Welcome
To The
Western Region
2016 Poster Competition
And
Doctor’s Dilemma (Medical Jeopardy) Tournament
Hosted by
UPMC McKeesport
1500 Fifth Avenue
McKeesport, PA 15132
412-664-2167
**Program**

November 5, 2016
Residents’ Poster and
Doctor’s Dilemma
(Medical Jeopardy) Competition
Western Region, Pennsylvania Chapter
American College of Physicians (ACP)

*Hosted by UPMC McKeesport*

*Kelly Conference Center*

*Ground Floor Kelly Building*

*1500 Fifth Avenue, McKeesport, PA 15132*

7:30-8:00 Registration and Continental Breakfast

Poster Set-up Kelly Conference Center

8:00-8:20 Welcome and Introductions
Dr. Thomas Grau, FACP Program Committee Chair
Governor, Western Region, PA-ACP
Dr. Ibrahim Ghobrial, FACP Chair, Abstract Competition
Dr. Jennifer McComb, FACP Medical Jeopardy Committee Chair

8:20-10:30 Poster Judging – Kelly Conference Center

FYI – Alphabetically by last name of the first author to find poster board assignments

FYI-Poster presenters also participating in Medical Jeopardy will be judged first;

10:30-11:30 Doctor’s Dilemma (Medical Jeopardy) – Kelly Conference Center

11:30 Awards and Closing
We sincerely thank our reviewers and judges who generously shared their expertise and time.

Summer and Fall 2016

Salah Aldergash, MD
Jose Caballe, MD
Joan Devine, MD
Francis Ergina, MD
Ibrahim Ghobrial, MD
David Harinstein, MD
Anastasios Kapetanos, MD
Reena Karnik, MD
Oksana Karpov, DO
Mehrshid Kiazand, MD
Noor Khan, MD
Rani Kumar, MD
Fritz Lubin, MD
Susan Manzi, MD
Madhusudan Menon, MD
Zaw Min, MD
Khaled Nashar, MD
Domingo G. Ottonello, MD
Robert Pavlak, MD
Danilo Policarpio, MD
Thomas Powell, MD
Edwin Ravano, MD
James B. Reilly, MD
James J. Reilly, MD
Prashan Thiagarajah, MD
Saba Waseem, MD
Mary Chester Wasko, MD
Lyn Weinberg, MD
G. Alan Yeasted, MD
We thank our Outstanding Program Committee for a Job Well Done!
Summer and Fall 2016

Abstract and Poster Chair
Ibrahim Ghobrial, MD, FACP

Doctor’s Dilemma (Medical Jeopardy) Chair
Jennifer McComb, MD, FACP

Program Chair
Thomas Grau, MD, FACP

Administrative Support
Angela Moran
Rita Schramm

Governor, PA-ACP, Western Region
Thomas Grau, MD, FACP
Doctor’s Dilemma (Medical Jeopardy) Competition

Hosted by UPMC McKeensport
Kelly Conference Center - Ground Floor Kelly Building
November 5, 2016

Allegheny Health Network – Team Coach: Khaled Nashar, MD
*Salahuddin Siddiqui, MD
Sara Beygi, MD
Moeezellah Beg, MD
(Alternate(s): Mehboob Kalani, MD; *Prachi Kalamkar, MD; Chinmaya Reddy, MD and Sarah Kung, MD)

Conemaugh – Team Coach: Saba Waseem, MD
Mohammad Umair Malik, MD
Saad Ullah, MD
Nagadrashini VinodMD
(Alternate: Khandakar Hussain, D)

UPMC McKeensport – Team Coach: Ibrahim Ghobrial, MD
*Shubash Adhikari, MD
*Luis Corral-Guerrero, MD
*Awais Javed, MD
(Alternate: *Sneh Pandey, MD)

UPMC Mercy – Team Coach: Shamsul Hasan, MD
Rahul Khanna, MD
Shree Sharma, MD
Ammar Syed, MD
(Alternate: Bhagat Kondaveeti, MD)

UPMC PUH/SHY – Team Coach: Jennifer Mccomb, MD
Joseph Rocco, MD
Steven Fox, MD
Georgios Triantafyllou, MD
(Alternate: Sina Salehi Omran, MD)

*Denotes Also Poster Presenter

Recipients Professionalism Award

Devanshu Verma, MD  
Conemaugh Memorial Medical Center

Shubash Adhikari, MD  
UPMC McKeesport

Patrick Sleckman, DO  
Allegheny Health Network

Bhagat Kondaveeti, MD  
UPMC Mercy

Nicoletta Machin, DO  
UPMC PUH/SHY
## Poster Assignments, Western Region, PA-ACP Competition

**November 5, 2016 – Hosted by UPMC McKeensport**

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Introduction

American Diabetes Association (ADA) recommends outpatient screening of all diabetes patients annually for Micro vascular complications. The following tools are recommended; HbA1C, Urine microalbumin/creatinine ration, comprehensive eye and foot exam. We noticed a significant deficiency in the use of these tools in our residents’ clinic. Lack of knowledge among all residents was noted as the reason for this. Mandatory resident education was instigated to address this issue. A pre and post intervention observational study was performed to study the effect of this intervention.

Methodology

We identified patients from our residents’ clinic with a diagnosis of diabetes that were seen in a 3-months period prior to the study. Chart review was performed to identify the percentage of patients that had the ADA recommended tests performed within the past 1-year of the study. These include HbA1c, urine micro albumin-Creatinine ratio, fasting lipid panel, annual foot examination and ophthalmological examination.

Mandatory resident education sessions were then conducted twice a month over a period of 3 months. Each session included a detailed presentation of the ADA recommendations for screening and a video presentation of the proper technique for foot examination. Retrospective chart review was then performed on all diabetes patients seen in the clinic over the next 3 months, to assess the effect of the intervention on the appropriate use of the ADA recommended tools.

Results

The pre-intervention cohort had 104 patients seen over a 3-months period. The rate at which the recommended tests were ordered was as follows; HbA1C 97.1%, Urine microalbumin/creatinine ratio 66.3%, Lipid panel 75%, Eye exam referral 44.2%, Foot exam 31.7%. The post-intervention cohort included 89 patients seen in the clinic over a 3-months period. The performance rates were as follows; HbA1C 97.8%, Urine microalbumin/creatinine ratio 74.2%, Lipid panel 80.9%, Eye exam referral 61.8%, Foot exam 51.1%. In the post intervention cohort, there was a significant increase in the order rates of Urine microalbumin/creatinine ratio, Eye exam referral and foot exam; 7.9%, 17.6% and 23.4% respectively.

Conclusion
Our study shows that focused education is a good tool to improve performance of resident physicians. Focused education on specific aspects of patient care should therefore be implemented in residency programs to improve patient care and resident physician performance. Addition of feedback on individual practice has previously been shown to improve performance and needs to be studied in our resident clinic.

Limitations

Some of our residents that were on intensive care unit and night float rotations could have missed the education sessions, which could have led to poor ordering rates.

Our study duration was short; hence the durability of this intervention has not been tested.
Ado-trastuzumab emtansine (T-DM1) is currently FDA approved as a second-line treatment for advanced HER2 positive breast cancer. Common adverse effects of T-DM1 include hepatotoxicity, cardiomyopathy, and interstitial lung disease. We present a case of T-DM1 as an unexpected cause of pancreatitis.

A 38 year old female with stage four metastatic breast cancer recently started on T-DM1 presented with nausea, vomiting and upper abdominal pain. Initial lab work showed lipase of 958, amylase of 384, leukocytosis of 16.3, alkaline phosphatase of 899, alanine aminotransferase of 36 and aspartate aminotransferase of 76. Triglyceride levels were normal. Abdominal ultrasound showed no evidence of gallbladder pathology. Computed Tomography Angiogram of the abdomen showed normal appearing pancreas. No other pancreatotoxic drugs were identified. Prior history of alcohol or illicit drug use was negative. A clinical diagnosis of acute pancreatitis was made and treated appropriately. The patient improved clinically and pancreatic enzymes were normal on discharge. T-DM1 was discontinued without future instances of acute pancreatitis.

T-DM1 causes cell cycle arrest and apoptosis by binding to over-expressed HER2/neu receptors and microtubule inhibition. T-DM1 was shown in the EMILIA clinical trial to improve median overall survival by 5.8 months compared with lapatinib plus capecitabine. Recognized adverse effects of T-DM1 include hepatotoxicity, cardiomyopathy, interstitial lung disease, thrombocytopenia, and peripheral neuropathy. The case illustrates the potential for acute pancreatitis with use of T-DM1 and the value of a thorough medication review. Early recognition of adverse effects is critical to discontinue T-DM1 and reduce the risk of future morbidity and mortality.
A Painful Dilemma: Synercid® Induced Myalgias

Quinupristin/dalfopristin (Synercid®) induced myalgias represent a challenge to the medical management of a patient as the drug is often essential to treatment.

A 23-year-old male with a history of liver transplant was admitted for hepatic artery occlusion causing hepatic necrosis. He developed vancomycin resistant enterococcus (VRE) sepsis due to necrosis-induced bilomas. Cultures showed non-susceptibility to daptomycin and he developed lactic acidosis with linezolid therapy. The infection only cleared with quinupristin/dalfopristin.

Two days following initiation of quinupristin/dalfopristin, he started to develop myalgias, which progressively worsened and affected his entire body. Within four weeks, he went from walking laps around the hospital to being unable to stand due to muscle pain. He was initially treated with opioids, but had little relief from an oral morphine equivalent dose of 150 mg/day.

Common therapies including acetaminophen and NSAIDs were precluded due to the patient’s hyperbilirubinemia and steroids were contraindicated in sepsis. After a literature search and inquiries to the manufacturer, a multimodal treatment plan was developed that consisted of opiates, Reiki massage, CoQ10, and gabapentin. The patient later developed muscle spasms, relieved by baclofen, but other therapies did not result in symptomatic improvement. The patient died before obtaining a second transplant.

This case illustrates the dilemma of treating severe myalgias in a critically ill patient receiving quinupristin/dalfopristin. Studies report myalgias in up to 50% of patients, most commonly with evidence of intrahepatic cholestasis. Symptom relief is most commonly achieved only by lowering the dose or medicine cessation.
Recognizing Hematologic Emergencies

Acute Leukemia and Differentiation syndrome are hematologic emergencies. 25 % of Acute Leukemia cases present as leukopenia. Differentiation syndrome affects 25% of patients after ATRA chemoinduction, with a 30% mortality rate if untreated (1). Their high incidence and severity necessitates for a physician to be able to recognize and manage these conditions.

CASE:
52yo with asymptomatic pancytopenia discovered on recent bloodwork, presented with fever, chills, dyspnea, night sweats.

With no prior history of pancytopenia, workup was initiated. Bloodwork showed worsened pancytopenia, ↑ INR, PTT & d-dimer, fibrinogen & haptoglobin WNL, no FDPs, negative cultures and EBV & parvovirus IgM antibodies. CT chest revealed left lung alveolar consolidation & infiltrates, mediastinal lymphadenopathy.

