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Comorbidities and Medication Use of Residents with and without Diagnosed Osteoporosis in Nursing Homes in Louisiana

1EA Aguilar, 1SD Barry, 1CA Cefalu, 1A Abdo, 1W Hudson, 1JS Campbell, 1TM Reske, 1M Bonafede, 2K Wilson, 3BS Stolshek, 1L Cheng, 1CJ Paoli; 1LSU Health Sciences Center, New Orleans, LA; 2Truven Health Analytics, 3Amgen

Background
Osteoporosis is characterized by low bone mass and structural deterioration of bone tissue, resulting in increased fragility and susceptibility to fracture. Patients with osteoporosis in Long Term Care (LTC) facilities may be under-treated due to immobility, lack of care coordination, failure to diagnose, and contraindications to available osteoporosis medications. Oral bisphosphonates (BPs) are the most commonly prescribed pharmacological treatments for osteoporosis.

Methods
A retrospective chart review study was conducted from April 2012 to August 2013 in LTC residents with or without a diagnosis of osteoporosis. Residents ≥ age 30 residing for ≥ 3 months in one of the 11 selected LTC facilities in Louisiana were included. Data were extracted from the Minimum Data Set (MDS) 3.0 to identify comorbidities and medication use between January 2009 and the time of chart review.

Results
746 patients’ (age 76±14) charts were reviewed in a 12-month period. 132 patients (13% males and 87% females) had a diagnosis of osteoporosis (age 82±12) and 614 patients did not (age 75±14). The most prevalent comorbidities for those with osteoporosis were: dementia (49%), gastro-esophageal reflux disease (GERD)/ulcer (43%), CVA/transient ischemic attack (TIA)/stroke (24%), Alzheimer’s disease (23%), and diabetes (23%). For those without an osteoporosis diagnosis, the leading comorbidities were: dementia (47%), GERD/ulcer (41%), diabetes (34%), CVA/TIA/Strokes (34%), Alzheimer’s (16%) and seizures (14%). The most common medications of interest in osteoporotic patients were: vitamin D (52%), proton pump inhibitors (PPIs) (48%), calcium (48%), steroids (15%), and antiseizure medications (10%). In non-osteoporotic patients: PPIs (42%), vitamin D (28%), calcium (12%), steroids (17%), and antiseizure medications (18%) were most common. Only 6% of the population had taken anti-osteoporotic medications, representing 30% of those diagnosed with osteoporosis.

Conclusions
Around 3 out of 10 LTC residents with osteoporosis were managed by pharmacologic therapies for their condition. GERD/ulcer and dementia were prevalent among the nursing home residents in this study.
Background
Osteoporosis (OP) is prevalent among residents in long-term care (LTC) facilities. Since osteoporosis is a silent disease, like in regular medical practice, it is often untreated in LTC facilities as well. The current study set out to estimate the prevalence of diagnosed osteoporosis in LTC residents and to examine the clinical and demographic characteristics of residents with or without osteoporosis.

Methods
A retrospective chart review study was conducted in 11 LTC facilities in Louisiana from April 2012 to August 2013. Residents ≥ 30 of age residing for ≥ 3 months in one of the facilities were included. Data from pre-specified sections in patient charts, including the Minimum Data Set (MDS) 3.0, between January 2009 and the time of chart review were collected. Prior IRB approval and a HIPAA waiver were obtained from the Louisiana State University Health Sciences Center.

Results
A total of 746 patients met the inclusion criteria. The mean age was 76±14. 69% of the patients were female, 57% were White and 42% were African American. Of the 746 patients, 132 (18%) had an osteoporosis diagnosis documented in the charts. Documented evidence of diagnostic screening for osteoporosis was infrequent and only found in 2 residents. Residents with an osteoporosis diagnosis were older (age 82±12) and more likely to be over age 75 (79%) than those without an osteoporosis diagnosis (age 75±14; 59% over age 75). Among those diagnosed with osteoporosis, 80% were White and 18% were African American, compared with 52% white and 46% African American among those without a diagnosis of osteoporosis. Based on nursing home unit care level, the most intensive medical care was received by 28% with an osteoporosis diagnosis and 27% without, while only 4.5% of those with an osteoporosis diagnosis required less intensive medical care versus 10% of those without an osteoporosis diagnosis.

Conclusions
Despite epidemiologic evidence for the presence of osteoporosis in patients in LTC facilities, our study found no routinely established screening programs. Nearly 1 in 5 residents were found to have a diagnosis of osteoporosis. Residents with and without the diagnosis osteoporosis differed in their demographic characteristics and treatment intensity.
Extragonadal Germ Cell Tumor: A Rapid Grower

Gregg Anazia, MD, Nadja Jones, MD, Mary Yu, MD, Craigville, MD, Daniel Engiert, MD
Department of Internal Medicine, Louisiana State University Health Sciences Center, New Orleans, La

Introduction: Extragonadal germ cell tumors (EGCT), which are defined as germ cell tumors without a primary tumor in the testes, are very rare. Of the 8,000 annual cases of germ cell tumors (GCT), only 2%-5% are of extragonadal origin.

CASE: A 22-year-old man presented to the emergency room after acute onset of cough 3 days prior associated with severe weakness. On initial physical exam, he was afebrile, normotensive, but in mild respiratory distress, and mildly tachypneic at 32 respirations per minute. His oxygen saturation was 98% on room air. He had decreased breath sounds and dullness to percussion on the right. Testicular exam was unremarkable. Labs were remarkable for a slight leukocytosis, mild normocytic anemia, and hypoalbuminemia. Alpha fetoprotein (AFP) drawn on initial presentation was elevated at 860. β-hCG and CEA were within normal limits. Chest X-ray revealed complete opacification of the right hemithorax. CT of the chest with IV contrast demonstrated a large right-sided pleural effusion with right-to-left mediastinal shift, and numerous heterogeneously-enhancing pleural based lesions, highly concerning for neoplasm. An ultrasound of the scrotum and testicles was obtained and showed a small left-sided hydrocele, but no masses. Thoracentesis was performed and revealed 1,800cc of bloody fluid and biopsy was suggestive of either a synovial sarcoma or a poorly-differentiated germ cell tumor. One week following discharge, the patient developed increasing pain and shortness of breath. Repeat CT of the chest showed that the tumor had grown to occupy the entire right hemithorax, with shift of the mediastinal structures to the left. Due to his rapid clinical deterioration, he was intubated and started on empiric chemotherapy with etoposide, ifosfamide, and cisplatin, even before a final diagnosis was made. His tumor responded well to chemotherapy. Repeat biopsy was obtained and was consistent with a germ cell tumor most compatible with yolk sac origin.

