thorough history may not be readily available and these symptoms can mimic sepsis from gastrointestinal source. Lastly, our case serves as an example of the importance of early recognition and targeted interventions especially the dialysis, which can prove to be life saving in these critically ill patients.
Valdivia, Liza

**Last Name:** Valdivia  
**First Name:** Liza  
**First Author:** Resident  
**PG or MS Year:** PGY-2  
**ACP Number:** pending  
**Category:** Research

**Medical School or Residency Program:** Brown Internal Medicine  
**Hospital Affiliation:** Rhode Island Hospital, The Miriam Hospital, Providence VAMC

---

**Abstract Title:** A case of AIDS and cerebral Toxoplasmosis in a Liberian refugee underscores the importance of early access to care amongst displaced persons

**Abstract Text:** Despite growing awareness and exponentially higher rates of treatment of HIV/AIDS in recent years in the United States, there still exists a significant disease burden with respect to traditionally underserved patient populations. Immigrant populations, particularly those from countries with a high prevalence of HIV, are a particularly vulnerable group. In accordance with the elimination of the U.S. entry ban in 2010, immigrants are no longer subjected to compulsory HIV testing prior to admission into the U.S. Once in the country, timely diagnosis of seropositive individuals is contingent on them establishing medical insurance and finding an outpatient provider – a task which is daunting even to those native to the U.S. This case highlights the need to provide additional outreach programs to recent immigrants in establishing contact with the medical community. A 61-year-old Liberian female presented to the emergency department of a local hospital with complaints of 2 weeks of progressive right upper and lower extremity heaviness. At the time of presentation, her symptoms had progressed to the point where she was unable to ambulate. The patient was a previously healthy female without any significant past medical history. She emigrated from Liberia in 1998; she is widowed and denied any sexual activity in over 20 years. She did not routinely see a primary care provider. Her physical exam was notable for 0/5 and 4/5 strength of her right lower and upper extremities respectively as well as preservation of sensation. She underwent an MRI of her brain with findings of “at least 10 enhancing intra-axial lesions w/surrounding vasogenic edema highly suspicious for metastatic disease”. She was admitted to the medical floor overnight and started on steroids and antiepileptics. The following morning, results of her HIV testing performed in the ED returned positive. Follow up testing confirmed the diagnosis of AIDS with PCR viral load of greater than 2 million and CD4 count of 19. In the setting of her new diagnosis, her MRI was re-read by an attending radiologist as consistent with Toxoplasmosis versus CNS lymphoma. She was started on Pyrimethamine, Sulfadiazine and Leucovorin for suspected Toxoplasmosis. With regards to her new diagnosis of HIV, she underwent genotype testing with some resistance documented to the NRTI and PI classes. After an extensive discussion with the patient and with the assistance of the Infectious Disease team, the decision was made to start her on Atripla. Over the following weeks, she demonstrated significant improvement in her weakness and was able to ambulate with assistance of a cane prior to discharge. She has since undergone follow up brain imaging with interval improvement. She has achieved excellent virologic response with her ART regimen. Upon discharge she established care with the immunology clinic.
Abstract Title: Malignancy Screening in Dermatomyositis – A tough pill to swallow

Abstract Text: An initial presentation of dermatomyositis (DM) is frequently a presentation of underlying malignancy, and can present with a variety of symptoms. In many cases of DM, malignancies are newly diagnosed at the same time or shortly after their diagnosis with DM. Adenocarcinomas comprise approximately 70% of these malignancies. A 71 year-old man presented with a rash and weakness. He complained of difficulty lifting his arms above his head, worsening over the past 2 weeks. During the same time, he developed a pruritic, red rash across his chest, arms and legs. He also complained of sore throat and cough over the past two weeks that has been associated with a hoarse voice. Days prior to admission, he had developed increased swelling of his hands, arms, abdomen and legs. Physical examination was notable for 3/5 strength of hip flexors and arm aduction with 5/5 strength elsewhere. His skin was diffusely tan with areas of erythema on his scalp, cheeks and forearms. He also had multiple 2-3mm brown nodules on the his dorsal hands and on his chest. Initial laboratory evaluation was notable for CPK elevated to 5,051. Rheumatologic workup including ANA, Anti-DS DNA, Anti-Jo/SSA/SSB/Smith/RNP antibodies and ANCA screen all negative. Skin biopsy findings were consistent with connective tissue disease and muscle biopsy showed inflammatory myopathy, supporting a diagnosis of DM. Prior malignancy screening was reviewed, recent colonoscopy had been negative for malignancy. CT scan of chest, abdomen and pelvis was negative for malignancy revealing a small hiatal hernia with thickening of distal esophagus and a small cluster of pulmonary nodules, thought to be of benign etiology. The patient was treated for DM with high dose corticosteroids and IVIG followed by methotrexate with improvement in his symptoms and rash. His sore throat and odynophagia continued to worsen, eventually requiring PEG placement. During esophagogastroduodenoscopy, he was noted to have severe esophagitis, duodenal erosions and gastritis which were all biopsied. Biopsy results revealed esophageal adenocarcinoma which was later found to be metastatic to liver. The patient received systemic chemotherapy and multiple surgical interventions over the following 6 months before he eventually succumbed to his illness. This case illustrates the importance of a thorough workup for underlying malignancy when patients initially present with dermatomyositis. As many as 18-30% of cases of DM may correlate with malignancy, with an incidence of malignancy that is 3.0 times higher than a similar demographic matched population. While this patient’s symptoms directed his eventual workup, this is often not the case. It is important to explore appropriate screening options as they apply to each individual patient, keeping in mind the predominance of adenocarcinomas, particularly of the cervix, lung, ovaries, pancreas, bladder, stomach and esophagus in the patient presenting with DM.
Abstract Title: Why so yellow? A case to illustrate the thoughtful work-up of painless jaundice