Concern for PNA prompted levofloxacin & caspofungin therapy. Progressive hypoxic respiratory failure prompted intubation and transfer to our hospital’s ICU. Repeat CT showed bilateral GGOs, septal thickening, LUL consolidation with central cavitation. Peripheral smear showed numerous blast cells. Peripheral flow cytometry revealed APML.

Chemotherapy (ATRA) was initiated. Soon after, he developed hypotension and acute respiratory distress due to pulmonary edema. Diagnosis of ATRA differentiation syndrome was made, empiric IV Dexamethasone administered which led to rapid improvement.

DISCUSSION
Differentiation syndrome is a complication of ATRA therapy secondary to cytokines released from sudden maturation of promyelocytes. Fever, capillary damage, hypotension, dyspnea, edema & pain ensue. Diagnosis is clinical. If suspected, IV dexamethasone 10 mg BID should be initiated promptly, which causes improvement within 24h. Patients should then receive both ATRA and Dexamethasone.

REFERENCES:
Safe discharge of low risk acute coronary syndrome (ACS) patients from emergency department (ED)

Introduction: With over 6 million annual emergency department visits, chest pain is the second leading cause of ED visits in the US. Despite published guidelines to assess risk of ACS, a significant proportion of ED chest-pain visits are admitted for further observation and testing.

Hypothesis: We hypothesized that the majority of ED chest-pain visits are low risk for ACS and could be safely discharged from the ED with out-patient follow up, and the major adverse cardiac event (MACE) rates will be very low for these patients.

Method: We conducted a historic cohort study reviewing data from 266 patients who visited our ED with chest pain during a 6-month period from June to December of 2014. The following data were collected on each patient: initial clinical assessment on arrival including EKG and troponin, the History, EKG, Age, Risk factors and Troponin (HEART) Score and the Thrombolysis in Myocardial Infarction (TIMI) Scores on admission, as well as subsequent in-patient cardiac testing including stress testing and/or coronary angiography. Overall 30-day major adverse cardiac event or mortality was collected by reviewing health record system of our network.

Results: The majority of patients of the cohort (>90%) presented with atypical chest pain, with HEART score of 3 points or less. Also fewer than 20% (50 patients) had TIMI score greater than two, with less than 1% (9 patients) with TIMI score of 3 or more. Among all patients, only 7 patients had elevated troponin, but none had any ischemic EKG Changes. Of the entire patient pool, about 47% (125 patients) got admitted for further workup, amongst which 39 patients got either nuclear stress test or cardiac catheterization, and only two patients (both had HEART Score of 4 and TIMI Score of 3) had required coronary intervention, which includes one patient who left the ED against medical advice. There were no events of arrhythmia or myocardial ischemia within 30 days of hospitalization.

Conclusion: Multiple risk scores are available to assess patients presenting to the emergency departments with chest pain. In our population, we found that the utilization of combining the HEART and TIMI scores can potentially reduce admissions without compromising patient safety. The lack of follow up data on patients who were discharged from the ED, and those whose follow up data are not captured within our electronic health record system are limitations. Accelerated chest pain protocols utilizing various scoring systems and repeat 2-hour high-sensitivity troponin testing are potentially helpful in preventing unnecessary testing and admissions.
Reducing Medication Errors: One Duplicate Medication at a Time

Introduction:
The entity of medical errors has emerged as the third leading cause of death in The US, outranked only by heart disease and cancer. Medication errors constitute a significant portion of such errors. Our patient safety group embarked on studying the impact of transition from paper to computerized provider order entry (CPOE) on medication errors. The latter was expected to reduce medication errors by overcoming illegibility and confusing abbreviations. The first phase demonstrated no reduction, but a change in the pattern of errors, with duplicate medications as the leading pattern. Examples include 2 medications of the same class or 2 doses of the same drug. In the second phase we analyzed the settings that lead to duplicate orders. In the third phase we implemented specific interventions to eliminate duplicate errors. We hereby report the impact of these interventions.

Aim:
The aim of the third phase of our study was to evaluate the impact of our multidisciplinary interventions on the incidence of duplicate medication errors.

Method:
We developed a multidisciplinary team of physicians, clinical pharmacists, and nurses. The interventions included: education of medical staff, careful surveillance for any duplicate orders, immediate educational feedback to the contributors of each error, and data sharing at different departmental meetings to raise and maintain awareness. Chi-square test was used to compare the rate of errors from a year before to a year after implementation of these interventions. Data was presented in terms of percentages, means, and standard deviations.

Results:
Ninety-nine total therapeutic duplicate errors were reported in 2014-2015 in comparison to fifty-three in 2015-2016, representing a 54.7% reduction in total medication duplicate orders (p=0.0002). The mean number of errors decreased from 9.2 +/- 3.9 (range 5-17) to 5.2 +/- 5.0 (range 0-14) post-intervention. Anticoagulants remained the most common theme of duplicate errors at 42% with a 0.51-fold reduction post-intervention (p=0.008). The most common patterns of errors were failure to discontinue previous medications upon dose escalation or drug substitution, inappropriate
transition from IV to PO routes, and simultaneous order entry by different providers. Analysis showed a seasonal peak incidence from July to October each year.

**Discussion:**
Our multidisciplinary intervention was very effective in reducing the number of duplicate medication errors. However, given the potential impact of each error, complete elimination of duplicate medication errors remains our goal. Efforts at maintaining staff education will continue especially with frequent work force turnover. Special focus is given to “high-risk” medications like anticoagulants and insulins. The use of order sets and power plans results in significant duplication risks. We advocate for an efficient electronic alert system to aid prescribers, clinical pharmacists and nurses to identify such errors before they reach the patients and cause any harm.
Exploring Beyond the Horizons: A Prediction Model for Out-of-Proportion Pulmonary Hypertension

Introduction:

Pulmonary hypertension (PH) is defined as mean pulmonary artery pressure (mPAP) \( \geq 25 \text{ mm Hg} \) as determined by right heart catheterization (RHC). Most COPD patients have mild to moderate PH (mPAP 25-35) but about 5% of them have mPAP > 35, an entity commonly described as “out-of-proportion” PH (OOP-PH). It is important to identify such patients since they might benefit from PH specific interventions. RHC is an invasive procedure with risks of complications like pneumothorax, hematoma etc. and thus necessitates a screening tool to guide us if a patient will benefit from RHC or not. The aim of the study is to develop a screening test to detect OOP-PH.

Methods:

A retrospective clinical chart review of the patients with COPD listed for lung transplantation was done to tabulate demographics, pulmonary function tests (PFTs), and RHC values into MS-Excel®. We divided our dataset randomly into two groups: prediction group with 70% cases and experimental group with 30% cases. Using multivariate linear regression analysis with mPAP as a dependent and age, BMI and PFTs as independent variables, we developed a prediction model: \{10.5+0.24*Age+0.41*BMI-0.25*DLCO%predicted\} which we referred to as pulmonary hypertension index (PHI). Using ROC curve and table, we chose cut-off of 28.6 for OOP-PH and analyzed the experimental group using PHI. The prediction model was found to be valid for the experimental group as well.

Results:

Our pilot project included 80 patients detailed as follows:

Age range: 44-75 (median 63, mode 67, mean 61)

Males: 45 (56%), Females: 35(44%)

Patients with PH: 44 (55%), with OOP-PH: 9(11%)

We did a correlation analysis between mPAP and PHI and the Pearson’s correlation product was 0.6 (p<0.0005).

We plotted ROC curve using PHI>=28.6 as a predictor for OOP-PH as below:
### Statistics Table

<table>
<thead>
<tr>
<th>Statistics</th>
<th>Value</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity</td>
<td>100%</td>
<td>67 to 100%</td>
</tr>
<tr>
<td>Specificity</td>
<td>72 %</td>
<td>60 % to 81%</td>
</tr>
<tr>
<td>Positive Likelihood Ratio</td>
<td>3.52</td>
<td>2.49 to 4.98</td>
</tr>
<tr>
<td>Negative Likelihood Ratio</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>Positive Predictive Value</td>
<td>28.12%</td>
<td>13.75 to 46.75%</td>
</tr>
<tr>
<td>Negative Predictive Value</td>
<td>94%</td>
<td>94 to 100%</td>
</tr>
</tbody>
</table>

### Table

<table>
<thead>
<tr>
<th>mPAP(RHC)&gt;=35</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHI&gt;=28.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>9</td>
<td>23</td>
</tr>
<tr>
<td>No</td>
<td>0</td>
<td>58</td>
</tr>
</tbody>
</table>
Conclusions:

We conclude via our pilot project that PHI is a very sensitive and fairly specific screening tool for OOP-PH. The correlation co-efficient between echocardiography obtained diagnosis of PH and mPAP done in studies in past has ranged from 0.6-0.8 which isn’t very different from what we obtained for PHI. The authors are in process of evaluating the results we obtained through this pilot study in the complete data set but for now we advocate pursuing RHC and evaluating additional causes of PH in patients with PHI>28.6. PHI might prove to be a simpler, easier, and a cheaper alternative or to obtaining echocardiography as a screening tool for PH.
Clinical Outcomes of Isolated Renal Failure Compared to Other Forms of Isolated Organ Failure in Patients with Severe Acute Pancreatitis

**Background:** According to the revised Atlanta classification (RAC), severe acute pancreatitis (SAP) is characterized by persistent organ failure (POF) lasting more than 48 hours. The specific clinical outcomes of SAP complicated by isolated renal failure (IRF) are not well characterized.

**Aim:** Assess differences in clinical outcomes of SAP complicated by IRF compared to other forms of isolated organ failure (IOF).

**Methods:** Using a prospectively maintained database of patients with acute pancreatitis admitted to a tertiary medical center between 2003 and 2015, those with evidence of POF were identified: renal, pulmonary, cardiovascular, or multi-organ (2 or more organs). Data regarding demographics, comorbidities, etiology of SAP, and clinical outcomes were prospectively recorded. Differences in clinical outcomes after development of IRF in comparison to other forms of IOF were determined using independent t and Mann-Whitney U tests for continues variables, and chi-square test for discrete variables. P-value =<0.05 was considered statistically significant.

**Results:** Among 500 patients with acute pancreatitis, 111 patients developed POF: 75 (67.6%) male, mean age was 54.2 years. Forty three patients had IOF: 17 (15.3%) IRF, 25 (21.6%) isolated pulmonary failure (IPF), and 1 (0.9%) patient had isolated cardiovascular failure. No differences in demographics, etiology of SAP, systemic inflammatory response syndrome scores, or development of pancreatic necrosis were present between IPF and IRF. Patients with IRF were less likely to require nutritional support (NS) (76.5% versus 97.7%, p=0.001), require ICU admission (60% versus 99%, p=0.001), and had shorter mean ICU stay (3.1 days versus 20.9 days, p=0.001), compared to IPF. None of the patients with IRF or IPF died.