DISCUSSION: Mediastinal germ cell tumors are aggressive, rapidly growing tumors, typically found in younger men. Standard treatment consists of platinum-based chemotherapy, usually followed by surgical resection of residual disease. Due to their rapidity of cell growth, these tumors are typically very responsive to chemotherapy.
**INTRODUCTION:** Occurrence of the disseminated histoplasmosis is rare in HIV seronegative patients. Here we describe a case of disseminated histoplasmosis with both oral and cutaneous manifestations in an immunocompetent patient.

**CASE:** A 40 year old construction and oil field worker from Louisiana presented with a 4 month history of weight loss, night sweats, fever, nonproductive cough, shortness of breath and pleuritic chest pain after failing treatment for presumed bronchitis and pneumonia. The patient also reported inguinal erythematous papules and ulcers and a recent onset of oral ulcerations. At the time of admission, he was not febrile. On physical exam, he was described as a well-built thin Caucasian male in no acute distress who had a right superior gingival 2mm ulceration. His skin had multiple (> 10) small erythematous nodular papules located bilaterally in his inguinal folds and a large erythematous and plaque-like lesion with rolled borders and central erosion in his left inguinal fold. Initial labs revealed microcytic anemia. HIV, RPR, HSV, T-Spot, Blastomycosis antibody, Histoplasma urine antigen, and blood culture were negative. CXR on admission showed a right upper lobe opacified nodule with central lucency, a right lower lobe nodule. CT guided fine needle aspiration of lower lobe lung mass demonstrated suppurative non-caseating granulomatous inflammation with organisms consistent with Histoplasma identified within the macrophages. GMS staining also revealed abundant fungal elements consistent with Histoplasma. Fungal culture grew Histoplasma capsulatum. Inguinal punch biopsy also showed abundant dermal histiocytes heavily loaded with fungal elements. The patient was started on a 12 month course of itraconazole.

**DISCUSSION:** Histoplasmosis is a systemic mycotic infection caused by *Histoplasma capsulatum*. Histoplasmosis is endemic in central eastern United States, especially in the Ohio and Mississippi River Valleys. Clinically, histoplasmosis presents in one of three forms: primary acute pulmonary disease, chronic pulmonary disease, or disseminated. Manifestations of disseminated histoplasmosis include fever, weakness, weight loss, hepatosplenomegaly, and mucocutaneous lesions. Systemic histoplasmosis has emerged as an important opportunistic infection among immunocompromised patients as well as in immunocompetent patients residing in endemic areas. Biopsy of lung, mucosal or cutaneous lesions is the most rapid method of arriving to the correct diagnosis.
**Histoplasmosis and Mycobacterium kansasii Presenting as a Recurrent Pleural Effusion**

Christine M. Bojanowski, Jennifer Krauland, John Amoss

Department of Internal Medicine, Louisiana State University Health Sciences Center, New Orleans, LA

**INTRODUCTION:** *Mycobacterium kansasii* is the second most common nontuberculous mycobacterium (NTM) species isolated from patients with HIV infection and is considered to be one of the most virulent. Confounding the presentation of this disease is the high rate of coinfection with other pulmonary pathogens.

**CASE:** A 67 year old African American man with HIV/AIDS (CD 4 count 11) presented with a six month history of unintentional weight loss and a one month history of dyspnea on exertion and cough productive of yellow-brown sputum. At the time of presentation, he denied any chest pain, fevers, or night sweats. Social history was significant for a remote incarceration and a 50 pack year smoking tobacco history. His last negative PPD was 2 years prior around the same time he discontinued taking his HAART therapy. Pertinent exam findings included a respiratory rate of 18 with 97% oxygen saturation on room air, cachexia with temporal wasting, seborrheic keratosis, and a lung exam significant for increased fremitus, dullness to percussion to the level of scapula, and decreased breath sounds on the right. Imaging (CXR and CT chest with contrast) showed a large right sided pleural effusion with a right to left cardiomediasitinal shift. He was placed on respiratory isolation and AFB sputum samples were obtained. The patient was started on RIPE therapy after AFB smears were positive. Pleural fluid culture eventually grew *Histoplasma capsulatum*. He was started on Ambisome IV and continued on RIPE therapy. Cerebrospinal fluid was negative for histoplasmosis, AFB, and Cryptococcus. Gen-probe of both sputum and pleural effusion were positive for *Mycobacterium kansasii* as well. Treatment was tailored to include rifampin, INH, ethambutol and intraconazole.

**DISCUSSION:** The literature suggests that up to 69% of HIV positive patients with pulmonary consolidations and *M. kansasii*, also had a another pulmonary pathogen concurrently isolated from respiratory specimens. Due to the highly variable clinical and radiographic presentation and frequent occurrence of coexisting pathogens, all patients with HIV/AIDS and respiratory symptoms should be evaluated for mycobacterial disease and opportunistic infections such as Histoplasmosis.
**Intracranial Tuberculoma in a Patient Presenting with Confusion and Hemiparesis**

Christine Marie Bojanowski, Sarah Beck, Jennifer Krauland, Marney Gruber, John Amoss

Department of Internal Medicine, Louisiana State University Health Sciences Center, New Orleans, LA

**INTRODUCTION:** Central nervous system (CNS) tuberculosis is a rare severe extra-pulmonary form of *Mycobacterium tuberculosis* disease that manifests as either tuberculosis or meningitis. The majority of CNS cases occur in children and immunocompromised patients. Common presenting symptoms include headache, seizures, and hemiparesis. Radiological diagnosis of a brain tuberculoma is difficult as the imaging presentation is varied and can be non-specific.