Abstract Text: Painless jaundice is a relatively common condition in the elderly. While the differential is broad when there is a cholestatic lab pattern, it can be associated with the use of a number of prescription drugs, including amoxicillin-clavulanate. A 79 year old woman presented with two weeks of nausea and yellowing of her skin. After an episode of vomiting, she presented to the emergency department and was found to have elevated AST, ALT and alkaline phosphatase of 237, 334, 308 respectively. She had a total bilirubin of 8.6 and direct bilirubin of 5.8. Right upper quadrant ultrasound and CT abdomen were negative for any obstructive pathology or biliary ductal dilatation. Further history revealed that she had had a “spider bite” on her arm for which she took amoxicillin-clavulanate a few days prior to the onset of her symptoms. At this point, given her negative obstructive workup, the patient was treated supportively for cholestatic jaundice secondary to amoxicillin-clavulanate use and was discharged the next day. She returned 16 days later with worsening jaundice and was found to have improved transaminases but an increase in the total bilirubin to 16.4. Other notable labs at this admission included a positive ANA. Although this raised concern for autoimmune hepatitis, the remainder of her autoimmune workup was negative. She had an MRCP which was negative for obstruction and proceeded to an operative liver biopsy. The pathology report noted no large-duct obstruction or fibrosis. Present was centrolobular hepatocellular and canalicular cholestasis with bile duct damage. Both are well-described features of amoxicillin-clavulanate associated liver injury. The patient was managed supportively, with gradual resolution of her jaundice and bilirubinemia over the following two months. This case illustrates the complexity of the evaluation of cholestatic jaundice, especially in the absence of radiographic obstruction. Acute cholestatic injury is a rare complication of amoxicillin-clavulanate use, but one that is important to recognize. Notably, it can also be associated with a number of other drugs, including trimethoprim-sulfamethoxazole, ketoconazole, captopril, and carbamazepine among others. The treatment is supportive with removal of the offending agent. As illustrated here, it is important to understand that the course of resolution may be prolonged, as recovery may take weeks to months. Future use of this drug would be contraindicated in this patient. Of note, ANA is often positive in drug induced liver injury, but is also usually positive in autoimmune hepatitis, which is likely to lead to further diagnostic workup. In patients presenting with cholestatic jaundice in the setting of implicated drug use, while serious other causes must first be ruled out, close outpatient follow up is a key component to ensuring resolution which may take as long as six months.
Abstract Title: Clinical Manifestations and Complications of Infective Endocarditis

Abstract Text: Infective endocarditis can be linked to a wide collection of complications. Complications may occur at any time during the course of treatment. The chances of developing complications from infective endocarditis depends on the patient's underlying comorbidities, the infecting pathogen and the duration of illness. Case: The patient is a 64-year-old female with a past medical history notable for hypertension, hyperlipidemia, bovine aortic valve repair secondary to bicuspid aortic valve and resulting aortic aneurysm who presented with nausea, vomiting, diarrhea and weakness for four days prior to admission. In the ER, patient met SIRS criteria for tachypnea and tachycardia. She was hypotensive with systolic blood pressure in the 70s despite two liters of intravenous fluids and was started on dopamine, norepinephrine and given a dose of Piperacillin-Tazobactam. The patient was admitted to the MICU, where she was intubated and maintained on pressor support, and fluid resuscitation was continued with an additional five liters of IVF. A TEE showed evidence of acute bacterial endocarditis with a 1.5cm linear-shaped density on aortic side of bioprosthetic valve, consistent with a vegetation. She was subsequently maintained on antibiotic therapy with Nafcillin and Rifampin, with negative repeat blood cultures for the remainder of her hospital course. Her course was complicated by AKI and a troponin elevation, believed to be due to demand ischemia. Her course was further complicated by evidence of embolic phenomenon- patient’s physical exam was notable for osler nodes and janeway lesions and she acutely developed right sided hemiparesis. Repeat CT scans demonstrated emboli in the brain, spleen, and lungs. Initially, the patient was not deemed to be a surgical candidate due to concern for hemorrhage around multiple septic emboli. A repeat TEE, which was obtained after the patient had a new diastolic murmur concerning for aortic insufficiency, showed a rocking motion of her bioprosthetic aortic valve suggestive of early dehiscence anteriorly and small mobile echodensity on ventricular surface, representing a vegetation. She underwent emergent surgery for an aortic root replacement. Intraoperatively, the aortic root was noted to be infected and structurally failed and a large fistula between the outside to the aortic root to the right atrium was also noted. Patient became hemodynamically unstable in the OR and despite support with inotropic agents and insertion of an intraaortic balloon pump, her hemodynamics did not improve and the patient expired. Discussion: The case presented demonstrates many of the complications of infective endocarditis. Complications of infective endocarditis include, but are not limited to, cardiac, neurologic and sequelae related to septic embolization. Cardiac complications include heart failure, perivalvular abscess, pericarditis, and intracardiac fistula. Forms of metastatic infection include septic embolization, metastatic abscess, and mycotic aneurysm. Neurologic complications include stroke, brain abscess, meningitis, and other manifestations.
Abstract Title: Clinical Manifestations of Legionella Infection

Abstract Text: Legionella has been identified as a relatively common cause of both community-acquired and hospital-acquired pneumonia. Case: The patient is a 56 year old homeless man with a past medical history notable for CAD, HTN, HLD, depression, epilepsy, and alcohol abuse that presented for suspected seizure activity. The patient presented from his shelter after he was observed to have body shaking and loss of control of his bladder. There was no documented evidence of a postictal state. Upon presentation, he was noted to be tachycardic with heart rates in the 120's and systolic blood pressures in the 130's. He was noted to have an anion gap acidosis (anion gap of 18 and a bicarbonate of 17), hyponatremia (Na of 125) AKI (creatinine of 2.02 with a baseline creatinine of 0.70) and a CPK of over 6000. His CXR was notable for a left lower lobe infiltrate. He was initially started on ceftriaxone and azithromycin for CAP. The patient began to demonstrate evidence of alcohol withdrawal and was treated with Librium and ativan. He later became diaphoretic, febrile with a temperature of 104.5, tachycardiac with heart rates in the 140's, tachypneic with a respiratory rate of 35. The patient was intubated for hypoxic respiratory failure. Shortly after being intubated, he became hypotensive with systolic blood pressures in the 70's. He was treated with two liters of normal saline with transient improvement in his hemodynamics. He then became hypotensive again and was started on Norepinephrine for hemodynamic support. The patient’s course was then complicated by multiple episodes of diarrhea. A urine legionella antigen test was positive and the patient was subsequently transitioned to moxifloxacin. His hemodynamics improved and the patient was successfully weaned from Norepinephrine and was extubated. His metabolic derangements resolved and he was subsequently discharged. Discussion: The case presented is demonstrative of the clinical manifestations of Legionella infection. Pneumonia is the leading clinical manifestation of infection with Legionella. Patients with Legionnaires” disease have radiographic abnormalities often on presentation or at least by the third day of illness. The most common pattern is a patchy unilobar infiltrate that progresses to consolidation. Fever is practically always present and temperatures greater than 39Â°C are suggestive of Legionnaires” disease. Gastrointestinal symptoms are often prominent with diarrhea, nausea, vomiting, and abdominal pain. As in the case presented, rhabdomyolysis may also present in the setting of Legionella infection. Laboratory abnormalities commonly including renal dysfunction, leukocytosis, and hypophosphatemia. Notably, hyponatremia (serum sodium <130 meq/L) occurs significantly more frequently in Legionnaires” disease than in pneumonias of other etiologies.
Abstract Title: A Case of Hepatorenal Syndrome