**Conclusion:** Among patients with SAP per RAC, about 15% develop IRF. This subgroup has a less protracted clinical course compared to other forms of IOF. IRF should be weighed less than IPF in risk predictive modeling.

**Table 1:** Demographics and clinical outcomes in SAP patients with IRF and IPF
<table>
<thead>
<tr>
<th></th>
<th>IRF ( N=17 )</th>
<th>IPF ( N=25 )</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>13 (76.5%)</td>
<td>16 (64%)</td>
<td>0.39</td>
</tr>
<tr>
<td>Age, mean (SD)</td>
<td>56.1 (18.1)</td>
<td>47.1 (18.5)</td>
<td>0.13</td>
</tr>
<tr>
<td>BMI, mean (SD)</td>
<td>32 (7.3)</td>
<td>28.4 (7)</td>
<td>0.08</td>
</tr>
<tr>
<td>Biliary etiology</td>
<td>6 (35.3%)</td>
<td>11 (44%)</td>
<td>0.57</td>
</tr>
<tr>
<td>ICU admission</td>
<td>10 (58.8%)</td>
<td>25 (100%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>ICU LOS days, mean (SD)</td>
<td>2.4 (3.1)</td>
<td>15.7 (12.7)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Need for nutritional support</td>
<td>13 (76.5%)</td>
<td>24/24 (100%)</td>
<td><strong>0.012</strong></td>
</tr>
<tr>
<td>Pancreatic necrosis</td>
<td>11 (64.7%)</td>
<td>16 (64%)</td>
<td>0.8</td>
</tr>
<tr>
<td>Need for intervention</td>
<td>9 (52.9%)</td>
<td>12 (50%)</td>
<td>0.85</td>
</tr>
<tr>
<td>LOS, mean (SD)</td>
<td>24.7 (18.5)</td>
<td>28.8 (18.3)</td>
<td>0.31</td>
</tr>
<tr>
<td>Mortality</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

New onset Right Bundle Branch Block with LAD Obstruction in a 23-Year-Old; a call to reconsider the current guidelines.

Introduction:

Current ACC/AHA Guidelines for Coronary Angiography do not include new onset right bundle branch block (RBBB) as an indication for emergent cardiac catheterization. However, multiple publications have suggested an association between new onset RBBB and complete coronary occlusion. We present the youngest reported case of a 100% LAD occlusion manifesting as new onset RBBB with subsequent significant morbidity due to delayed revascularization.

Case report:

A 23-year-old gentleman with a history of tobacco use and obesity, presented with chest pain. His initial ECG illustrated normal sinus rhythm with normal QRS duration and configuration. Troponin was 0.3 ng/ml (normal <0.045). Approximately thirty minutes later he developed RBBB. A few hours later he developed cardiac arrest due to ventricular fibrillation and was successfully resuscitated. His cardiac catheterization illustrated complete occlusion of the proximal left anterior descending artery and a stent was placed. He was found to have an ejection fraction of 30% with antroseptal akinesis and was discharged on maximal medical management. Unfortunately, a three-month follow echocardiogram demonstrated an ejection fraction of 20%.

Discussion:

The proximal left anterior descending coronary artery septal perforators perfuse the right bundle branch in 90% of cases. Recent retrospective analysis from large academic centers demonstrated an association between new onset RBBB and massive myocardial infarction. The case supports this data and underscores the importance of updating current guidelines to endorse early coronary angiography in patients presenting with acute coronary syndrome and new onset RBBB.
Introduction:
Malignant melanomas of the GI tract are uncommon and account for 1-4% of all malignant melanomas. Primary lesions and late recurrence involving the colon are very rare as this area is lacking in melanocytes. We describe a case and discuss practice changing surveillance options.

Case:
A 61-year-old man who had a surgically excised cutaneous melanoma 20 years ago presented with recurrent, intermittent, and cramping right lower quadrant pain for 2 weeks. He reported poor appetite, decreased-caliber stools, melena, and unintentional 15-pound weight loss. CT imaging revealed a 9cm x 8cm necrotic cecal mass, enlarged regional lymph nodes with multiple pulmonary and hepatic metastases. Colonoscopy showed a new, fungating mass partially obstructing the proximal ascending colon. Of note, a colonoscopy done 9 years before was unremarkable. Right hemicolectomy revealed cecal perforation and abscess formation. Biopsy showed solid sheets of high-grade malignant epitheloid cells without gland formation. The neoplastic cells were strongly positive for melan A, HMB-45, SOX-10 and S100 consistent with malignant melanoma. The patient died 8 months later despite combined chemotherapy with Dabrafenib and Trametinib.

Discussion:
This case is unique because of the long time lapse between surgical excision of a previous cutaneous melanoma and recurrence/new primary lesion. Even though there are no clinical criteria to distinguish primary lesions from late recurrence, tumor dormancy might account for this. Further studies on tumor dormancy are needed, as they will dictate appropriate surveillance. Shorter interval colonoscopies are advised in patients with a history of malignancies that can metastasize to the GI tract.
**Introduction:** Organic dust toxicity syndrome (ODTS) is a self limiting, non-infectious, febrile illness caused by inhalational exposure to mycotoxins. The disease is mediated through innate immunity and no prior sensitization is required unlike Hypersensitivity Pneumonitis (HP) which is mediated through acquired immunity.

**Case Presentation:** A 39-year-old male was admitted with fever, cough and difficulty breathing which started after exposure to “green-mold-laden” wall. His examination revealed bilateral crackles. CT-scan of chest showed extensive bilateral nodular opacities and tree-in-bud opacities. His lab work revealed elevated ESR and CRP and a positive serology for *Cladosporium herbarum* antigen. He was started on broad-spectrum empiric antibiotics and corticosteroids. Broncho-alveolar lavage was unrevealing. His respiratory status deteriorated necessitating intubation and mechanical ventilation. Lung biopsy revealed diffuse alveolar damage with prominent hyaline membranes and fibro-myxoid/granulation-like tissue in alveolar spaces typical of ODTS. No features of HP were present. Antibiotics were discontinued and he was managed conservatively. His condition gradually improved and he was extubated and discharged in stable condition.

**Discussion:** ODTS should be considered in presence of acute onset hypoxic respiratory failure following suggestive exposure and thus obtaining occupational history is paramount. Routine workup is often non-conclusive and lung biopsy remains the gold standard of diagnosis. It is a self-limited disease with no mortality or chronicity. Management is purely conservative with no role of steroids or immunosuppressants in contrast to HP. This is the first case report describing ODTS secondary to *Cladosporium*, a ubiquitous mold, necessitating evaluation for using respirators in industries believed to be harmless.
Riddle Me a Lymphoma

Introduction:
Skeletal muscle is a rare primary location for extra-nodal non-Hodgkin lymphoma (NHL), accounting for 0.1% of all lymphomas. Concurrent hypercalcemia is common particularly with advanced malignancies and predicts a poor prognosis. While hypercalcemia of solid malignancy is common, it rarely occurs as the initial presentation of disease and of tumor progression in diffuse large B-cell lymphoma (DLBCL). We report a very rare case of DLBCL originating from skeletal muscle and complicated by hypercalcemia.

Case:
An 85-year-old Caucasian woman with a history of newly diagnosed DLBCL of the left thigh for which she received local radiation therapy 6 months ago presented with altered mental sensorium, lethargy and malaise for one week. Physical examination was unremarkable. Lab workup revealed malignant hypercalcemia: mildly-low PTH and simultaneous mild elevation of PTHrP and 1,25-dihydroxy vitamin D. Abdominal and pelvic CT-scan revealed a new left gluteal mass, multiple new pulmonary nodules, and a new mass in left rectus muscle suggestive of tumor progression. Hypercalcemia of malignancy was successfully treated with hydration, steroids and bisphosphonates. Given the patient’s age, multiple co-morbidities, and poor functional status, she and her family opted for comfort care.

Discussion:
DLBCL rarely involves the skeletal muscle or manifests with hypercalcemia as the initial presentation. NHL should be considered as a differential diagnosis for skeletal muscle enlargement with hypercalcemia to improve early diagnosis and prognosis. Early-stage DLBCL is aggressive but potentially curable. On-going trials investigating immunotherapy in lymphomas show promise in this group of patients that are not amenable to surgery or chemotherapeutic interventions.
Introduction:

Myasthenia gravis (MG) is a relatively uncommon disorder with prevalence of about 70 to 320 per million. More than 70% of patients present with ocular or bulbar symptoms. Diagnosis is less likely to be considered in patients presenting with primary involvement of the respiratory muscles.

Case report:

A 73-year-old-male presented with a 5-day history of progressive dyspnea and dysphagia. He was in severe respiratory distress despite unremarkable CXR. Emergency intubation was needed. Urgent bronchoscopy and upper endoscopy ruled out airway obstructive causes. Initial extubation attempt on day 2 was unsuccessful. Direct laryngoscopy and CT head and neck didn’t show any vocal cord dysfunction. Bedside US showed no excursion or thickening of diaphragms with respiratory effort. CT chest showed bilateral pneumonias for which he was treated with piperacillin/tazobactam. CSF analysis on day 4 was unremarkable. Treatment with IVIG and pyridostigmine for suspected MG provided no improvement after 5 days of therapy. Serology ultimately came back positive for acetylcholine receptor binding and blocking antibodies. Additional plasma exchange and steroid therapy led to successful extubation.

Discussion:

MG can manifest as isolated respiratory failure which can be life-threatening. This was an unusual presentation of MG, as the patient presented with dyspnea, progressing to respiratory failure, and failure to extubation, without ocular or other common symptoms. As illustrated by this case, one should consider neuromuscular disorders in cases of unexplained respiratory failure, especially since myasthenic crisis is associated with substantial morbidity. The case also underscores the importance of bedside ultrasound in providing early additional clue to the diagnosis.
**Introduction:** Transthoracic echocardiography (TTE) with agitated saline bubble study (BS) is used for decades to identify an intra-cardiac or intrapulmonary shunt or to assess the severity of an existing shunt. Although second generation microbubble contrast study is contraindicated in patients with a known shunt, reports of complications of BS even with a known shunt are rare.

**Case Report:** A 29-year-old female with a history of migraines and a known patent foramen ovale (PFO) presented for exercise echocardiography for evaluation of dyspnea with exertion. The test was terminated early because of fatigue and dyspnea. After recovery, her pulse oximetry on ambient air dropped from 92% with standing to 82% with marching in place raising suspicion for platypnea-orthodeoxia. Subsequent echocardiography with BS revealed mild right to left shunting. Immediately after that, the patient complained of dizziness, partial central visual loss and left sided weakness. Diagnostic evaluation or brain and cranial circulation were normal. She received hyperbaric oxygen therapy (HBOT) with complete resolution of symptoms. The PFO was successfully closed in subsequent encounter by a catheter technique.