**CASE:** A 55 year old African American woman with end stage renal disease on hemodialysis, anemia of chronic disease and severe de-conditioning presented with altered mental status and left sided hemiparesis. Initial brain CT and sequential MRI brain with and without contrast showed a ring enhancing lesion high in the right parietal lobe with restricted diffusion, calcifications, and associated vasogenic edema. Also noted on admission imaging was the presence of right supraclavicular and cervical chain lymphadenopathy. Excisional biopsy of a supraclavicular lymph node revealed granulomatous type inflammation and *mycobacterium tuberculosis* grew from culture at 2 weeks. Serum interferon gamma release assay (IGRA) was also positive. She was started on dexamethasone and phenytoin for seizure prophylaxis. Empiric antimicrobial coverage for both brain abscess and tuberculosis was provided with vancomycin, ceftazidime, and RIPE therapy.

**DISCUSSION:** Tuberculomas typically appear on imaging as either solitary or multiple, round lesions often located in the frontal or parietal lobes with irregular walls and with signs of ring enhancement after contrast. The “target sign” (a ring enhancing lesion with a central area of enhancement or calcification) has been described as characteristic of tuberculomas. MRI findings vary according to the stage of the lesion. Despite advancements in imaging and laboratory diagnostics, tuberculomas of the central nervous system remain a diagnostic challenge. Early diagnosis is imperative, since clinical outcomes are largely dependent on timely treatment. Standard medical care includes prolonged treatment (12-30 months) with rifampicin, isoniazid, pyrazinamide, and streptomycin or ethambutol.
Introduction: Silicone is a chemically inert liquid polymer that is commonly used in cosmetic procedures. However, the illicit use of commercial silicone preparations can lead to serious local and systemic sequelae including acute embolization and end organ toxicity. Unregulated illegal injections of liquid silicone by unlicensed practitioners is unfortunately a common procedure performed in some populations including the transgender community. Case reports of local and systemic complications following injected silicone have been described. Acute pneumonitis and alveolar hemorrhage have been described as developing as early as within 24 hours to as late as 15 days following injection.

Case: Here we describe the case of a 25 year old transgender male-to-female patient with HIV (CD4 160) who presented with severe acute respiratory distress syndrome (ARDS) following illicit silicone injections to bilateral adipose tissue of the thigh. Within the first six hours of receiving silicone injections of unknown volume, our patient developed nausea, vomiting, diarrhea, rapid onset of shortness of breath, and altered mental status. On presentation to the ED, our patient was in severe respiratory distress with oxygen saturation of 42% on a nonrebreather. PaO2/FiO2 was 31 mmHg. Laboratory screening showed a leukocytosis of 12.6. CBC and CMP were otherwise grossly unremarkable. CXR showed diffuse bilateral airspace disease consistent with pulmonary edema with bilateral pleural effusions, left greater than right. She was emergently intubated, placed on the ARDSnet protocol, and treated with high dose steroids in the critical care unit. She was extubated on HD 14.

Discussion: Given the possible severity of clinical sequelae, clinicians must be aware of this illicit practice and of the potential complications of silicone injections.
Objectives: Asthma is a chronic inflammatory disorder with significant morbidity and mortality. It is a medically managed disease affected by proper medication reconciliation. Presumably, the higher the compliance, the better control of asthma and improved health-related quality of life (HRQOL). We analyzed the impact of demographic factors on a patient’s ability to access medications and disease comprehension.

Methods: IRB approval was obtained. Adults with asthma were studied at Allergy-Immunology clinics. Informed consent was obtained from all research subjects. Asthma control test (ACT) and HRQOL, via SF-36 standard quality of life scores, were assessed and demographics collected. Compliance was determined by ascertaining proper medication usage.

Results: 49 bronchial asthmatic patients were studied – 14 in charity clinics and 35 in private clinics. Insured patients had mean SF-36 of 42.40 compared to uninsured patients who had mean of 35.94 (p=0.04). Analysis of the different income levels with ANOVA model showed statistical significance (p=0.01) for SF-36. Upon further analysis between income levels of less than $25,000 and more than $50,000, the mean was 38.66 and 47.58 (p=0.01). Analysis of clinic location, age and education level were not statistically significant, although there was a trend in SF-36 and ACT scores. In private clinics, the mean SF-36 and ACT scores were 42.27 and 16.69, while in charity clinics, 39.02 and 14.64. Older age groups had a lower SF-36 when comparing younger age group. For patients aged 18-25, mean SF-36 was 45.33, 25-50 years old was 41.73, and older than 50 was 40.69. Higher education level demonstrated improved SF-36 and ACT scores. Patients who did not complete high school had mean SF-36 and ACT scores of 37.90 and 14.14, high school graduates were 39.94 and 15.43, and college graduates were 44.31 and 17.63.

Conclusion: Patients with health insurance and higher income have an improved quality of life and better asthma control. Higher education was associated with better quality of life and asthma control, although the differences were not statistically significant.
Objectives: Most Internal Medicine (IM) Residency programs integrate diabetes care into their regularly scheduled continuity clinics. LSUHSC–New Orleans IM Residency program created a monthly Diabetes (DM) Continuity Clinic staffed by Endocrinologists.

Methods: We identified patients in these clinics and patients with diabetes in General IM Residency clinics between 2008-2011 and at least three clinic visits. Various labs and vitals were collected and analyzed at baseline and follow-up.

Results: 1,255 patients with diabetes were identified—1,010 in the General IM Residency clinics (control group) and 245 patients in the dedicated DM Continuity clinics (test group). The gender and age distribution were similar for both. The Hemoglobin A1C (A1C) for the control group at baseline was 7.88 with follow-up value of 7.83 while test group had initial A1C of 9.54 at baseline with follow-up value of 8.53, which was statistically significant (p<0.01). There was no significant difference for the Low-Density Lipoprotein value between the two groups at baseline; however, both groups did have decreases from baseline to follow-up. Total cholesterol in control group was 172mg/dL compared to the test group at 184mg/dL. There was a statistically significant difference in the follow-up values for these two groups (p-value=0.003). The microalbumin/creatinine ratio was elevated for both groups, and there was no change in follow-up values. A blood pressure goal of 130/80 was identified. 26% of control group were at goal initially with improvement to 30% at follow-up. 36% of test group were at goal with improvement to 50% at follow-up.