Abstract Text: Case Mrs. X, a 56-year-old woman with a history of alcohol abuse, hypertension and hyperlipidemia presented with abdominal pain and generalized weakness. Patient, on presentation, had numerous complaints including epigastric pain radiating to her back and flanks. She also was noted to have increasing whole body jaundice, darkening urine, and increasing confusion. Her history was notable for drinking one-fifth of a gallon of vodka on a daily basis. Physical exam demonstrated scleral icterus, distended abdomen, bulging flanks, hepatosplenomegaly, spider angiomas, diffuse jaundice and asterixis. Initial labs with creatinine 1.07, Ammonia 117, ALT 17, AST 73, alkaline phosphatase 180, Total bilirubin 36.6, direct bilirubin 22.1, INR 1.7, Lipase 1142. MELD noted to be 26 and discriminant function was 60. Admission CT abdomen and pelvis with ascites, lobulated liver contour and splenic enlargement suggestive of cirrhosis and portal hypertension, stranding within the fat planes surrounding the duodenal C-loop and pancreas. Patient was admitted to medical floor and treated for acute liver failure as well as pancreatitis. Liver workup was completed with negative acetaminophen, salicylate and hepatitis panel. GI was consulted and patient was started on pentoxifylline. Mrs. X’s hospital course was complicated by multiple medical issues. In particular she had a sudden drop in urine output and was noted to have doubling in her creatinine within a day. Urine lytes demonstrated low sodium. Nephrology was consulted. She initially was treated with fluids and albumin but continued to have worsening renal function. Eventually the patient became anuric. After extensive discussion with nephrology, she was started on treatment for hepatorenal syndrome and was given octreotide, midodrine and albumin. Patient responded to treatment and eventually regained ability to urinate with improving renal function. Unfortunately the patient, with a multitude of other issues, continued to decline and eventually went to hospice where she passed away peacefully. Discussion Hepatorenal syndrome is a diagnosis of exclusion. Patients will typically have a normal urine sediment, low rate of sodium excretion, no proteinuria, increasing creatinine and oliguria. The etiology is thought to be related to hepatic disease, generally portal hypertension and its effect on reducing resistance (arterial vasodilation) in splanchnic circulation. This subsequently leads to decrease in renal perfusion and acute kidney injury. Treatment depending on location (i.e. intensive care unit or not) can include norepinephrine and albumin vs albumin, midodrine and octreotide. Depending on availability terlupressin can be used in non intensive care settings. If patient continues to fail therapy, patients can be offered Transjugular intrahepatic portosystemic shunt. Overall, the development of hepatorenal syndrome is associated with a poor prognosis.
Virani, Shahab

**Abstract Title:** A Case of Hepatorenal Syndrome

**Abstract Text:** Case Mrs. X, a 56-year-old woman with a history of alcohol abuse, hypertension and hyperlipidemia presented with abdominal pain and generalized weakness. Patient, on presentation, had numerous complaints including epigastric pain radiating to her back and flanks. She also was noted to have increasing whole body jaundice, darkening urine, and increasing confusion. Her history was notable for drinking one-fifth of a gallon of vodka on a daily basis. Physical exam demonstrated scleral icterus, distended abdomen, bulging flanks, hepatosplenomegaly, spider angiomias, diffuse jaundice and asterixis.

Initial labs with creatinine 1.07, Ammonia 117, ALT 17, AST 73, alkaline phosphatase 180, Total bilirubin 36.6, direct bilirubin 22.1. INR 1.7, Lipase 1142. MELD noted to be 26 and discriminant function was 60.

Admission CT abdomen and pelvis with ascites, lobulated liver contour and splenic enlargement suggestive of cirrhosis and portal hypertension, stranding within the fat planes surrounding the duodenal C-loop and pancreas. Patient was admitted to medical floor and treated for acute liver failure as well as pancreatitis.

Liver workup was completed with negative acetaminophen, salicylate and hepatitis panel. GI was consulted and patient was started on pentoxifylline. Mrs. X's hospital course was complicated by multiple medical issues. In particular she had a sudden drop in urine output and was noted to have doubling in her creatinine within a day. Urine lytes demonstrated low sodium. Nephrology was consulted. She initially was treated with fluids and albumin but continued to have worsening renal function. Eventually the patient became anuric. After extensive discussion with nephrology, she was started on treatment for hepatorenal syndrome and was given octreotide, midodrine and albumin. Patient responded to treatment and eventually regained ability to urinate with improving renal function. Unfortunately the patient, with a multitude of other issues, continued to decline and eventually went to hospice where she passed away peacefully.

Discussion

Hepatorenal syndrome is a diagnosis of exclusion. Patients will typically have a normal urine sediment, low rate of sodium excretion, no proteinuria, increasing creatinine and oliguria. The etiology is thought to be related to hepatic disease, generally portal hypertension and its effect on reducing resistance (arterial vasodilation) in splanchnic circulation. This subsequently leads to decrease in renal perfusion and acute kidney injury. Treatment depending on location (i.e. intensive care unit or not) can include norepinephrine and albumin vs albumin, midodrine and octreotide. Depending on availability terlipressin can be used in non intensive care settings. If patient continues to fail therapy, patients can be offered Transjugular intrahepatic portosystemic shunt. Overall, the development of hepatorenal syndrome is associated with a poor prognosis.
Abstract Title: An idiopathic pericarditis complicated by pleuropericardial effusion