**Discussion:** Despite relative safety and low theoretical risk of transient ischemic event or stroke, BS in any degree of PFO can lead to air embolism. Precaution to avoid large air bubble injection and high degree of suspicion for prompt diagnosis of such rare complications is imperative. HBOT is established treatment for both diving-related and iatrogenic arterial gas embolism which also led to immediate recovery in our patient and later benefitted from closure of her PFO.
The Doctor says I’m Sick? It’s Nuts!
Oxalate nephropathy secondary to excessive ingestion of nuts in a patient with Inflammatory Bowel Disease (IBD).

Introduction
Patients with IBD are at increased risk for oxalate nephropathy. It typically manifests as nephrolithiasis or crystal nephropathy. We present a rare case of oxalate nephropathy secondary to excessive ingestion of nuts.

Case Report
A 73-year-old man with ulcerative colitis and CKD stage III secondary to hypertension found to have severe worsening renal function on regular follow-up testing. He reported daily ingestion of mixed nuts of about 400 mg/day during the past 6-8 months. Routine laboratory testing revealed AKI on CKD (BUN/Creatinine of 118/13.3 mg/dl from a baseline Creatinine of 2.2 mg/dl a month ago). Urinalysis showed a few RBCs and hyaline casts, with pH of 5, but without significant proteins or crystals. Abdominal ultrasound showed normal-sized kidneys, thinned cortices with no hydronephrosis. Kidney biopsy revealed extensive accumulation of calcium oxalate crystals in renal tubules, consistent with oxalate nephropathy. Renal function improved with rehydration and oxalate restriction.

Discussion
Oxalate nephropathy is associated with gastric bypass, fat malabsorptive states, and excessive oxalate intake. High oxalate foods include rhubarb, star fruit, Vitamin-C, and ice-tea. Oxalate-crystal nephropathy secondary to excessive ingestion of mixed nuts is rare. This case underscores the importance of dietary education in patients with predisposing factors, e.g. chronic kidney disease. More studies are needed to quantify safe food intake. This case also illustrates that severe crystal nephropathy can occur in the absence of urine crystals.
Title: Wellen’s Syndrome: A Cardiology Must Know; With a Twist

Introduction:
With recent cardiac chest pain, EKG findings characteristic of Wellen’s syndrome portend a high risk for anterior wall myocardial infarction. We present an unusual case of Wellen’s syndrome with left circumflex artery obstruction and vasospasm.

Case:
A 71-year-old woman with a history of atrial fibrillation and hypertension presented with mid-sternal chest pain for one day and shortness of breath for one hour. Physical examination revealed tachycardia, an irregularly irregular rhythm, and mild bibasilar crackles. Initial troponin was elevated at 0.88. CXR showed mild pulmonary vascular congestion. EKG showed atrial fibrillation with deep T-wave inversions in the anterolateral leads (V2-V6) during pain-free intervals and prolonged QTc of 505ms. Urine drug screen was positive for benzodiazepines. Coronary angiogram did not show significant obstruction in the left anterior descending (LAD) artery. It showed a mid-segment 80% obstruction of the left circumflex (LCX) artery at the bifurcation of the single obtuse marginal branch. There was poor flow through the arteries consistent with vasospasm and microvascular disease. The ejection fraction was estimated to be 40-45%.

The patient was medically managed for non-ST elevation myocardial infarction with recommendation for PCI if angina recurred. She remained symptom free on 6 months follow-up.

Discussion:
EKG findings of Wellen’s syndrome can be associated with transient vasospasm of the LAD. LCX artery occlusion is unusual and may not account for this sign. Further studies on risk classification are needed to preemptively differentiate Wellen’s syndrome due to vasospasm from fixed obstruction in patients that do not have a history suggestive of vasospastic angina.
Title: The Effusive Effect of Rivaroxaban

Introduction:
Effusive–constrictive pericarditis is uncommon and may be missed in obese patients. We report a rare case presenting as cardiac tamponade.

Case Report:
A 62-year-old moderately obese man with a history of atrial fibrillation on Rivaroxaban presented with dyspnea and abdominal pain of 3 days duration. The patient reported a 20-pound weight gain in one month despite compliance with diuretics. He was hypotensive. Physical examination revealed normal heart sounds, abdominal distention, 2+ pitting edema to the knees, and right upper quadrant tenderness. Jugular venous distention and a palpable liver were not elicited due to body habitus. BNP was 17 pg/ml. Troponins and EKG were normal. Blood work revealed renal insufficiency. Chest X-ray showed cardiomegaly with mild pulmonary vascular congestion. CT-abdomen was notable for moderate pericardial effusion. Urgent echocardiogram revealed a large pericardial effusion and signs of increased pericardial pressure. 890 mls of bloody fluid was drained on pericardiocentesis with return of pericardial pressure to zero. Right heart catheterization showed persistently elevated mean right atrial and ventricular diastolic pressures upon normalization of pericardial pressure. Diagnostic evaluation revealed the effusion to be idiopathic and the patient was stable upon discharge.

Discussion:
In obese patients without pathognomonic signs, low BNP and cardiomegaly on CXR are very specific for large pericardial effusions whereas very low BNP levels help to rule out heart failure. Anticoagulation can cause hemorrhagic pericarditis with tamponade even in patients without known risk factors. This risk is increased in the setting of acute kidney injury, particularly depending on the type of anticoagulant used.
INTRODUCTION: Bag-and-mask ventilation (BMV) is used to pre-oxygenate patients with respiratory failure prior to intubation. The inadvertent positive pressure used during bagging might lead to trauma to the upper and lower airways as well as the upper gastrointestinal tract.

CASE PRESENTATION:
A 69-year-old female was admitted to hospital for management of pneumonia. She was started on broad-spectrum antibiotics but her condition worsened and she had to be intubated. Immediately following intubation, she went into PEA-asystole arrest and was successfully resuscitated. A follow up chest x-ray (CXR) revealed a right sided pneumothorax and air under the diaphragm. CT chest, abdomen and pelvis revealed pneumomediastinum, pneumoperitoneum, and small amount of retroperitoneal gas. She underwent an exploratory laparotomy and thoracotomy, where no evidence of intra-peritoneal injury was found. She also underwent upper gastrointestinal endoscopy and bronchoscopy which didn’t reveal any esophageal or gastric tears, and tracheal rupture. The etiology was believed to be secondary to vigorous BMV.

DISCUSSION: Healthcare professionals usually provide high ventilation volumes in cardiac arrest patients using BMV. This may force air entry into the abdominal cavity by direct passage through microscopic diaphragmatic defects or through the mediastinum along perivascular connective tissue. The incidence of radiological pneumoperitoneum without actual viscus perforation is very rare. There are case reports of pneumothorax, pneumomediastinum and even gastric perforation as a complication of excessive and forceful ventilation. We advocate that medical professionals should be cognizant of this limitation of BMV and anticipate aforementioned complications in suggestive clinical setting.
Endogenous Hyperinsulinemic Hypoglycemia: Diagnostic Challenges and Treatment Dilemma

Introduction: Endogenous-hyperinsulinemic hypoglycemia, characterized by symptomatic hypoglycemia and inappropriate hyperinsulinemia is most commonly due to insulinoma. Nesidioblastosis and insulin autoimmunity are less frequently reported. We report the diagnostic and treatment challenges in a patient with endogenous hyperinsulinemic-hypoglycemia.

Case Report: A 50-year-old female with history of congenital hypogonadotropic-hypogonadism, growth hormone deficiency, and congenital gut malrotation was diagnosed with endogenous hyperinsulinemia following frequent hypoglycemic episodes and a positive 72-hour fasting test. Factitious hypoglycemia, insulin autoimmune syndrome, adrenal insufficiency and thyroid disorders were ruled out. Multiple MRI, pancreatic-protocol-CT, and endoscopic ultrasound studies failed to localize any lesions. There was a four-fold rise in the hepatic venous insulin concentration following selective intra-arterial calcium injection into the superior mesenteric artery. Due to congenital variant anatomy of pancreas, surgical treatment was not advised. Pharmacological therapy with somatostatin analog, diazoxide, and growth hormone were deferred due to her comorbidities. Severe hypoglycemic episodes were reduced with diet modification and steroids therapy. After 4 years she developed new onset hyperglycemia. Wide fluctuation in serum glucose concentrations (30 to 290 mg/dl) was observed during hospitalization at supervised unit without use of additional agents.

Discussion: To the best of our knowledge, insulin resistance and significant hyperglycemia have not yet been reported in patients with proven endogenous hyperinsulinemic hypoglycemia. However, animal studies demonstrated that prolonged exposure to exogenous insulin leads to insulin resistance, whether such similar hypothesis can apply to our patient is yet to be studied. We also highlight the limitations and challenges of localization studies in patients with congenital pancreatic anatomical variants.
Introduction

Pyoderma Gangrenosum (PG) is a rare neutrophilic dermatosis characterized by painful rapidly expanding noninfectious ulcers. There are few reported cases after laparoscopic surgery. Pathogenesis remains unclear but the phenomenon of pathergy in which trauma provokes skin lesions remains a plausible cause. We present a case of PG developing after robot-assisted laparoscopic prostatectomy and lymphadenectomy.

Case Description

A 69-year-old Caucasian male developed abdominal wall ulcers in four out of six port sites one week after robot-assisted surgery. Fearing an infectious etiology, he was treated with antibiotics which were escalated to vancomycin, meropenem and daptomycin due to rapidly growing violaceous ulcers. On post-op day sixteen, skin biopsy revealed neutrophilic infiltration of the dermis and subcutaneous tissue without evidence of infection, suggestive of PG. He was subsequently treated with oral prednisone, mycophenolate mofetil and topical tacrolimus with complete resolution of the ulcers in three weeks.

Discussion

Pyoderma Gangrenosum is associated with systemic diseases including inflammatory bowel disease, rheumatoid arthritis, certain hematological and solid malignancies or following trauma or surgery. It begins as a tender papule that rapidly expands by one to two centimeters a day. Often mistaken for an infectious ulcer, it can lead to inappropriate antibiotic use and surgical interventions. Surgical debridement is not indicated for PG, and in fact, can lead to enlargement of the lesions and delayed healing. Association with laparoscopic surgery is rare likely due to less trauma. Despite its rarity the clinician’s awareness and timely diagnosis can help change the course of treatment and improve mortality.
Introduction:

Acute cholecystitis is associated with cystic duct obstruction and subsequent ischemia and inflammation of gall bladder (GB). Usual microorganisms associated with cholecystitis are the gut flora like Escherichia Coli, Enterococci and anaerobes. Staphylococcus aureus (SA) is a rare isolate from GB.

Case report:

A 73 year-old-female was admitted with complaints of right upper quadrant (RUQ) abdominal pain associated with fever and nausea. Her history was significant for cirrhotic liver disease. She had RUQ tenderness without any rebound on exam. Her labs revealed total bilirubin of 3 with normal chemistry and blood counts. Her CT scan of abdomen was suggestive of acute cholecystitis and the HIDA scan confirmed it. She was deemed a poor surgical candidate for cholecystectomy and she underwent percutaneous drainage of the GB. She was also started on ciprofloxacin and metronidazole empirically but her condition didn’t improve. The cultures from GB drainage revealed SA. Her repeated blood cultures were negative. She was started on vancomycin and her clinical condition improved.