Conclusion: The dedicated DM Continuity Clinic demonstrates an improvement in patient outcomes in regards to Hemoglobin A1C, total cholesterol and blood pressure management compared to patients with diabetes treated in the General IM Residency clinics. Extending this novel concept to other IM Residency programs could strengthen the training of internists to better treat and manage patients with diabetes.
CASE: A 62 year old male presented with 3 month history of intermittent painless rectal bleeding. He denied weight loss, loss of appetite, abdominal pain or any other pertinent symptoms. He had never had a colonoscopy and there was no family history of cancers in close relatives. Past medical history is significant only for hypertension. Physical exam only revealed mild pallor and lab studies confirmed normocytic normochromic. An abdominal CT scan with PO and IV contrast revealed two areas of suspected colonic wall thickening, one within the hepatic flexure of the colon and the other within the ascending colon in the region of the ileocecal valve. Colonoscopy revealed a pedunculated, recently bleeding polyp at the hepatic flexure. The polyp was 40 mm in size and was removed with a saline injection-lift technique using a hot snare. Histopathology confirmed inflammatory fibroid polyp.

DISCUSSION: Inflammatory fibroid polyp (IFP) is a relatively rare, benign lesion of gastrointestinal tract. IFP can be found in any part of GI tract but gastric antrum and rectosigmoid are the most predominant sites of involvement. IFP is found in both males and females with minor female preponderance. IFP has been described as inflammatory pseudotumor, neurofibroma and eosinophilic granuloma. IFP can occasionally pose a diagnostic dilemma and it has been sometimes mistaken for a sarcoma. Current literature supports benign nature of the lesion and post resection recurrence has not been reported.
Introduction: Androgen secreting tumors are notoriously hard to find when they are secreting small amounts of hormones. However, when testosterone secretion is ample enough to cause virilization, a neoplasm is usually evident on imaging. This case highlights the use of a laboratory evaluation for localization of a virilizing, androgen-secreting tumor.

Case: This is the case of a 37 year old woman with a past medical history of lupus and obesity, status-post gastric bypass, who was referred to the endocrinology clinic with complaints of increasing facial hair and male pattern baldness for one year. She had been treated by another physician for non-classic congenital adrenal hyperplasia with steroids, but she had failed to improve. Other complaints included deepening of her voice and acne. Her medications included dexamethasone 0.5 mg twice daily and spironolactone 200 mg daily. Blood pressure was 116/78 and BMI was 38.4. Physical exam revealed male pattern hair distribution with terminal hair on cheeks and sideburns, neck, chest, and back. She had modest clitoral enlargement. Previous labs included a total testosterone of 1271 ng/dL and free testosterone of 301 (upper limits of normal for women are 45 and 6.4 respectively), a low DHEA-S of 22, hematocrit of 48.5%, estradiol 46, suppressed LH and FSH. Pelvic ultrasound, CT, and MRI failed to identify any definitive abnormalities of the adrenal glands nor of the ovaries. The patient was also sent for adrenal and ovarian vein sampling which did not identify the source of excess testosterone. The patient did not desire children, and she was so burdened by her symptoms that her gynecologist agreed to do a hysterectomy and oophorectomy. Although in the surgery there were no palpable abnormalities of the ovaries, pathology revealed a 2.5 cm Leydig tumor of the left ovary. Blood work done following the surgery confirmed that the patient's testosterone levels had decreased to 3 ng/dL.

Conclusion: Neoplasm must be suspected when patients present with virilization that occurs over a short time. When the adrenal glands are the source of androgen excess, it is accompanied by elevated levels of DHEA-S. In our patient these levels were low. Often when serially imaged, these tumors are seen as the hormone levels rise. However, when the source remains elusive, hormone precursors can be used to identify the likely organ of secretion.
Introduction: While the clinical signs of acromegaly are distinct, their onset is insidious. Often the patient, their family members, and primary care providers who see the patient will not notice the clinical signs of the disease and diagnosis only occurs when the patient presents to a new provider. Because of this, the average time from onset of symptoms to time of diagnosis is about 12 years, by which time most patients already have macroadenomas and associated mass effect. The consequences of excess growth hormone include risk of cardiac complications as well as damage to many other body systems. Many of the effects are reversible with removal of the source of hormone production, usually a pituitary adenoma. In this case we describe a patient with the classic signs of acromegaly who was diagnosed by the urology team during evaluation of a kidney stone.