Abstract Text: Introduction: Acute pericarditis is an inflammatory process affecting the inner visceral layer and the outer parietal layer of the pericardium. There are multiple possible causes for pericarditis, but approximately 85% of cases have an idiopathic origin. All types of pericarditis can progress to pericardial effusion. Case: We report a case of idiopathic pericarditis that progressed to pleuropericardial effusion requiring both thoracentesis and pericardiocentesis. Patient is a 66-year-old female with history of osteoarthritis presented with left-sided chest pain being exacerbated by inspiration and lying on her side. Patient had similar pain three weeks ago with her EKG showing subtle ST elevation (< 1mm) and PR depression, mainly in the inferior leads, but cardiac enzymes were normal. Patient was treated for a presumed inflammatory process with Ibuprofen. However, pain had been persistent with worsening symptoms. Upon admission, physical examination was remarkable for jugular venous distention and pericardial friction rub, but patient was afebrile and normotensive. No leukocytosis was noted, but erythrocyte sedimentation rate was elevated at 50. BNP and TSH were unremarkable. Cardiac enzymes were normal with EKG showing low limb voltage. Computed tomography angiography (CTA) of the chest revealed new moderate pericardial effusion and new moderate bilateral pleural effusions, left larger than right. Transthoracic echocardiogram (ECHO) was performed and showed normal left ventricular function with moderate to large circumferential pericardial effusion, but no obvious right heart compromise. Patient was started on a trial of intravenous furosemide and high dose Ibuprofen for a presumptive diagnosis of viral-mediated pericarditis complicated by bilateral pleural effusion. Clinical improvement was noted with treatment. Serologic assessment for rheumatologic disorders and viral studies was unremarkable. Patient also received a left thoracentesis with fluid being transudative and negative for bacteria, fungus, and malignant cells. Three weeks later, patient returned to the emergency room with substernal chest pain and a near syncopal episode. Her systolic blood pressure was in the 60s-90s and patient responded to fluid repletion. A repeat ECHO showed similarly sized pericardial effusion without right heart compromise; however, there was concern for transient tamponade physiology and patient was transferred to another medical facility for pericardiocentesis. Pericardial fluid study did not reveal a definite etiology. Discussion: Presence of both pericardial and pleural effusion can be associated with conditions such as congestive heart failure, drug-induced adverse effect, and autoimmune disorders; however, an idiopathic pericarditis complicated by pleuropericardial effusion at the degree as evidenced in our patient is rare, especially while receiving the recommended treatment, i.e. NSAIDs. The prognosis of pericardial effusion depends on the underlying etiology and is generally good in idiopathic/viral pericarditis. The treatment goal is to relieve symptoms and to remove pericardial effusion if there is evidence of hemodynamic compromise (i.e. tamponade).
Abstract Title: A challenging case of atypical hemolytic uremic syndrome

Abstract Text: Background: Atypical hemolytic uremic syndrome (aHUS) is a rare and life-threatening thrombotic microangiopathy that leads to hemolytic anemia, thrombocytopenia and acute kidney injury. It differs from typical hemolytic uremic syndrome (HUS) in that there is no involvement of Shiga toxin-producing bacteria. Studies have shown that dysregulation of the alternative complement pathway plays a key role in the development of aHUS and multiple genetic aberrations have been identified in the pathogenesis of the disease. Case: We reported a challenging case of aHUS that involved a patient with a solitary kidney. This patient was a 33-year-old female with a past medical history of hypertension and left renal agenesis who presented with fever, right sided facial swelling and acute kidney injury with serum creatinine of 2.1 mg/dl (baseline 0.8 mg/dl). Initially, her hemoglobin level was slightly below normal (11.3 g/dl) and platelet count was normal (193,000/ul). However, both laboratory values were downtrending along with gradually elevated LDH level and worsening renal function. Thrombotic microangiopathies were suspected. Stool culture was negative. Proteinuria was noted with 6.8 g of protein in a 24-hour urine collection. Serologic assessment, including C3, C4, ANA, ANCA, HIV, cryoglobulin, double stranded DNA antibody, lupus anticoagulant, IgG and IgM anticardiolipin antibodies, and IgG and IgM &\#946;-2-glycoprotein I antibodies, was unremarkable. Patient was given one cycle of plasma exchange with cryo-poor precipitate and started on intravenous methylprednisolone. Thrice weekly intermittent hemodialysis was initiated for solute clearance. ADAMTS13 activity, drawn prior to plasma exchange, was reported to be 67%. Renal biopsy was performed and showed acute and subacute thrombotic microangiopathy involving glomeruli and arterial vessels, acute tubular injury, moderate interstitial fibrosis and moderate arteriosclerosis. The clinical manifestations, serological assessment and the pathological findings highly suggested the diagnosis of aHUS. The new agent Eculizumab, an anti-C5 antibody, was initiated at the dosing schedule of 900mg weekly for four weeks followed by 1200mg every two weeks. As she was clinically stable, the patient was followed in the outpatient setting with Eculizumab therapy and hemodialysis treatment. Eculizumab therapy led to resolution of the hemolytic process although the patient remains on hemodialysis while awaiting renal recovery. Discussion: A review of literature did not identify aHUS in patients with solitary kidney. We presented this unique case to raise awareness that prompt diagnosis and treatment of aHUS is essential in impeding the inappropriate activation of alternative complement pathway and maximizing the renal preservation, especially in patients with solitary kidney. Understanding aHUS is a continuously evolving process, as evidenced by the application of Eculizumab. This new breakthrough treatment not only improved the clinical outcome over plasma therapy, but it also provided a deeper insight into the pathophysiology of the disease.
Abstract Title: Hypersensitivity Pneumonitis: Exacerbation of Interstitial Lung Disease Presenting as Night Sweats, Chills and Productive Cough.