Discussion:

SA is typically associated with skin and soft tissue infections and biliary isolation of SA is rare. Most cases with SA cholecystitis described previously also had SA bacteremia and had seeding of GB. Kim et al reported a case of SA cholecystitis in an HIV patient stating the importance of immunosuppression in developing SA cholecystitis. We believe cirrhosis mediated immune dysfunction in our patient put her at increased risk of developing SA cholecystitis. We advocate that physicians must be mindful of this occurrence and consider empiric therapy against SA in immunosuppressed patients presenting with cholecystitis.
Introduction:

Ureteropelvic junction (UPJ) obstruction is usually intrinsic and is most common in children. Aberrant renal arteries are present in about 30% of adult individuals. Aberrant renal arteries to the inferior pole cross anterior to the ureter and may cause hydronephrosis, which if left untreated can potentially lead to loss of kidney tissue. We present a unique case of a young female with chronic abdominal pain and hydronephrosis due to aberrant renal artery that was missed on several hospital visits.

Case report:

A 25-year-old female presented with a 2-day history of right-sided abdominal pain, nausea and vomiting. She had multiple emergency department visits for lower back pain for the last 3 years. CT scan of abdomen showed right advanced chronic hydronephrosis secondary to UPJ stenosis. Labs revealed normal renal functions. UPJ stenosis was found to be chronic on further review of prior CT scan done approximately 1 year ago. She underwent nuclear MAG3 renal scan which showed obstructed right kidney with 35% functioning. CT with contrast showed right aberrant renal artery supplying the lower pole of the right kidney crossing over and causing UPJ stenosis. Surgical pyeloplasty was planned.

Discussion:

The symptom of vascular UPJ obstruction may include colicky mid-abdominal pain, nausea and vomiting. Early hydronephrosis can be subtle and lead to delayed diagnosis with potential loss of renal functions. Patients can be mislabeled as drug-seeking. This patient had chronic back pain for many years which could be due to the aberrant renal artery causing UPJ stenosis. Early diagnosis using CTA/MRA can prevent irreversible renal damage.
Introduction:

Lupus anti-coagulant (LA) is an antibody directed against plasma proteins that binds to the phospholipids of the coagulation cascade. The clinical picture of LA disorders encompasses both ends of the coagulopathy spectrum but predominantly presents as a pro-thrombotic condition. We report a rare case of LA disorder presenting with bleeding diathesis.

Case Presentation:

A 65-year-old male underwent vascular repair for a pseudoaneurysm of left brachiocephalic arteriovenous fistula. During surgery he was noted to have excessive bleeding and also postoperatively, he continued to ooze from the surgical site. His labs revealed PT of 33.5, INR of 3.3, and PTT of 53.7; mixing studies showed no correction of PTT or PT. His thromboplastin-inhibition assay and hexagonal-lipid neutralization test were positive and he had mildly decreased levels of factors XI, IX, and V with normal levels of other factors. His rheumatological panel didn’t reveal any antibodies. LA hypoprothrombinemia syndrome (LAHPS) was deemed to be the most likely cause but unfortunately, he wasn’t aggressively treated as per family’s wishes.

Discussion:

Isolated LAHPS is an extremely rare condition with only a handful of cases reported. LAHPS is commonly associated with systemic lupus erythematosus and has been reported in young females. It can cause life-threatening hemorrhages and thus being cognizant of this rare entity is crucial. High-dose steroids are considered the first-line therapy and there is debate about second-line and maintenance therapy. To the best of our knowledge, this is the first reported case of LAHPS in an elderly (age>60) male.
Diabetes represents an overwhelming health burden on the United States (US) adult population. Diabetes management should be a team approach and referrals for diabetes self-management education (DSME) and diabetes self-management support (DSMS) should be the basis of initial diabetes management. The indolent nature of the disease process also makes patient education paramount in understanding how to properly manage and prevent complications of diabetes. Our primary outcome in this Quality Improvement project was to examine the rate of utilization of our certified diabetes educators (CDE) between our academic primary care and endocrine clinics for people with uncontrolled type 1 or type 2 diabetes. Our secondary outcome was to compare changes in HbA1c level between patients who received diabetes education and those who did not at 6 month and 12 month follow-ups after initial CDE visit.

Of the 138 total patients, 79 were part of the primary care clinic and 59 were part of the endocrine clinic. 51.9% of the primary care patients were given referrals for diabetes education but only 21.6% of the 79 patients followed up with a CDE. In comparison, 52.5% of the patients from the endocrine clinic were given a referral for diabetes education, however, only 30.5% of the 59 patients saw one. These differences in referral or visit rates between clinics were not statistically different.

With regard to our secondary outcome, for those individuals who saw a CDE, the mean difference (SD) between baseline A1c and A1c at 6 months was -1.23 (2.94). For all patients who did not see a CDE, the mean difference at 6 months was - 0.546 (1.97). When comparing A1c from baseline to 12-month follow-up, the mean difference for those who saw a CDE was -1.17 (2.85) compared to a mean difference of -0.837 (2.04) for those who did not see a CDE. All differences were statistically significant.

Diabetes self-management education (DSME) and diabetes self-management support (DSMS) are underutilized at both of our academic primary care and endocrine clinics. To address poor referral rates by health care providers of patients with uncontrolled diabetes to the CDE, solutions include educating health care providers on services provided by the CDE or implementing automated prompts within the electronic medical record to generate a referral to the CDE if it is identified that the patient has an uncontrolled A1C. We aim to raise provider awareness to services offered by CDEs and facilitate identification and referral of individuals with uncontrolled diabetes. We hope to increase the utilization of CDE services to enhance interdisciplinary management approach of individuals with uncontrolled diabetes with the goal of improving diabetes care.
Improving the Rate of Influenza and Pneumococcal Vaccination in a University–Based Teaching Clinic using a Simple Reminding System

**Introduction:**
Every year, influenza and pneumococcal infections contribute to severe illness and significantly increase hospitalizations. Vaccination rates for these infections have been noted to be sub-optimal; however, our study has shown that with the use of effective reminders in practice, the rates of vaccination against these illnesses can be improved upon.

**Methods:**
We conducted a prospective observational study in adults 65 years of age or older. There was a pre-intervention phase which acted as a control, and a post-intervention phase which served as comparison. Interventions included electronic reminders or staff-driven personal reminders. Inclusion criteria consisted of any patient who had been seen in our clinic and was age 65 years or older. Exclusion criteria for one or all of the vaccinations included documented refusal in the medical record, or ineligibility for a pneumococcal vaccine due to instructed dosing intervals. Data was obtained to a total sample size of 200 visit encounters. Pre-intervention dates ranged from December 15, 2015 through January 22, 2016. The intervention period began on January 25, 2016 and ran through February 17, 2016. These dates were chosen to incorporate flu vaccination season. The study data was obtained from our Electronic Health Record (EHR). Variables included patient’s gender and age, resident physician’s firm and level of training, and presence of egg allergy. We used Chi-squared and Fisher exact tests for statistical calculations to generate p-values for comparisons.

**Results:**
The rate of influenza vaccination improved from 62.63% to 78.49% in the intervention group \(P=0.016\). Improvement was mainly noted in the personally-reminded case group \(P=0.023\). There was improvement in both PCV13 and PPSV23 vaccination rates from 67.78% to 78.65% in PCV13 and from 78.75% to 88.89% in PPSV23 groups. These improvements failed to reach statistical significance likely due to our study being underpowered. In the patient gender subsets, significant values were found for improvement in the rates of PCV13 vaccination in males \(P=0.037\) and flu vaccination in female patients \(P=0.021\). In the resident physician training year subsets, third year residents were the only group to show statistically significant improvement in flu vaccination \(P=0.013\).

**Conclusions:**
Vaccination rates showed a trend of improvement after implementation of a reminder system. One of the limitations of our study was its small sample size which we believe led to the failure to reach statistical significance despite the improvements that were noted. Overall, vaccination rates can be improved with appropriate attention to preventative care guidelines, teaching efforts, and a collaborative effort by all staff in the healthcare setting.
A 54-year-old woman with a medical history significant for hypertension and diabetes with neuropathy presented with (acute) left-sided weakness and neglect. Exam showed left decreased blink to threat, right gaze deviation, left hemi-neglect, left facial droop, dysarthria, decreased left facial sensation, drift in the left upper and lower extremity, and an upgoing left toe. Serum blood glucose on arrival was 727 mg/dL. NIHSS on arrival was 15 and ASPECTS was 8-9. CT head without contrast was negative for bleed or ischemia. Angiography performed 5 hours after symptom onset showed no large vessel occlusion. MRI showed possible ischemia of the central pons and no acute infarct, which stroke team noted was possible with profound hyperglycemia. EEG showed no seizure activity. TTE with bubble study was negative for PFO or thrombus. Patient was placed on an insulin drip with improvement of stroke-like symptoms as hyperglycemia trended down. Subsequently, there was complete resolution of symptoms after normalization of serum glucose.

Prior to this case, only one instance of hyperglycemia mimicking left MCA stroke has been documented. This case provides further substantiation that severe hyperglycemia may uncommonly lead to stroke-like symptoms mimicking a stroke. Additionally, the prior report found at least one area of ischemia on magnetic resonance (MR) perfusion that was not consistent with the patient’s findings, similar to the case presented here. This case shows that the severe metabolic derangements secondary to severely elevated blood glucose may lead to MR changes that mimic ischemia in areas not consistent with presenting symptomatology.
Introduction:

Push enteroscopy (PE) and video capsule endoscopy (VCE) are both suggested diagnostic methods to investigate the small bowel in the setting of overt obscure GI bleeding (OGIB). VCE is often chosen for its well-established diagnostic yield, yet this could lead to prolonged hospital stay and delayed therapeutic intervention. We aim to describe the incidence of bleeding lesions identified by VCE that are potentially reachable by PE in patients hospitalized with overt OGIB.

Methods:

397 VCE reports of patients hospitalized at a single tertiary-care center between January 2013 and April 2016 were retrospectively reviewed. Thirty-six reports fulfilled initial screening criteria: indication being overt OGIB (with unrevealing repeat esophagogastroduodenoscopy and colonoscopy), presenting symptom described as melena or hematochezia, and VCE successfully completed with an identified culprit of bleeding. Four of the 36 patients had post-surgical anatomy and were excluded. The remaining 32 cases were included in this study. The locations of bleeding sources were estimated based on time measurements during VCE. These were classified as being likely accessible by PE if they were estimated within the proximal 90 cm of the small bowel.

Results:

Thirty-one percent (10/32) of cases identified culprit lesions that were likely accessible by PE. There was no significant association between the location of the bleeding lesions and common clinical or lab variables such as low hemoglobin (<8 gm/dl), high BUN/creatinine ratio (>20), use of NSAID/antiplatelet/anticoagulant, alcohol abuse, tobacco use, and type of lesion.