Case: This is a 60 year old woman with arthritis who for the past couple years had struggled with difficult to control diabetes. She was on almost 200 units of insulin daily and still had glucoses in the 500-600 mg/dL range. She had arthritis, particularly the hands. She reported that 20 years ago her ring and shoe size had increased greatly—however both had stabilized many years prior. She denied vision changes, but she started to have headaches of increasing frequency and severity. Finally when she was admitted for removal of a nephrostomy tube, a urology resident noticed that she had coarse facial features and called for an evaluation by the endocrinology service for possible acromegaly. Her family history was notable for a lack of diabetes mellitus or and endocrine neoplasms. On physical exam, she was noted to have frontal bossing, prognathia, and coarse facial features. She had enlargement of the hands and feet and particularly enlarged joints. Laboratory evaluation revealed a hemoglobin A1c of 15% and a greatly elevated insulin-like growth factor-1 of 684 ng/mL. After hospital discharge, she was found to have a 3.1 cm pituitary macroadenoma displacing the anterior cerebral arteries and the optic chiasm as well as extending through the sphenoid sinus. Three months later she had transsphenoidal surgery to have the tumor removed and has done well postoperatively without evidence of diabetes insipidus. Two weeks after surgery she started to notice lower fasting and post-prandial glucose readings.
Mycobacterium tuberculosis infects an estimated two billion people worldwide with incident infection rates greater than eight million annually. Since the early 1920s, the BCG vaccine has proven to be safe and effective for preventing childhood forms of tuberculosis (TB) worldwide; however, poor efficacy in adults and emerging drug-resistant M. tuberculosis strains have limited its usefulness. Innovative strategies are urgently needed to address the global burden of TB disease. The robust induction of cellular immunity is a hallmark of the majority of novel TB vaccine candidates currently being developed, but more specific immune correlates of protection are imperative for development of more effective vaccines. In this study, we utilized a well-characterized murine model of sub-cutaneous immunization to elucidate the host genome-wide transcriptional profile in local draining lymph nodes seven days after BCG immunization. To identify gene expression signatures that correlate with vaccine-induced attenuation of M. tuberculosis disease, we employed modern bioinformatic tools to compare transcriptional profiles among BCG and three genetically-modified BCG strains shown in our earlier studies to have increased levels of protective efficacy in a mouse model of pulmonary TB infection: 3D BCG (BCGΔsecA2ΔsigHdnSodA), BCG-85B that overexpresses the 85B antigen, and 3D BCG-85B. Several host genes were identified as important for attenuation of disease, including those within non-muscle myosin II (NMII) pathways. Compared to vehicle treatment, we noted that the 3D modification of BCG increases the significance of non-muscle myosin II (NMII) pathway up-regulation substantially more than the original BCG vaccine. NMII is a molecular motor protein that interacts with the actin cytoskeleton and may be a key mechanism by which leukocytes migrate through lymph nodes. These novel findings could represent a mechanism by which these vaccines initiate strong cellular immune responses. The most protective construct 3D BCG-85B, showed a more balanced up-regulation of cell cycle, NMII, and immune response pathways relative to the other vaccine formulations. Together, these findings exemplify the complex mechanisms underlying TB vaccine efficacy, and highlight several cellular immune processes in lymph nodes that appear to correlate with vaccine-induced attenuation of TB disease.
Objectives: Identification of *Pneumocystis jirovecii*, the etiological agent of *Pneumocystis* pneumonia, in induced sputum or bronchoalveolar lavage fluid (BALF) is hindered by the lack of a successful culture technique. Positive identification of *Pneumocystis* organisms in clinical specimens requires histological staining techniques that are time consuming and require expertise. Quantitative PCR (qPCR) offers advantages in sensitivity and specificity due to quantitation of small fragments of stable DNA. In addition, qPCR provides a quantitative estimate of pathogen burden that may be useful in gauging response to therapy. In this study, we developed a qPCR assay designed to quantify Heat Shock 70 protein (HSP70a) gene specific DNA. HSP70a is a suitable target for qPCR because it is a single copy nuclear gene; therefore, HSP70a copy number correlates with the haploid *P. jirovecii* genome content within a sample.

Methods: Bronchoalveolar lavage fluid (BALF) was collected from 117 HIV-infected patients suspected of lower respiratory tract infection. *P. jirovecii* was histologically confirmed for each sample using the Grocott-Gormori methenamine silver stain (GMS). BALF was centrifuged at 300 x g for 5 minutes to remove host cells. Supernatant was collected from each sample and stored frozen at –80 °C. 1 mL BALF supernatant per sample was centrifuged at 8000 x g for 10 minutes, and DNA was extracted from each pellet using the Qiagen Stool DNA Extraction kit following the manufacture’s protocol with the following modifications: (1) After lysis buffer was added, samples were mechanically disrupted using 0.2 g silica beads with a Qiagen Tissuelyzer set to 30 Hz for 3 minute repeated again after inverting samples. (2) After bead beating, samples were heated to 95 °C for 5 minutes in a dry bath. A qPCR reaction designed to assay a 106 bp fragment of HSP70a was comprised of 300 nM HSP70aF primer, 300 nM HSP70aR primer, 75 nM HSP70a FAM Probe, 1X Bio Rad iTaq Universal Probes Supermix, 2.5 uL template DNA, and brought up to total volume of 25 uL. Thermal cycling conditions consisted of 1 cycle of 95 °C for 30 s followed by 40 cycles of 95 °C for 15 s, 45 °C for 15 s, and 60 °C for 30 s. Each sample was run in duplicate, and quantified using a standard curve generated from cycle threshold values based on linear HSP70a plasmid DNA standard reactions of known concentration run in duplicate.

Results: In total, we tested 117 BALF samples for the presence of *P. jirovecii* HSP70a DNA. Using clinical microscopy as indicative of diagnostic status, our HSP70a qPCR assay correctly identified 40/47 GMS positive samples and 69/70 GMS negative samples resulting in an 86.9% sensitivity, 98.5% specificity, 97.5% PPV, and a 92% NPV. False negatives were tested for PCR inhibition by diluting each false negative sample with positive control. PCR inhibition was inferred when amplification was absent in both diluted and spiked samples. Out of 7 false negative samples, only one sample indicated inhibition, and was removed from the data set as a product of systematic error.

Conclusion: The sensitivity, specificity, PPV, and NPV of our qPCR assay is comparable with histological techniques. PCR inhibition was the cause of only one false negative sample, and the remaining 6 false negatives could influenced by processing of BALF before DNA isolation as these samples were stored long term at - 80 °C. The one false positive sample identified by qPCR could also be the result of the lower sensitivity inherent to the GMS technique (~77%). Our HSP70a qPCR assays offer a viable option to conventional histological techniques as both NPV and PPV values are high. Although DNA is a highly stable molecule, DNA extractions and qPCR are sensitive to improper handling of samples. While the sensitivity of qPCR is theoretically greater than histological techniques, additional care must be taken to preserve BALF fluid, and proper DNA extraction techniques should be used to realize the true utility of qPCR diagnostic assays. Furthermore, qPCR data can provide an assessment of pathogen burden, which may be helpful clinically.
The emerging pathogen *Mycoplasma genitalium* is associated with robust cervical leukocytosis among low-risk Louisiana women, but not among individuals co-infected with HIV. Patricia M. Dehon¹, Michael E. Hagensee¹,², and Chris L. McGowin¹,², ¹Department of Microbiology, Immunology and Parasitology, LSUHSC; ²Section of Infectious Diseases, Department of Medicine, LSUHSC.