Abstract Text: Introduction: Hypersensitivity pneumonitis (HSP) is infrequently encountered in the hospital and exacerbations present a diagnostic challenge. The acute disease may be misdiagnosed as pneumonia whereas chronic disease may be misdiagnosed as chronic bronchitis. Case: A 52 year old man with a history of HSP on chronic prednisone presented to the VA hospital with hypoxic respiratory failure. He was diagnosed with HSP two years prior by his history of exposures to parrots and horses, with histopathology consistent with the disease on open lung biopsy. He had been placed on chronic steroid treatment with gradual taper. One month prior to admission he tapered to half his normal dosage of prednisone. One week prior to presentation he developed a new cough productive of brown sputum, night sweats, rigors and hypoxia measured on his home pulse oximeter. Physical exam demonstrated inspiratory crackles on pulmonary auscultation of the lower two-third lung fields. Pulse oximetry at rest was 82% on 4L supplemental oxygen by nasal cannula. Arterial blood gas revealed pH 7.43, pCO2 42 and pO2 47, confirming his hypoxia. A chest xray revealed a potential left lower lobe infiltrate. He was administered supplemental oxygen by 15 liters per minute high flow nasal cannula. He was administered IV antibiotics for treatment of community acquired pneumonia. Given chronic steroid use and severe hypoxia, the patient was initiated on antibiotic treatment for Pneumocystis jirovecii pneumonia and was co-administered high dose methylprednisolone. An echocardiogram with bubble study was negative for right to left shunt. There was no pulmonary embolism present on CT chest angiography, however, there were new extensive ground glass opacities not present five months prior. His symptoms would improve by hospital day three and he was subsequently weaned to ambient air at rest. Discussion: HSP is a pulmonary disease characterized by dyspnea and cough following inhalational exposure of an antigen. It is thought that there are both acute and chronic forms of the disease. The acute form is characterized by a non-progressive influenza-like syndrome that improves after removal of the offending agent. The chronic form is characterized by insidious onset of dyspnea, dry cough, weight loss and fatigue that persists despite antigen avoidance. Acute exacerbation of chronic HSP, as seen in the presented patient, is an emerging concept and is characterized by respiratory deterioration and new bilateral ground-glass opacities on high resolution CT scan. It is likely to occur without further exposure to offending antigens. It is possible the recent steroid taper triggered an exacerbation in this patient. This case highlights that acute exacerbation of chronic HSP may be misdiagnosed as pneumonia, yet infection with organisms such as Pneumocystis jirovecii must be considered in these individuals, given that immunosuppression is part of the treatment of acute disease.
Abstract Title: Vitamin D induces apoptosis in primary and metastatic melanoma cells in vitro

Abstract Text: Introduction A number of Epidemiological studies demonstrate inverse correlations between Vitamin D levels and a variety of cancer rates in large study populations. We hypothesized that Vitamin D might demonstrate potential therapeutic effects by increasing cell apoptosis or inhibiting proliferation. Methods We used two commercially available human primary and metastatic melanoma cell lines to evaluate effects of Vitamin D. Initially Trypan blue staining techniques were applied to the two cell lines after 48hrs of Vitamin D3 exposure to assess cell viability. Three different concentrations of Vitamin D3 were applied to cultures of the two cell lines. Subsequently, TUNEL apoptosis levels and Brdu cell monoclonal differentiation assays were measured after 48hrs of Vitamin D3 exposure, to examine potential mechanisms for observed reduction in cell populations. Changes in morphology and cell number were recorded and analyzed in these exposed cells in the presence of unaffected negative and positive controls. Photographic records of cell death, apoptosis and cell differentiation observations were also documented and analyzed by cell counting techniques. Results The reduction in cell number was quantified by evaluating cell viability following the three increasing doses of Vitamin D (0.25 ug/ml, 0.5 ug/ml and 1.0 ug/ml) in both the primary (40%, 49%, 79%) and also in the metastatic cell line (5%, 36%, 62%) respectively. Apoptosis rates increased significantly in the cells exposed to the higher concentration for the higher concentration (1.0 ug/ml) and in borderline significance for (0.5 ug/ml) when compared with rates of cell death at (0.25 ug/ml) concentration level. (p<0.01 and p<0.056). Cell differentiation rates were not significantly correlated with cell death and or increasing levels of Vitamin D3 exposure. Conclusion Vitamin D adversely affects cultured malignant melanoma cells. The cell losses we observed were associated with increased apoptosis rates in both primary and metastatic cell lines. Our observations show that cell losses occur through apoptosis mechanisms not by the cessation of cell differentiation and warrant further study. Our results may offer future potential therapeutic advantages to patients suffering from melanoma.
Weiss, Zoe

**Last Name:** Weiss  
**First Name:** Zoe  
**ACP Number:** 1861473  
**PG or MS Year:** MS3  
**Medical School or Residency Program:** Alpert Medical School  
**Hospital Affiliation:** Providence VA Medical Center  
**Additional Authors:** N. Freeman, MD, FACP

**Abstract Title:** COMMONLY UNCOMMON: RETHINKING ‘UNUSUAL’ SITES OF METASTASES IN RENAL CELL CARCINOMA (RCC)

**Abstract Text:** Renal cell carcinoma, the eighth most common malignancy in the US, includes a diverse array of histopathological subtypes, and exhibits unpredictable patterns and timing of metastasis. Given the number of cases reported (and likely many others not reported) in this matter, it is likely that these “unusual” situations are indeed “common” and should be considered more readily in a differential diagnosis. A 65-year old male smoker with CAD, HTN, and COPD had been followed by Pulmonary from 2009 for slowly enlarging bilateral lung nodules; bronchoscopies were non-diagnostic, and the locations not amenable to biopsy. In 2013 some of the nodules grew suddenly, there was new mediastinal adenopathy, and a new 2.8 cm right kidney mass, where, in retrospect, there had been a small complex cystic abnormality. A right lung biopsy was non-diagnostic. Subsequently an exam and CT Neck revealed an abnormal uvula and tonsil, a 7 cm left flank nodule, a necrotic epiglottic mass, and a 3 cm left subcutaneous shoulder mass. He underwent a uvular resection, and biopsies of the soft palate and left flank masses. Pathology confirmed papillary RCC in each site. Follow-up scans confirmed progressive disease. Papillary RCC is uncommon, representing 15% of RCCs; immunotherapy is not recommended, but rather tyrosine kinase and mTOR inhibitors. Our patient started sunitinib, had a partial response, but developed pneumonitis and died. In approximately 30% of cases, RCC metastasizes to distant sites, and may recur even decades after “curative” resection of the primary tumor. Due to complex local lymphatic and vascular drainage, “common” sites of recurrence include lungs, adrenals, intestines, brain, and other intra-abdominal organs. Recurrence in other “unusual” areas, including head and neck (nasal and paranasal cavities, oropharynx, thyroid, larynx, parotid gland), orbit, heart, endobronchial mucosa, skin, ovaries, uterus, testes, muscle, joints, and subcutaneous tissues are considered “rare”, though seem to be described surprisingly frequently in case reports. Our patient had an unusual presentation of slowly growing lung nodules (likely representative of metastatic RCC at the outset) five years prior to developing rapidly progressive disease. Metastasis prior to rapid growth is considered uncommon, yet numerous case reports demonstrate this pattern. Metastasis to head and neck and subcutaneous regions were present in our patient, and although these are reported infrequently, they ARE reported (head and neck metastases can be linked to RCC in 15% of cases). This case emphasizes the need to re-define what is cited as common/uncommon patterns of metastasis with RCC, and that these cases should indeed be communicated in order to develop more accurate databases. The contribution of case reports should not be undervalued.
Abstract Title: Recurrent Empyema Infections Within a Two Year Period