Conclusions:

Almost one-third of patients with overt OGIB presenting with melena/hematochezia and identifiable VCE lesions were found to have sources of bleeding potentially reachable by PE. Although the current guidelines leave the choice between a repeat esophagogastroduodenoscopy and PE to the provider, our findings suggest no identifiable factors that could guide the endoscopist’s choice in this matter. Given our results, we suspect that proceeding with PE instead of a second esophagogastroduodenoscopy in hospitalized patients with overt OGIB presenting with melena/hematochezia may prove to be more timely and cost-effective from a therapeutic standpoint before proceeding with VCE. This assumption will yet require prospective confirmation.
New EMR results in new anxieties – but do we need to order more STAT Labs?

Introduction:
In late January 2016, the launch of EPIC in Allegheny General Hospital resulted in significant amount of physician anxiety. Physicians had less familiarity with the new EMR which could result in new patient management behaviors. We assessed the number of STAT labs ordered for 3 months after the launch of EPIC and found an increase of almost 140% from previous measurements.

Methods and Results:
We assessed the total number of STAT labs ordered at 3 different time points over March 2015 to March 2016 on 3 separate high acuity floors of the hospital. The STAT lab orders were recorded in a prospective fashion on Internal Medicine resident covered patients on two monitored and one stepdown unit. At each point, the residents were blinded to the study.

Before EPIC implementation, a total of 39 STAT lab orders (14 CBC, 11 BMP/CMP, 5 Troponin I/Troponin T, 9 Protime-INR) and 38 STAT lab orders (13 CBC, 14 BMP, 3 Troponin I/Troponin T, 8 Protime-INR) for a total of 27 patients in March 2015 and 24 patients in January 2016 respectively. The total turnaround time (TaT) for STAT labs, from the time of order placement to resulting, was calculated to be 107mins in March 2015. In March 2016, 33 CBCs, 39 BMPs, 10 Trops and 10 PT/INRs were ordered on 58 patients with a TaT of 135mins (p=0.374). The total number of labs ordered Post EPIC go live was increased by 271%.

To evaluate for the impact of patient volume on our data, we calculated the total number of patients on these floors during the months of the study. In March 2015 there were 2479 patients, 2521 in January 2016 and 2094 in March 2016 (Post EMR implementation), that transitioned through these floors. Hence, despite a lower number of patients, a significantly higher number of STAT lab orders were placed post new EMR implementation.

Conclusion:
We describe a striking increase in STAT lab orders after the implementation of a new EMR. There are several possible reasons for this, including unfamiliarity with ordering routine labs, or apprehensions regarding turnaround time. The impact of this change in behavior can be wide reaching. Delays in turnaround time, increased in work of phlebotomy teams, diversion of resources, and increased costs are some of the potential downstream effects. It may be beneficial in future EMR roll-outs to also anticipate and plan for a change in ordering practices.
INTRODUCTION
Chronic liver disease (CLD) is becoming increasingly prevalent in the United States. Previous studies have shown that Hepatitis A and B infection superimposed on CLD is associated with worse clinical outcomes. The Advisory Committee on Immunization Practices recommends that all patients with CLD should be vaccinated against Hepatitis A and B.

METHOD

- 300 patients with a known diagnosis of CLD were included in the study from January, 2013 to December, 2014 via retrospective chart review.
- Patients with documented positive titer for Hepatitis A IgG antibody and HBsAb IgG were considered “immune”. Patients with a documented negative or sub-therapeutic titer were considered “non-immune”.
- For the patients that these titers were unavailable, were considered to have an “unknown status”.
- In the second step, patients who were not found to be immune were called to identify barriers for vaccination. Based on these patient reported barriers and literature review, interventions were devised.

Results

Hepatitis A immunization status: Immune (27%), Non-immune (22%), Unknown (51%). Hepatitis B immunization status: Immune (26%), Non-immune (25%), Unknown (49%).

Of the non-immune and unknown, Hepatitis A vaccine was recommended in 35% and Hepatitis B vaccine in 36% patients.

Follow-up calls to the non-immune and unknown status groups to identify barriers for vaccination revealed the following results: 12% patients forgot at PCP’s office, 33% didn’t recall being advised & 55% gave no specific reason.

Interventions:

The above data proved that Hepatitis A and B immunization in patients with chronic liver disease is suboptimal even in a tertiary care, sub-specialty center. Based on the above, we devised the following interventions:

1) Hepatitis A and B vaccination recommendation for CLD patients in the electronic health record as a Best-Practice Advisory.
2) A user-friendly order set that includes orders for titers and vaccinations
3) Availability of Hepatitis A and B vaccinations in the sub-specialty clinic

Discussion:

Hepatitis vaccination rates were found to be suboptimal even in the tertiary care sub-specialty setting. A process map of improving vaccination rates based on a PLAN-DO-STUDY-ACT (PDSA) format has been developed and areas of improvement have been identified. A follow-up post-intervention data collection will be performed to assess improvement in vaccination rates in 6 months time.
Adherence to American College of Rheumatology Immunization Recommendations for Rheumatoid Arthritis Patients in a Tertiary Care Health System and Opportunities to Close the Gap

Background: American College of Rheumatology (ACR) 2015 guidelines for the treatment of rheumatoid arthritis (RA) include recommendations for immunization against influenza, pneumococcus, hepatitis B (Hep B) and herpes zoster (HZV). The guidelines also recommend the indications and timing of administration of these killed vaccines (pneumococcal, influenza and Hep B), and live attenuated HZV vaccinations. The aim of our study is to measure adherence rates to these ACR immunization recommendations in rheumatoid arthritis patients in our tertiary health care system based rheumatology practice and to identify opportunities to close the gap, if any.

Methods: A retrospective review of the electronic health record (EHR) was performed to identify consecutive adult RA patients from January 1, 2016 to March 31, 2016 whose primary care physician (PCP) was within the affiliated health care system. Influenza vaccinations were captured only for the 2015-2016 flu season. In addition to the ACR recommendations for pneumococcal vaccinations, we determined the number of RA patients receiving the entire Advisory Committee on Immunization Practices (ACIP) recommended pneumococcal vaccination series. EHR review keywords included “vaccination,” “immunization,” “pneumococcal”, “flu”, “hepatitis”, “zoster” and whether vaccinations were offered, or refused by the patient.

Results: A total of 85 adult RA patients were identified. The mean age was 61.5 yrs, 84.7% were female, 85.9% were Caucasian, and the mean duration of RA was 7.3 yrs. 82.4% were on a traditional DMARD, and 27.1% on a biologic DMARD. One patient was allergic to the influenza vaccination and was excluded. Of the remaining 84 patients who met the indications for influenza vaccination, 60.7% received the vaccination. 3.6% patients were offered the influenza vaccination but did not end up receiving it, and 10.7% refused vaccination. 52.9% of all RA patients received the pneumococcal vaccine. Of the three patients identified as being both at risk for Hep B (i.e. healthcare workers, intravenous drug abuse history and/or multiple sexual partners in last 6 months)and susceptible (anti-Hep B surface antibody negative), only one patient was subsequently vaccinated (33%). 29.2% of RA patients ≥ 50 years of age received the HZV vaccination. One HZV vaccine was deferred by the PCP secondary to prior initiation of immunosuppressant therapy. 16.7% received the entire ACIP recommended pneumococcal vaccination series.

Conclusion: At our tertiary health care system rheumatology clinic, rates of adherence to ACR recommendations for vaccinations are sub-optimal. Some limitations of our data include vaccinations potentially received outside the clinic setting (e.g. pharmacies and retail stores), individual clinic vaccine stocking schedules and supplies, and vaccinations recorded prior to the July, 2015 launch date of our EHR, leading to attrition of data. Analysis of care gaps and future steps include vaccination guideline education, EHR integration of reconciliation and new vaccination orders, and subsequently re-measure adoption and adherence.
Introduction: Hospice and palliative medicine has seen substantial growth in the past few years. In 2014, the National Hospice and Palliative Care organization estimated that 1.6-1.7 million Americans received hospice services, an increase of nearly 20% from the year 2010. Approximately 20-25% of hospice patients have the functional ability to drive. The increasing number of patients served by hospice and palliative services makes the issue of driving safety more important than ever as many patients have multiple risk factors for impaired driving. In 2014, there were more than 70,000 nursing full-time equivalents (FTEs) in the hospice sector. Because nurses practice at the front-line of care, they have an integral role in determining whether patients have the ability to drive safely. Our objective was to examine the teaching practices and attitudes of Hospice and Palliative Nurses Association (HPNA) certified nurse educators regarding driving safety for patients receiving hospice or palliative medicine services.

Methods: An anonymous, cross-sectional email survey was sent to the 276 Hospice and Palliative Nursing Association (HPNA) certified nurse educators. A reminder email was sent after 7 and 14 days. The outcome measured was self-reported teaching practices and attitudes towards driving safety for patients receiving hospice or palliative medicine services.

Results: 126 (46%) nurse educators responded. A large majority (90%) either strongly agree or agree that teaching nurses how to determine whether a patient is at-risk for impaired driving is important. A minority, however, reported educating nurses on how to 1) determine if a patient is at-risk for impaired driving (18%) 2) counsel patients about impaired driving (21%), and 3) report potentially impaired drivers to the proper authorities (21%). Most nurse educators do not feel confident in their ability to teach nurses on the topic of impaired driving (38%) but are receptive to further education (87%)

Conclusion: HPNA nurse educators believe the topic of patient driving safety is important. Most, however, do not teach the topic to learners nor do they feel confident in their ability to teach the subject. There is a need for further education of HPNA nurse educators in the area of patient driving safety.
Primary Cardiac Lymphoma (PCL) is a rare malignancy and accounts for about 1% of the primary cardiac tumors and 0.5% of the extranodal lymphomas. Cases of primary cardiac lymphoma (PCL) have atypical presentations and are primarily seen in immunocompromised patients. We present a case of primary cardiac NHL in an immunocompetent patient.

A 63 year old woman with a previous history of CAD, and CHF presented with worsening dyspnea of one day duration. She denied having any B-symptoms. Examination revealed JVD, crackles, and pedal edema. Laboratory data showed negative troponin, pro-BNP of 3879 pg/ml, WBC of 7.33 cells/ml with a normal differential. ECG showed NSR without acute ST segment changes. Echocardiogram showed a pericardial effusion with tamponade physiology. 667 ml of pericardial fluid was drained. Fluid analysis revealed 1375000/mcl RBC, 16125/mcl WBC, albumin of 2.8g/dl, protein of 4.7g/dl and LDH of 9980U/L. Cytological analysis showed atypical lymphoid infiltration consistent with a large B cell lymphoma. CT showed multiple pericardial masses, mediastinal lymphadenopathy, mild splenomegaly and a small pleural effusion. FISH analysis was positive for BCL6 and MYC partial deletions, but negative for BCL2 rearrangements. Emergent therapy with Da-R-EPOCH was initiated.