Cervicitis is a common clinical finding often attributed to sexually transmitted infections (STIs), but no etiologic agent is identified in the majority of cases. This study was focused on the capacity of *Mycoplasma genitalium*, a prevalent and emerging urogenital pathogen, to elicit cervical inflammation among a cohort of Louisiana women at low risk for acquiring STIs. Among 473 subjects, the nucleic acid amplification test prevalence of *M. genitalium*, *C. trachomatis*, *N. gonorrhoeae*, and *T. vaginalis* in liquid-based cytology specimens was 1.5, 2.1, 0.6, and 4.4%, respectively. *N. gonorrhoeae* and HPV18 infections were more common among subjects with *M. genitalium*, but positive associations were not observed for *T. vaginalis*, *C. trachomatis*, or other high-risk HPV types. Using direct microscopic quantification, leukocyte infiltrates were significantly increased in subjects with mono-infections of *M. genitalium* and *C. trachomatis* compared to women with no detectable STIs, and were highest among subjects with *M. genitalium*. Insignificant increases in cervical leukocytes were observed among subjects with *N. gonorrhoeae* or *T. vaginalis* as well. Several novel *M. genitalium* genotypes were identified, all of which were predicted to be susceptible to macrolide antibiotics, suggesting that different strains may circulate among low-risk women and macrolide resistance is substantially lower than in high-risk populations. Among a cohort of HIV(+) women, interleukin 8 measured from cervicovaginal lavages was increased significantly in subjects positive for *M. genitalium* compared to those who were negative highlighting a mechanism for leukocyte recruitment. Interestingly, compared to the low-risk cohort, infiltrates of cervical leukocytes among HIV(+) subjects were reduced significantly suggesting that HIV infection may attenuate the inflammatory response to *M. genitalium* infection. Considering the strong epidemiologic associations between these pathogens, this clinical study substantiates the capacity of *M. genitalium* to elicit cervical inflammation and provides a potential mechanism for acquisition and shedding of HIV in cervical tissues.
Case: A 45 year old male with a history of lung adenocarcinoma with metastases to the brain and L3-L5 and C5 vertebrae presented to emergency department with a two day history bizarre behavior and increased agitation. He had received whole brain radiation 5 months prior as well as chemotherapy with carboplatin, pemetrexed, cisplatin, and temozolamide started 3 months ago. On exam he was moving all extremities continuously without purpose and mumbling incoherent sounds. He was found to have a serum sodium level of 125mmol/l, which was 135mmol/l 3 weeks prior. After about 1 liter of fluids from antibiotics and various medications his sodium decreased to 120mmol/l. Strict fluid restriction was initiated and his sodium responded minimally to 122mmol/l. His neurological exam remained unchanged. After 100cc and two 50cc boluses of 3% normal saline his sodium rose to 128mmol/l over the next 24 hours and his symptoms completely resolved. With continued fluid restriction his sodium and neurological status normalized.

Discussion: The mainstay of treatment for most patients with SIADH is fluid restriction. However, this treatment plan is frequently ineffective in raising sodium levels when patients have severe symptoms and intracranial disease. Lack of well controlled studies comparing therapies for symptomatic hyponatremia make us rely on case series and expert opinion to determine therapeutic plan. Based on current recommendations, hypertonic saline should be reserved for previously well individuals who are symptomatic with seizures, coma, or new focal neurologic findings and whose serum sodium levels are less than 120 mEq/L.
Objective: To determine average normal and abnormal median nerve value circumference among our patient population using ultrasound to determine the average change in size of median nerve 7 days after blinded corticosteroids injection for CTS.

Patients and Methods: During a four-week period, an experienced rheumatologist at an academic institution diagnosed 16 patients with CTS using conventional clinical picture. In addition, a total of 45 patients without clinical or history of CTS, were randomly selected as a control group. Ultrasound was performed by two well-trained rheumatologists independently in the same day, with a General Electric Healthcare VENUE 40 device. The circumference of the median nerve was measured at the distal wrist crease using the flexor retinaculum, scaphoid, pisiform, and Guyon’s canal as landmarks. Blind injections using 40mg triamcinolone acetonide with 1 cc of 1% lidocaine were performed for symptomatic patients. Clinical assessments were done at 2, 4 and 12 weeks after injections. Repeat ultrasonography was performed two weeks later in patients who received injections to determine the average change in size of the median nerve after injection. Statistical analyses were made using STAT 12, Chi2 and Fisher exact test for dichotomous variables and ANOVA and for continue variables. ROC curve was performed to better determinate the cut off for normal medial nerve size.

Results: The population evaluated consisted of 32 Caucasians (52%), 27 African Americans (AA) (45%), and 2 Vietnamese patients (3%). 73% of the patients were women and the mean age of patients was 54 years (range, 17-89 years). The mean median nerve circumference in asymptomatic patients was 12.6 mm (SD 1.5) for the right side and 11.2 (SD 1.6) in the left side, the difference was statistical significant with a p= <0.01. In symptomatic patients the mean size for the right median nerve was 16 mm (SD 2.4) and 15.2 (SD 1.7) for the left side, the difference was statistical significant with a p= 0.043. The average right median nerve in asymptomatic AA patients measured 12.7 mm (SD 3.4) and in Caucasian patients 11.9 (SD 2.1) p= 0.039 and on the left side the average was 11.9 mm (SD 1.9) for AA and 10.9 mm (SD 2.7) for Caucasian patients, p= 0.02. There was one anatomical variant of a bifid median nerve in an asymptomatic patient. There were 5 patients with bilateral CTS who received bilateral injections. Repeat median nerve measurements were performed 14 days later demonstrating a decrease in the average size of right median nerve of 2.3 mm and 1.4 mm decrease on the left. The only patient demonstrating an increase in size of the median nerve after injection was found to have hyperechogenicity within the median nerve at the time of follow up ultrasound. This finding is consistent with possible injury of the median nerve during the blind procedure. Clinical improvement following corticosteroids injection persisted up to the 12 week follow-up.

Conclusion: Data from asymptomatic individuals included in this study demonstrate that the median nerve is not uniform in its size. The variability in size between dominant and non-dominant hand may play an important role in the evaluation of patients. The size discrepancy between AA and Caucasian patients also provides newer insights into the pathophysiology of CTS and suggests that differences in body habitus and ethnic background may require further clarification of “normal” size.