Abstract Text: Introduction: Parapneumonic effusions are often uncomplicated pleural effusions that occur adjacent to bacterial pneumonia infections, and are rather common (occurring in up to 40% of all pneumonias). However, occasionally bacteria can invade the pleural space and cause a complicated parapneumonic effusion, or empyema. Rarely these complicated infections recur. Case: A 62 year-old male with a history of steroid-dependent asthma, left lower lobe pneumonia complicated by E.coli empyema one year prior, presented to the Rhode Island Hospital with chief complaints of foul-smelling productive cough, dyspnea, and fevers at home. The patient recently finished a course of Cefalexin as an empiric treatment for sinusitis with no symptomatic relief. In the emergency department the patient was found to have a fever of 101.4°F and tachycardia to 150 bpm. Labs were significant for a leukocytosis of 21.62 x 103/μL, lactic acidosis of 3.0 mg/dL. A chest x-ray showed right lower lobe pneumonia with associated right pleural effusion. The patient was started on vancomycin and piperacillin/tazobactam for a suspected complicated infection given his prior history of an E.coli positive empyema. Upon admission the patient underwent a diagnostic thoracentesis performed, from which pleural fluid was consistent with an exudative effusion. A chest CT was done which revealed a 10 cm thick walled cavity with air-fluid level within the right major fissure, consistent with an empyema, as well as dense right lower lobe airspace consolidation, compatible with pneumonia. The patient was taken to interventional radiology to have a pigtail catheter placed. CT-guided imaging showed interval worsening of the infectious process in the right lung base with further consolidation of airspace disease and persistent air-fluid level in the right lower lobe concerning for development of lung abscess. The patient had two chest-tube revisions with subsequent tPA administration with great drainage effect, and fortunately did not require thoracic surgery. That all areas of loculation decreased in size supported a communicating empyema v abscess. Multiple cultures were drawn from the patient’s pleural fluid which were pan-negative for pathogen isolate. The patient improved clinically and radiographically with chest tube drainage in conjunction with piperacillin/tazobactam. Discussion: There is no epidemiological data on the recurrence rate of empyemas in the adult population. There is also little data on the incidence of empyemas in the setting of chronic steroid use. Our working hypothesis was that this occurred because of iatrogenic immunosuppression. Thus, as an effectively immunocompromised host, this patient serves as a demonstration of the rare infections that can be associated with chronic steroid use. We did not pursue further workup regarding the cause of these repeated infections although we did discuss (or ruled out) the possibilities of HIV infection, poor oral hygiene, silent aspiration, hypogammaglobulinemia, and dysfunction of the mucocilliary escalator.
Abstract Title: A Case of Peritoneal Contamination with Clostridium difficile

Abstract Text: Introduction: Clostridium difficile is the causative agent of antibiotic associated colitis. Infections range from limited diarrheal illness to life-threatening toxic megacolon. Although C. difficile is associated almost solely with colonic involvement, rare case reports have documented extra-colonic and extra-intestinal infections. Case: A 75 year old male presented to the emergency department with a four day history of diarrhea followed by the acute onset of abdominal pain, distention, and bilious emesis. On admission, he was found to have a white blood cell count of 22.8 and a small bowel obstruction without evidence of intestinal perforation by abdominal CT. He was treated for a small bowel obstruction and covered empirically for possible C. difficile associated diarrhea. Within twenty four hours, the patient became increasingly tachypneic, tachycardic, and hypotensive. Physical exam showed a distended and diffusely tender abdomen with involuntary guarding. Per sepsis protocol, broad spectrum antibiotics were administered after blood cultures were drawn. Because of worsening abdominal findings the patient was taken to the OR for an exploratory laparotomy. Multiple small bowel perforations and massive feculent peritonitis were found at surgery. A small bowel resection without end anastamosis with vac closure was performed, and he was transferred to the ICU for aggressive treatment of septic shock with multiple organ failure. Peritoneal fluid was cultured that grew E. coli, E. faecalis, and C. difficile. An infectious disease consult was requested and recommendations were made to add IV metronidazole to cover for possible peritoneal infection with C. difficile. The remainder of his ICU course was complicated by multiple issues. He expired after 50 days of ICU level care. C. difficile was not isolated from additional sources including a repeat peritoneal culture. Final pathology of the small bowel surgical specimen revealed multiple perforations with acute serositis and histologic changes consistent with diverticular disease. Discussion: Extra-colonic and extra-intestinal C. difficile infections are exceedingly rare. Case reports have described C. difficile associated small bowel enteritis as well as multiple extra-intestinal infections including reactive arthritis, brain abscess, intra-abdominal abscess, and bacteremia. This case reports C. difficile found as part of polymicrobial peritoneal contamination from multiple small bowel perforations. It is not clear if the patient had C. difficile enteritis or colitis on initial presentation since samples were unavailable for testing. When peritoneal cultures grew C. difficile it was decided to treat the extra-intestinal organism with metronidazole because of it's efficacy against C. difficile as well as its penetration into the peritoneum. It remains to be determined if C. difficile in the peritoneal fluid is pathogenic or just an incidental finding as part of intestinal colonization. As the incidence of C. difficile colonization increases, there may be an increase in the frequency of extra-intestinal and extra-colonic C. difficile isolates.
Abstract Title: A Self-Directed Preclinical Course in Ophthalmology