PCL is a rare malignancy, often associated with immunocompromised states. Delays in diagnoses are frequently due to atypical presentations. Imaging modalities can help identify high risk lesions which may require invasive diagnostic procedures. Cytological analysis of the pericardial fluid can be diagnostic of PCL and, once confirmed, PCL should be treated as an oncological emergency.
**Clostridial perfringes (CP) sepsis can produce life threatening hemolysis with mortality rates as high as 70%. Hemolysis is mediated by the alpha toxin, a phospholipase that disrupts RBC membrane. It can be reversed by rapid diagnosis and treatment. We present one such case of sepsis due to CP endometritis.**

A 35-year-old Caucasian female presented with abdominal pain, nausea, vomiting. The previous day, she had a tubal ligation with IUD removal. On presentation she was febrile and physical exam revealed scleral icterus and epigastric tenderness. Labs results showed acute kidney Injury (AKI) with Cr 4.0mg/dl, transaminitis and hemolytic anemia-Hb 10.1g/dl, LDH 1910U/l, Haptoglobin 14.7mg/dl, absolute reticulocyte count of 0.162 m/mcL. Her fena was less than 1.5%, pointing toward a pre-renal AKI. Blood cultures returned positive for CP. A CT revealed extensive gas within the endometrium raising suspicion for endometritis and a trans-vaginal ultrasound showed increased echogenicity in the endometrium. DIC panel was negative and the absence of schisotocytes in the peripheral smear ruled out TTP-HUS. A negative Coombs test excluded autoimmune hemolytic anemia and an extensive liver disease panel was negative. The patient was diagnosed with sepsis due to CP endometritis which resulted in massive hemolysis, AKI, and liver dysfunction. She was aggressively hydrated and treated with Unasyn for 7-days and was sent home on a three-week course of Augmentin. On discharge all her lab parameters normalized. In septic patients with hemolysis, CP infection should be on the differential since prompt diagnosis and treatment can prevent fatalities.
“Sciatica” A rare presentation of Leptomeningeal B Cell Lymphoma

B cell Lymphoma with leptomeningeal involvement in an immunocompetent patient masquerading as sciatica is a rare entity, making it an interesting diagnostic challenge.

We encountered a 64 year old male presenting with progressive lower extremity pain and weakness. He had been diagnosed with sciatica one year earlier, and two lumbar MRIs during that time were unrevealing. On presentation he had significant sensory and motor weakness in the right lower extremity with abnormal reflexes. Initial workup, including B12, TSH, SPEP, UPEP, ANA, HIV and extensive rheumatologic testing was unremarkable. EMG revealed subacute neuronal degeneration of the lower extremity. An MRI of the lumbar spine showed significant leptomeningeal enhancement at L4-L5 and a soft tissue mass. A lumbar puncture and CT guided biopsy were performed. Flow cytometry of the CSF showed findings of clonal CD10+ B lymphoproliferative disorder. The biopsy confirmed B cell lymphoma with aggressive features. Further imaging ruled out distant metastases.

Systemic and intrathecal chemotherapy was initiated. Repeat LP and MRI showed clearing of malignant cells and reduction of the paraspinal mass. Our patient had a marked improvement in motor and sensory function with complete resolution of his lower extremity pain.

This case illustrates an unusual presentation of B cell Lymphoma with leptomeningeal involvement in an immunocompetent adult, initially presenting as sciatica with negative MRI imaging.

Although peripheral CNS involvement is a rare presentation of B cell lymphoma; diagnosis and timely therapy can result in a favorable outcome.
Moyamoya disease: puff of smoke in the air

Moyamoya disease is an idiopathic progressive vasculopathy of distal internal carotid artery and circle of Willis which leads to the development of characteristic smoky appearance of the vascular collateral network on angiography. With the highest reported incidence among Japanese population, it has been under recognized as a cause of cerebrovascular accidents in Western countries.

A 20 year old Caucasian female presented to the hospital with a three day history of lethargy, expressive aphasia, right arm numbness and weakness. On exam, she was oriented to time and place, and demonstrated expressive aphasia with slurred speech. Strength was 3/5 in right upper extremity with no other focal deficits. Blood work did not reveal any abnormalities or comorbidities. Computed Tomography of the head showed subtle areas of decreased attenuation within the deep white matter of the left frontal lobe. Magnetic resonance imaging of brain showed bilateral multiple foci of subacute infarcts. Magnetic resonance angiography (MRA) of head revealed obliteration of the bilateral supraclinoid internal carotid arteries with anterior cerebral arteries reconstituting via pial collaterals. A1, P1, and M1 segments of Anterior, posterior and middle cerebral arteries respectively could not be visualized on MRA establishing the diagnosis of Moyamoya disease. Patient underwent superficial temporal and middle cerebral artery bypass surgery with improvement in her deficits except for minimal aphasia.

Moyamoya disease, though rare, should be considered as a differential for patients with cerebrovascular disease who lack the usual risk factors and comorbidities.
Cardiopulmonary arrest post rapid infusion of glucocorticoids

Introduction: Glucocorticoids play a vital role in the management of transplant and autoimmune conditions. Immediate hypersensitivity reactions to parenteral glucocorticoids are uncommon but are often life-threatening. We report a case of immediate hypersensitivity after parenteral glucocorticoid administration. Case report: 52-year-old female was admitted for acute encephalopathy. She was recently treated for Herpes Encephalitis with acyclovir for 14 days and had a good neurological outcome. Extensive workup was done during current admission were all negative. Given her history of positive lupus anticoagulant, neurology recommended starting her on high dose IV steroids for concern of autoimmune encephalitis. Patient received one dose intravenous methylprednisolone 500 mg. Minutes after the infusion was started, patient was unresponsive and was found to be in asystole; ACLS protocol resuscitation was continued with return of spontaneous circulation. She was maintained on inotropic support and a work up for cardiac, pulmonary conditions or electrolyte abnormalities to explain the cardiac arrest were inconclusive. She subsequently suffered from anoxic brain injury and had her care withdrawn. Discussion: Immediate hypersensitivity reaction to glucocorticoids has been rarely reported in literature with an incidence of ≥0.1% after the parenteral administration. They vary from mild symptoms to severe anaphylactic reaction, respiratory arrest and death. Acute cases should be treated with fluid resuscitation, antihistamine, epinephrine. Conclusion: Clinicians should be aware of the immediate and delayed hypersensitivity reaction to steroids and should always consider it as a differential diagnosis when there is worsening of symptoms during treatment with the same.
Pyoderma Gangrenosum Post-robotic Prostatectomy

Introduction:
Pyoderma gangrenosum (PG) is a rare, inflammatory and ulcerative skin disease that affects 3-10 per million people annually. Post-operatively, PG develops as erythema and extreme pain at the surgical site, usually within 2 weeks. This precedes wound dehiscence and ulcer formation. It is more common in females. We report an interesting case of PG in a male patient, presenting as a postoperative wound infection.

Case:
A 69-year-old Caucasian man, diagnosed with prostate adenocarcinoma, underwent robotic prostatectomy. On the seventh post-operative day, he developed mild redness and discharge from the surgical incision and was treated with Augmentin for cellulitis. On the tenth post-operative day, the patient was hospitalized for increasing wound drainage, erythema and worsening infection at two other incision sites. Lab work revealed leukocytosis, hepatitis and autoimmune work-up was negative. CT-abdomen showed post-operative changes without significant pathology. The patient received empiric broad-spectrum antibiotics. PG was suspected due to non-healing wound. Wound biopsy showed necrosis with extensive inflammation. He was treated with Prednisone, Mycophenolate mofetil and Tacrolimus ointment with significant clinical improvement.

Discussion:
The vast majority of patients, who develop PG, have an underlying systemic disease such as rheumatologic disease, inflammatory bowel disease or hematologic disorder. Post-operative PG should be suspected in a patient without underlying disease. Diagnosis depends on suggestive clinical history, histo-pathological findings and exclusion of other inflammatory conditions. Immunosuppressive therapy remains the mainstay of treatment. This case highlights the importance of early recognition of postoperative PG, even minimally invasive surgery, which will prevent unnecessary antibiotic use, wound debridement and morbidity.
Primary bone lymphoma (PBL) is a rare form of extra-nodal lymphoma, with majority being diffuse large B-cell lymphoma (DLBCL) type. The frequent sites are femur, pelvis, humerus, skull and tibia. It commonly presents as bone pain, swelling, pathological fracture and type ‘B’ symptoms. We present a case of PBL causing hypercalcemia that was diagnosed late due to its uncommon presentation.

An 81 year old female presented with confusion, chronic right lower extremity pain and swelling but ability to bear weight. Lower extremity dopplers showed no thrombosis, but a Bakers cyst. Investigations revealed normal creatinine, normocytic normochromic anemia and hypercalcemia of 14.7 mg/dl. Serum and urine electrophoresis were normal. Hypercalcemia workup revealed low parathyroid hormone (PTH), normal PTH related peptide and imaging revealed left renal hypervascular mass concerning for carcinoma. Attributing the hypercalcemia to suspected renal carcinoma, she was treated with hydration, bisphosphonates, calcitonin and planned for a radical nephrectomy. Few days later she developed acute worsening of leg pain and lower extremity weakness. X-ray revealed permeative destruction, diaphyseal fracture of fibula and elevated compartment pressures in the leg for which she underwent emergent surgery. Pathology of fibula showed DLBCL and staging PET scan showed no hyperactive regions or lymphadenopathy, except in kidney and fibula.

This case highlights two concurrent cancers in a patient with hypercalcemia. The bone involvement was missed due to its atypical involvement in fibula, a non-weight bearing bone, chronicity of leg pain with ability to ambulate and another malignancy. Isolated PBL is very rare, often diagnosed late.
Chronic Sarcoidosis Complicated by Disseminated Cryptococcosis - A Unique Case Report

Cryptococcosis is a known opportunistic infection which usually occurs in immunocompromised patients. In a non-HIV immunocompromised patient, the incidence of Cryptococcosis is 0.8 in 100,000 patients. Primarily, T-cell mediated immunity combats Cryptococcosis. Glucocorticoids causes deregulation of T helper cells, leading to poor outcomes in patients with Cryptococcal infection. We present a rare case of disseminated Cryptococcosis in a patient with Sarcoidosis on chronic high dose steroids.

77 year-old Caucasian farmer with history of pulmonary Sarcoidosis on chronic prednisone presented with dyspnea on exertion that started two weeks ago. It was progressively worsening. Computed Tomography (CT) of the chest showed right sub pleural consolidation and perilymphatic nodules. CT-guided biopsy with culture revealed Cryptococcus Neoformans in addition to non-caseating granulomas. Blood cultures were positive for Cryptococcus as well. His hospital course was complicated by altered mental status and on work-up was diagnosed with Cryptococcal meningitis. A diagnosis of disseminated Cryptococcosis was made. He was started on induction therapy with Flucytosine and Amphotericin B. The Magnetic Resonance Imaging (MRI) of brain demonstrated new findings of meningeal enhancement and a Dural-based mass. Inability to rule out Neurosarcomatosis resulted in a plan to repeat MRI brain in 6-8 weeks.