MSUS shows promise as a non-invasive, inexpensive modality to diagnose and treat pathologies of the median nerve.
**METFORMIN OVERDOSE AND EARLY RENAL REPLACEMENT.**

**Kimberly Fremin MD, Jonathan Owen MD. Section of Nephrology, Department of Medicine, LSUHSC.**

**Introduction:** Metformin is an antihyperglycemic agent whose toxicity can lead to a high mortality rate from severe lactic acidosis, hemodynamic instability, and hypothermia. When acute ingestion is suspected in critically ill patients, the treatment of choice is early renal replacement therapy (RRT) with bicarbonate to correct the metformin-induced acid-base disturbance and improve outcome.

**Case:** A 49 year old homeless, white man with a history of diabetes taking metformin and schizophrenia taking haloperidol with historical psychotic episodes that include polydipsia and toxic ingestions presented to the ED via EMS for being found unresponsive. EMS reported a glucose level of <20 which corrected to 178 after an amp of dextrose 50% was given. Mental status improved to lethargy, delayed responses, and garbled speech. In the ED, he had hemodynamic instability requiring norepinephrine and intubation, temperature 87.6 degrees Fahrenheit, and anuria. Labs were significant for sodium 122 mmol/L, bicarbonate <5 mmol/L, BUN 86 mg/dL, creatinine 6.9 mg/dL, anion gap 35, osmolar gap 12, WBC 10.6 K/uL, lactate > 12 mmol/L, CPK 674 U/L, blood cultures negative, and toxicology positive for THC. UA had RBC 2-5/HPF, WBC 1-3/HPF, no crystals or casts. Blood gas with pH 7.28, pCO(2) 26 mmHg, HCO(3) 12 mmol/L. He had no history of prior renal failure. On admission, he received continuous RRT with bicarbonate daily. He was weaned from norepinephrine and extubated on day 3 and discharged on day 5. Metformin level was 26 mcg/mL (therapeutic range 1-2 mcg/mL). The patient could not provide a history once mentation improved due to psychosis. He required scheduled hemodialysis at discharge.

**Discussion:** Metformin overdose was not readily apparent in our patient as it can mimic diagnoses such as alcohol ingestions and septic shock. It can lead to hemodynamic instability, hypothermia and severe lactic acidosis. This report stresses the importance of early diagnosis and early RRT in metformin toxicity to correct the acid-base disturbance to improve outcome. There should be a high index of suspicion for metformin toxicity in anyone taking metformin who presents with these findings in which an accurate history cannot be obtained.
INTRODUCTION: Mitochondrial Encephalopathy with Lactic Acidosis and Stroke-like Episodes (MELAS) is a maternally inherited mitochondrial syndrome typically diagnosed in childhood or early teenage years. The stroke-like episodes typically present in a relapsing-remitting manner with gradual neurological decline leading to dementia.

CASE: A 32 year old African American male with a diagnosis of MELAS, confirmed by muscle biopsy 8 years prior, presented with a 2 month history of shortness of breath, dyspnea on exertion, and lower extremity edema. The patient was afebrile with a blood pressure of 108/90, heart rate of 103, respiratory rate of 20, and a room air oxygen saturation of 100%. Cardiac exam revealed a III/VI holosystolic murmur heard best at the apex and an S3. Lung exam was unremarkable. He had bilateral lower extremity pitting edema extending to his hips. Laboratory studies showed a WBC count of 5.7 K/uL with 71% neutrophils. His complete metabolic profile revealed a HCO3 18 mmol/L, BUN 38 mg/dL, creatinine 1.67 mg/dL, bilirubin 3 mg/dL, AST 92 U/L, ALP 213 U/L, and ALT 100 U/L. BNP was greatly elevated at >5000 pg/mL. Initial troponin was elevated at 0.14 ng/mL and peaked at 0.17 ng/mL. Lactic acid was also elevated at 3.9 mmol/L. Urinalysis did not contain any protein. Urine electrolytes revealed a fractional excretion of sodium of 6.7%; no urine eosinophils were present. EKG demonstrated normal sinus rhythm with evidence of left atrial enlargement, and chest x-ray revealed mildly increased pulmonary vasculature. The patient was found to have 4 chamber enlargement, moderate to severe tricuspid regurgitation, and an ejection fraction <20% by echocardiogram. Diuresis with IV furosemide provided improvement in his respiratory status and edema; however, he continued to be oxygen dependent at the time of discharge.

DISCUSSION: MELAS is a rare mitochondrial disorder that not only affects the nervous system, but can also have cardiac, renal, and endocrine manifestations, as were seen in this patient with a dilated cardiomyopathy, renal insufficiency, and diabetes mellitus. A hypertrophic cardiomyopathy is more commonly associated with MELAS, but a dilated cardiomyopathy has also been described.
Introduction: West Nile virus is an arbovirus transmitted by mosquitoes most commonly from a host bird. Often asymptomatic West Nile virus may present as self-limited febrile illness or as a neuroinvasive disease manifested as meningitis, encephalitis, or flaccid paralysis.

Case: A 57 year old Caucasian male with a medical history significant for hypertension and alcohol use presented to the emergency department after a witnessed episode of syncope. The patient admitted to a 2-3 week history of generalized weakness. Upon presentation vital signs and physical exam were unremarkable. Comprehensive metabolic panel revealed sodium of 127 mmol/L, potassium of 2.8 mmol/L, creatinine of 0.97 mg/dL, and mildly elevated total bilirubin. Overnight, the patient became febrile up to temperatures of 104 °F and developed a tremor. Blood and urine cultures were drawn, and he was started on empiric antibiotic therapy. He was also placed on a multivitamin, thiamine, and folate, along with ativan as needed for suspected alcohol withdrawal. Head CT and MRI showed only chronic cerebral atrophy and chronic ischemic changes. He continued to have febrile episodes. However, multiple sets of blood and urine cultures did not reveal evidence of infection and chest x-ray did not reveal an infiltrate. Lumbar puncture produced clear and colorless cerebrospinal fluid with 41% white blood cells, glucose of 61 mg/dL, and protein of 48.1 mg/dL. Routine CSF cultures, acid fast bacillus, CSF VDRL, HSV PCR, nasal swabs for influenza A and B antigens, and serum cryptococcal antigen were negative. His West Nile virus IgG and IgM were positive and a diagnosis of West Nile virus was confirmed. Over the course of the next week the patient’s mental status improved and strength was regained through physical therapy.