Abstract Text: Purpose: Medical students receive limited exposure to ophthalmology in the preclinical curriculum. To address this educational gap, the authors designed a preclinical elective course in ophthalmology. Methods: The course was offered in the 2013 fall semester to all (245) first and second year students at the Alpert Medical School. The course had three parts: (1) four web-based didactic modules on ophthalmic surgery which consisted of slide sets, surgical procedure videos and animations, and mandatory pre-and post-module quizzes to assess for competency (cornea transplant, trabeculectomy, intravitreal injection, blepharoplasty, botulinum toxin injection, pars plana vitrectomy); (2) a 3-hour interactive virtual surgery session on the EyeSi® (Version 2.4, VR-Magic, Mannheim, Germany) focused on common surgery-related tasks (anti-tremor, forceps control, vitrector, and laser coagulation training); and (3) two shadowing experiences in the clinic and in the operating room. Each student completed a pre- and post- course Likert-style questionnaire that assessed his or her interest in ophthalmology as a career, exposure to ophthalmology, as well as beneficial components of the course. Results: Fourteen first and second years medical students enrolled in the course and completed all course requirements. In the pre-course questionnaire, 78.6% (11/14) students indicated that there was not enough exposure to ophthalmology in the preclinical curriculum. Students’ quiz scores improved dramatically in all online modules with a mean improvement of 261.29%, 479%, 212.54%, and 174.19% in separate modules. The post-course questionnaire was completed by 92.9% (13/14) of the students: 100% (13/13) reported that they would recommend the course to other medical students; 100% (13/13) indicated that their understanding of ophthalmology as a career increased; 46.2% (6/13) valued the surgery and clinic shadowing the most; 38.5% (5/13) valued surgery simulation the most. Collectively, the students’ interest in pursuing a career in ophthalmology changed minimally, with the highest proportion of students selecting “likely” before (8) and after (6) the course. Conclusions: The novel preclinical course in ophthalmology increases medical student exposure to ophthalmology in the preclinical years through shadowing experiences in the clinic and operating room, virtual surgery simulation, and didactic modules. The improved quiz scores indicate that the modules were effective in instructing students about various surgical procedures. The course increased medical student understanding of the field of ophthalmology, which may help to decrease barriers between practicing physicians in different fields of medicine.
Wu, Dominic

Last Name: Wu
First Name: Dominic
ACP Number: 2412964

PG or MS Year: MS 2
Category: Research

Medical School or Residency Program: Warren Alpert Medical School of Brown University
Hospital Affiliation: Memorial Hospital of Rhode Island

Additional Authors: Robert Heffron MD, Catherine Kerr PhD

Abstract Title: Holistic Health Management Using the Integrative Medical Assessment Tool (IMAT)

Abstract Text: Purpose: Management of patients with non-specific complaints (eg. stress, fatigue, anxiety, sleep difficulties) has been an ongoing challenge for physicians. Conventional (Western Medicine) physicians may find it difficult to suggest alternative therapies without an understanding in alternative modalities. The authors created the Integrative Medical Assessment Tool (IMAT) to aid physicians to perform holistic health assessments. Methods: The IMAT translates holistic health management concepts from Chinese Medicine into a questionnaire that can be used in conventional primary care settings. The IMAT allows physicians to suggest alternative therapies based on specific behaviors identified on the questionnaire that may be counterproductive to their patient’s health. The tool was developed over a nine-month period in 2013 through ongoing consultation with physicians practicing integrative medicine in Providence, Rhode Island. A preliminary version of the IMAT was distributed to primary care practices in Rhode Island. Likert-style and qualitative answers completed by practicing physicians in an anonymous questionnaire provided feedback addressing tool accessibility, efficiency, efficacy, and patient adherence to medical advice. Results: The IMAT is a two-page questionnaire that can be completed by the patient prior to the office visit. The IMAT underwent 11 revisions since its initial development based on integrative medicine and conventional physician feedback in anonymous questionnaires. The tool approached holistic health assessment based on the traditional Chinese model of vital energy (Qi) inputs and expenses, and focused on 1) breath, circulation, and immune system; 2) digestion and nutrition; 3) Constitution and genetics; 4) mental, emotional, and physical drains. An interpretation document was developed to assist physicians in understanding findings from the IMAT and offer specific alternative therapies. A patient action plan included in the tool allowed physicians to communicate specific recommendations to patients. A revised version of the IMAT was distributed electronically to all chapters (110,600 members) of the American Academy of Family Physicians (AAFP) in February 2014, along with an online anonymous questionnaire for feedback using Likert-style and qualitative answers to inform successive versions of the IMAT. Conclusions: The IMAT was developed to translate Chinese Medicine concepts into a questionnaire format that can be completed by patients to perform a holistic health assessment. The tool allows physicians to suggest specific alternative therapies based on patient responses and the interpretation document. Evaluation of the tool is ongoing to assess tool accessibility, efficiency, efficacy, and whether there are clinically significant benefits from the IMAT use.
INTRODUCTION: Health disparities (HD) are linked to a lack of healthcare access. While Latinos represent 12% of the population in Rhode Island (RI), 31% of uninsured patients in the state self-identify as Latinos (RI DOH). In addition, Latinos are 3.7 times more likely to be diagnosed with diabetes and experience higher rates of obesity and hypertension than non-Hispanic whites (Heron, 2007; CDC). Furthermore, many studies have shown poor health outcomes are associated with poor access to food (Moore et al., 2008; Sharkey, 2009). Given the increasing food insecurity rate in RI within the past decade, which had grown to 14.7% of households in 2010 (USDA), food access issues most likely prevent uninsured patients from obtaining healthy foods. Poor access to food may also attenuate the outcomes of local programs that aim to improve health literacy among medically underserved patients. To gain a better understanding of the societal factors that may affect food access for underserved populations, a survey was designed based on past models. This survey was administered at Clinica Esperanza Hope Clinic (CEHC) during its Vida Sana Program (VS), a major health literacy intervention in Providence to address HD affecting this free clinic’s primarily Latino and uninsured patient population. METHODS: A 3-page survey was composed in both Spanish and English with 21 questions about demographics and societal factors affecting food access, such as distance of primary grocery store (PGS) and quality of food available at said establishment. A pilot study was held in July and August 2013 to gain participant feedback on survey clarity and design. All non-pregnant patients aged 18 or older and enrolled in VS were eligible to participate. RESULTS: Over the course of the pilot study, 19 total patients were surveyed, 78% of whom chose the Spanish version. Among basic demographics, mean participant age was 51 years, 63% were women, and 84% self-identified as Hispanic/Latino. Within socioeconomic variables, slightly higher than half did not have a high school degree, and 52% had an annual household income less than $15,000. Additionally, 89.5% and 31.6% reported lack of insurance and use of SNAP, respectively. Finally, 84% of participants indicated Price Rite as their PGS. Upon completion of the pilot study, the survey was further optimized and re-implemented in a longer-term study with identical eligibility criteria (currently on-going). CONCLUSION: This bilingual food access survey serves as an informative tool to better understand the nature of food access among uninsured patients enrolled in health literacy programs.
Abstract Title: Primary Mediastinal B-cell Lymphoma - Case Report