This case highlights the importance of early recognition of Cryptococcal infection in a patient with Sarcoidosis. Failure to recognize it may result in dissemination. Treatment can be complicated in the setting of chronic steroids. Clinicians should maintain a high suspicion of Cryptococcal infection in a clinically worsening Sarcoidosis patient with no other obvious cause.
We encountered a 71-year-old female who is a Jehovah’s Witness with Cardiomyopathy, ESRD on peritoneal dialysis, with a remote history of gastric bypass and chronic macrocytic anemia presenting with generalized weakness. She was initially diagnosed with anemia; baseline Hemoglobin of 10gm/dl in 2003, when she underwent extensive work up including endoscopy, colonoscopy and bone marrow biopsy with normal findings. She was started on parenteral iron and erythropoietin three times a week; with minimal improvement in her hemoglobin. She remained persistently anemic causing a rapid deterioration in her functional status. Physical examination on presentation revealed conjunctival pallor. Extensive work up including iron studies, vitamin B12, folate, hemolytic panel were all normal. Eventually, given her history of Gastric bypass, copper level was checked, which was significantly low at 38. Her functional status dramatically improved following IV and oral copper replenishment and her hemoglobin increased from 6gm/dl on admission to 10gm/dl in 4 weeks.

This case illustrates the importance of encompassing rare causes in the differential of common clinical scenarios. Anemia is a hematological hallmark of Copper Deficiency; however, the infrequency with which it is encountered makes copper deficiency a formidable diagnostic challenge. Conditions associated with hypocupremia include parenteral hyperalimentation, post surgeries such as gastric resection and gastric bypass, protein-losing enteropathies, hypoproteinemnic states like celiac disease, and it is also seen as a complication of high dose zinc and penicillamine supplementation. Timely recognition is critical to institution of appropriate therapy and prevention of devastating consequences.
Introduction: Syncope as an initial presentation of pulmonary embolism (PE) occurs in 10% of patients. Presence of confounding factors can further delay the diagnosis with catastrophic outcomes.

Case: 64-year-old female with metastatic breast cancer on trastuzumab, liver cirrhosis complicated by portal hypertension was started on nadolol a day before her presentation with orthostatic syncope and systolic blood pressures in 90s. The admitting diagnosis was syncope and hypotension related to nadolol. Troponin and chest x-ray were normal. Her EKG revealed a right ventricular strain pattern unchanged from baseline. Despite aggressive fluid resuscitation, she got progressively hypotensive and hypoxic needing intubation and vasopressors. TTE revealed EF of 55%, severe pulmonary hypertension, severe TR, and severely dilated and hypokinetic right ventricle with McConnell’s sign (apical sparing) indicative of acute PE. Patient went into PEA arrest and while performing CPR, heparin and tPA given without any revival.

Conclusions:

1) Pulmonary embolism should always be considered in patients presenting with syncope. Patients with pulmonary embolism who present with syncope are more likely shown to have a main pulmonary artery embolus.

2) Atypical presentations warrant metacognition and Type 2 processing. In our case, factors such as nadolol intake, baseline right ventricular strain pattern on EKG, and normal right heart catheterization a month ago, were assimilated through anchoring and confirmation bias into premature closure.

3) Echocardiography is a helpful alternative for rapid diagnosis of acute massive pulmonary embolism associated with cardiovascular collapse, especially when a delay to CT pulmonary angiogram may be anticipated.
A 68-year-old Caucasian female with a history of cholelithiasis presented with right upper quadrant abdominal pain and intermittent dark urine after a fatty meal. Lab results showed elevation of alkaline phosphatase. Ultrasonogram revealed a cystic mass causing extrinsic compression on the common hepatic duct (CBD) and bilateral intrahepatic dilation. Subsequently, a CT scan showed a thin walled cystic lesion encompassing almost the entire caudate lobe. However, when Endoscopic retrograde cholangiopancreatography (ERCP) with cholangioscopy was performed, it revealed a 2cm cystic lesion with its stalk in the proximal right main hepatic duct. Close inspection and manipulation of the mass showed that it was mobile causing obstruction to the right and intermittently to the left system. As endoscopic removal was not feasible, she underwent common bile duct exploration to remove the mass in bile duct. Pathology was consistent with benign hepatobiliary cystadenoma. Patient did well post-op and was followed closely as outpatient.

Right upper quadrant abdominal pain and obstructive jaundice are the most common symptoms of cystadenomas. Our case is unique as initially, it appeared that the Liver cyst was compressing the CBD but ERCP revealed a single mobile pedunculated tumor originating in the right main hepatic duct causing bilateral obstruction. Much as a pendulum swings back and forth, this mass appeared to swing from the right main hepatic duct into the left causing intermittent obstruction of the left system as well, ultimately leading to the patient’s presentation of jaundice.
**Introduction:**

Kounis syndrome (KS) is an acute coronary vasospasm after exposure to an allergen due to mast cell degranulation and existing mediators. We are reporting a case of amoxicillin induced coronary vasospasm leading to NSTEMI. Cases have been reported so far regarding amoxicillin induced ACS but the patient population was either elderly or had risk factors for CAD.

**Case Report:**

A 37 year old male with no known risk factors for coronary artery disease presented with sudden onset chest pain three hours after taking his first dose of amoxicillin for sore throat. His vital signs were stable. Cardiac exam was noncontributory. EKG showed normal sinus rhythm without ST or T wave changes. Initial Trop I was elevated at 8.3 in the setting of a normal creatinine. Chest X ray was unremarkable. Sublingual nitro provided significant relief of the pain. Cardiac catheterization showed clean coronaries. Transthoracic Echocardiogram showed no wall motion abnormalities with EF of 55%. In the next 24 hours troponins trended down and he was chest pain free. Considering the timings of onset of chest pain after the administration of amoxicillin, relief of pain with nitroglycerin and clean coronaries on catheterization, diagnosis of KS was made.

**Discussion:**

Acute coronary artery vasospasm secondary to oral antibiotic is rare, and literature review only shows a few cases where heart catheterizations were performed and unremarkable. This case shows us that even with a common diagnosis, it is important to perform a thorough history to look for other causes of presentation.
Introduction

Human Metapneumovirus (hMPV) is a recently discovered viral pathogen that has known to cause both upper and lower respiratory tract infections in all age groups with high predilection for pediatric population. Extra pulmonary manifestations of this infection is poorly understood due to lack of large scale studies.

Case description

A 20-year-old man presented with 3-4 weeks of progressive worsening pleuritic chest pain. His examination was significant for tachypnea and a pericardial friction rub. Initial labs showed mild leukocytosis, normal Troponin-T, elevated ESR. Chest X-ray showed cardiomegaly. EKG showed changes consistent with pericarditis. TTE showed a large pericardial effusion with signs of early tamponade. Pericardiostomy drained 400-500 cc blood tinged pericardial fluid with formed gel-like clots. Microscopic analysis showed numerous RBC and WBC. All pleural fluid cultures were negative. Cytology revealed mild acute inflammation. Pericardial biopsy showed fibro-adipose tissue with organizing hemorrhage. All the specialized testing for viral, Lyme, autoimmune etiologies were negative except a nasal swab PCR for hMNV that was positive.

Conclusion

1. A relatively recent ability to detect hMPV has lead to the reporting of this virus as one of the cause of myopericardial inflammation.
2. This is the first case in the current literature describing the gross and microscopic appearance of the pericardial fluid and biopsy in an hMPV infection.

3. hMPV has recently been identified as a pathogen and hence routine testing is not being performed by many laboratories. RT-PCR based techniques remain the method of choice for detection.
**Introduction:**

Hypercalcemia is a frequently encountered issue and a poor prognostic sign in malignancy with a median survival of 30 days. Elevated intact parathyroid hormone (PTH) is a rare cause of hypercalcemia in malignancy. Here, we describe a patient with metastatic squamous cell carcinoma (SCC) of esophagus with elevated serum calcium levels secondary to intact PTH.

**Case Report:**

A 62-year-old Caucasian male recently diagnosed with metastatic SCC of the esophagus receiving chemotherapy presented with hypercalcemia. Despite treatment with bisphosphonates, intravenous fluids, calcitonin and loop diuretics, his serum calcium levels remained elevated. Further workup revealed significantly elevated PTH, mildly elevated Parathyroid Hormone-Related Protein (PTHrP) with normal 25-hydroxyvitamin D and 1,25-(OH)2D levels. Parathyroid scintigraphy showed normal uptake in the parathyroid glands ruling out parathyroid adenoma or hypertrophy. Calcium levels continued to rise along with PTH and his medical condition worsened. Hemodialysis was offered but comfort measures were pursued.

**Discussion:**

SCC of the esophagus has been shown to be associated with hypercalcemia. Four different mechanisms have been described for hypercalcemia of malignancy including humoral hypercalcemia or PTHrP, local osteolytic hypercalcemia, 1,25 (OH)2D-secreting lymphomas and rarely, ectopic PTH production. Usually, elevated PTHrP suppress intact PTH due to negative feedback mechanism. However, our case presents a unique scenario of refractory hypercalcemia associated with SCC of esophagus in the setting of both elevated PTH and PTHrP. As parathyroid adenoma was ruled out, a possible explanation is the production of intact PTH by the tumor. Further investigations may be required to understand this unique mechanism.
‘Rare Case of Left Atrial Bronchogenic Cyst Diagnosed by Cardiac Magnetic Resonance Imaging’

**Background:**
Bronchogenic cysts are congenital lesions that are remnants from budding of embryonic foregut, which are commonly found in mediastinum or lung. Intra-cardiac bronchogenic cysts in adults are exceedingly rare with approximately 15 cases reported thus far. Here in, we present a case which has grown in size very rapidly with increase in left atrial size leading to atrial fibrillation and eventually stroke.

**Case Description:**
A 67 year-old female with atrial fibrillation and hypertension underwent a transthoracic echocardiogram (TTE) as a pre-operative evaluation for left hip fracture. TTE revealed a large cystic appearing mass measuring 3.4 cm x 2.9 cm in left atrium. Surprisingly, she had a TTE 8 months ago, but there was no evidence of mass during that time. Further testing with a cardiac magnetic resonance imaging was performed, which showed a 37 mm x 34 mm x 30 mm fluid filled cystic mass with air-fluid level. T1/ T2 imaging showed that the mass is proteinaceous and homogenous in nature. These findings were consistent with bronchogenic cyst. Few days later, she presented with stroke-like symptoms and sub-therapeutic INR. She subsequently passed away from complications of IV tPA administration.

**Conclusion:**
Intra-cardiac bronchogenic cysts are extremely rare and very little is known about their natural progression, as they are surgically resected at the time of diagnosis. Based on our experience, they can grow rapidly attaining enormous sizes with increase in chamber size and thus leading to atrial fibrillation and stroke. We recommend prompt removal of the cyst when identified.