Abstract Text: Introduction Primary Mediastinal B-cell lymphoma (PMBL), a separate clinicopathologic subtype of diffuse large B-cell lymphoma (DLBCL), originates from mediastinal thymic B cells. PMBL has a predilection for the young and female population. It tends to present with an anterior mediastinal mass which progresses rapidly. PMBL was first recognized in the 1980s and was thought to be incurable, but recent studies have shown a more favorable prognosis. This case report highlights the rapid and aggressive course of this rare lymphoma and its tendency to invade surrounding organs. PMBL shows prompt responsiveness to antineoplastic treatment, specifically a new immunochemotherapy regimen (DA-EPOCH-R), which is associated with high event-free survival (EFS) and overall survival (OS). Case Presentation A 24 year old woman presented with one month history of unremitting chest pain and two weeks of night sweats, without fever or significant weight loss. Her ECOG PS was 1 and LDH of 229. CT chest showed a large anterior mediastinal mass (4.7 x 8.9 x 9.0 cm) and left sided pleural effusion. She underwent mediastinotomy, biopsy, and drainage of pleural effusion. Biopsy favored primary mediastinal B cell lymphoma, positive for CD20, CD10, and bcl-6, negative for bcl-2. Pleural fluid cytology revealed CD20+ lymphomatous cells. One week later she returned for a Port-A-Cath placement, bone marrow biopsy, and therapeutic thoracentesis – as the pleural effusion had rapidly reaccumulated. The BM biopsy and Port-A-Cath placement were uneventful; but at the end of the thoracentesis, after draining 1 L of serosanguinous fluid, she became acutely hypotensive and hypoxic. She went into asystole, requiring resuscitation with 3 doses of epinephrine. A chest tube was placed for possible tension pneumothorax with no response. A CT chest showed consolidation of the entire left lung with bilateral pleural effusions and pericardial effusion, suggestive of an intrapulmonary hemorrhagic process. An emergent echocardiogram showed a circumferential pericardial effusion with an EF of 15%. She then underwent emergent pericardectomy with pericardial tube drainage placement. The pericardial fluid tested positive for lymphomatous cells. She was placed briefly on vasopressors and was extubated successfully the following day. She was started on dose-adjusted EPOCH-R (etoposide, vincristine, doxorubicin, cyclophosphamide, predisone, with rituximab) with excellent clinical response. Discussion The case illustrates a young female presenting with PMBL, with low-intermediate risk on age-adjusted International Prognostic Factor Index (aaIPI). Although there is no consensus on first-line therapy for PMBL, studies have shown that DA-EPOCH-R has favorable EFS rate of 93% and OS rate of 97%, no late morbidity or cardiac toxicity, and precludes the need for consolidative radiotherapy. Therefore DA-EPOCH-R is a preferable choice for PMBL in younger patients who are able to tolerate more intensive immunochemotherapy.
Abstract Title: Promoting Medical Student Research Productivity: The Student Perspective

Abstract Text: One-third of medical students complete medical school without significant exposure to research. This gap in their medical education is significant: research not only exposes medical students to scientific methodology and academic writing, but also encourages them to multi-task, communicate, and critically analyze the scientific literature—valuable skills that will serve them well in their future medical careers. We report herein the proceedings from a student-led symposium that aimed to promote student involvement in research at the Alpert Medical School by providing practical information on how to successfully complete a research project.
Abstract Title: Cardiac Myxoma: A Case Report and a Review of the Clinical Manifestations

Abstract Text: Cardiac Myxoma: A Case Report and a Review of the Clinical Manifestations

Joseph C. Yu, Neil Gheewala, Emmanuel Apor, Athena Poppas

Introduction: Cardiac Myxomas are rare and infrequently described in the literature. Here we describe a patient with a new diagnosis of cardiac myxoma and we review the clinical manifestations, diagnostic modalities, and treatment recommendations.

Case Presentation: A 52 year old female with a history of cerebral palsy, developmental delay, and chronic iron deficiency anemia presented with subjective fevers and worsening abdominal pain. Initially, she was febrile with a moderate leukocytosis of neutrophilic predominance. A CT scan of the abdomen and pelvis revealed a new pericardial effusion, bilateral pleural effusions, and a new splenic infarct.

A transthoracic echocardiogram revealed a new cardiomyopathy with an ejection fraction (EF) of 30%, severe global hypokinesis, and a left atrial mass attached to the interatrial septum (3.7 by 3.2cm), prolapsing through the mitral valve. Despite continued fevers, blood cultures remained negative. A nuclear stress test did not reveal any ischemia and a cardiac catheterization was unremarkable. The Cardiothoracic (CT) Surgery team was consulted but prior to intervention, the patient suffered a cerebrovascular accident with a head CT scan revealing a left middle cerebral artery infarction. Despite a mechanical thrombectomy, the patient exhibited residual right sided hemiparesis and global aphasia necessitating the placement of a gastrostomy tube. The mass was removed by the CT surgery team via a sternotomy. The patient did well with a stable right hemiparesis and global aphasia. Her fever and leukocytosis resolved prior to discharge.

Discussion: Though less than 0.1% of all primary tumors, cardiac myxomas are the most common primary cardiac neoplasm. They originate from multipotent mesenchymal cells capable of neural and endothelial differentiation. They are of a gelatinous consistency with a surface that can be smooth, villous, or friable. They are most commonly found in the left heart, with occurrence reported at 36% on the aortic valve, 29% on the mitral valve, 11% on the tricuspid valve, and 7% on the pulmonic valve. MRI is the modality of choice for diagnosis given the distinctive fat patterns. Symptomatology results from a variety mechanisms, including embolization, inflow obstruction, interference with the valve, myocardial invasion resulting in arrhythmias, pericardial involvement including effusions, and constitutional or systemic symptoms (fevers, weight loss). These are thought to be cytokine mediated, often with elevated inflammatory markers (34% with elevated ESR, CRP). Morality is less than 5%, from sequelae including stroke, TIA, and MI from embolization. Surgery is recommended for patients with embolic events, or for tumors greater than 1cm in the asymptomatic patient. The risk of recurrence is approximately 2-5%, and greater if there is a family history of myxoma, so adjuvant chemotherapy is often used.