Discussion: The patient’s initial presentation was his manifestation of West Nile fever characterized by fevers, chills, and generalized weakness. The progression of disease to encephalopathy was likely secondary to his history of alcohol abuse, as older age, alcohol abuse, and diabetes in patients with West Nile virus have been associated with encephalitis. There is no specific treatment for West Nile virus, and patients are managed with supportive care.
A CASE OF THIAMINE DEFICIENCY PRESENTING AS HYPOTHERMIA IN AN AIDS PATIENT

Angela Graebert MD, Lauren McDougal MS4, Naji Masri MD
Department of Internal Medicine, Louisiana State University Health Science Center, New Orleans, LA

INTRODUCTION: Hypothermia is a condition in which the core body temperature is decreased to below 35°C (95°F).

CASE: A 45 year old Hispanic male was brought to our facility after being found lying outside on a sidewalk. According to EMS reports, the patient initially had a blood pressure of 106/60 with a pulse of 48, respirations of 18, 100% oxygen saturation on room air, a blood glucose level of 125, and had admitted to alcohol use that day. Upon arrival to our facility, he was found to have a core body temperature of 84.2°F. On our exam, the patient was drowsy but arousable. He spoke but did not answer questions appropriately. He did not have any evidence of head trauma and pupils were sluggish but reactive to light, otherwise his physical exam was unremarkable. Initial laboratory studies revealed hemoglobin of 11.7 gm/dL and an MCV of 111.2 fL. Toxicology screen was negative. EKG changes were consistent with Osborn waves seen with hypothermia. Blood, urine, and sputum cultures were obtained to evaluate for possible sepsis as the cause of the patients hypothermia and he was started on broad spectrum antibiotic therapy. TSH normal and both random and 8:00am cortisol levels were not depressed. He had a normal vitamin B12 level and a borderline deficient folate level. The patients’ hypothermia was gradually corrected with active external re-warming techniques. After about 12 hours of monitoring in the ICU his core body temperature reached 96°F. Further history was then able to be obtained and it was learned that the patient was infected with HIV. An immunodeficiency panel was checked revealing an absolute CD4 count of 2 cells/μL. As thiamine deficiency was supported by a thiamine level of 22 ug/L. The patient was discharged with thiamine and folate supplementation.

DISCUSSION: The moderate hypothermia observed in our patient is most likely secondary to thiamine deficiency secondary to multiple etiologies including his malnourished state, AIDS and his alcohol abuse. Deregulation at the level of the hypothalamus is specifically responsible for the hypothermia seen in thiamine deficient individuals. Currently, there are no recommendations for administration of thiamine to patients with hypothermia.
Far More than a Cycling injury...

Ryan Gravolet, Camille Doan MD, and Shane Guillory MD

Department of Internal Medicine, Louisiana State University Health Sciences Center, New Orleans, LA

Introduction: Approximately 300 episodes of miliary TB were reported in the US in 2010, accounting for only 1-2% of all TB cases.

Case: A 73 year old man presented with a 4 day history of hematuria and a 4 week history of dysuria and lower back pain. The patient attributed his problems to a recent biking injury in which his groin collided with the bike’s handlebars. He was treated with ciprofloxacin for 10 days for a suspected UTI. His symptoms continued to worsen over the next two weeks, however, and his lower back pain intensified to a 9/10. On presentation to our facility, further questioning revealed a 10 year history of cough that in previous weeks was more productive of darker colored sputum. He reported a 40 lb weight loss in the previous months. He affirmed a 20 pack year smoking history, a history of incarceration five years prior, and current homelessness. Vital signs were unremarkable. On physical exam, the patient had decreased breath sounds in his lower lobes, tenderness to palpation along his lower back, and a hyperpigmented hardened nodules on the skin of his scrotum and behind his right shoulder. Urinalysis was positive for blood (250/microliter) and protein (150/microliter), and PSA was 28.5. Chest CT showed cavitary changes, miliary changes, and calcified nodules distributed throughout the lungs bilaterally. Abdominal/pelvic CT revealed L5-S1 discitis & osteomyelitis, an enlarged heterogenous prostate, and an 8 mm UVJ stone; US of the testicle revealed a hydrocele and possible scarred fibrous tissue. The pt’s sputum tested AFB 3+ positive, and an IR biopsy of the lumbar spine was AFB smear positive, both subsequently grew *Mycobacterium tuberculosis*. Urinary involvement was also confirmed with a urine culture grew TB. The patient was diagnosed with disseminated TB, and RIPE + B6 therapy was administered with plans to treat for 9 months.

Discussion: Due to nonspecific signs and symptoms, miliary TB is often missed (20% of cases diagnosed post mortem) and requires a high index of suspicion. Our patient’s diverse problems including a long history of productive cough, weight loss, back pain, dysuria and hematuria are united under one pathological process of disseminated TB.
Objectives: The addition of inhaled corticosteroids (ICS) to treatment regimens for chronic obstructive lung disease (COPD) has demonstrated favorable effects on lung function and symptoms. However, recent clinical data, comprising large cohorts of COPD patients, suggest an increased risk of pneumonia in patients treated with fluticasone propionate (FP) versus non-ICS treatment and versus budesonide (BUD). We recently showed that exposure to inhaled FP significantly impairs pulmonary clearance of *Klebsiella pneumoniae* in mice, an effect associated with greater systemic bacterial dissemination and death. We hypothesized that BUD would not adversely impact bacterial dissemination or survival in a murine model of Gram-negative bacterial pneumonia.

Methods: Adult male C57BL/6 mice (n=72; n=12 per treatment group) were exposed to one of three nebulized BUD doses (0.15, 0.30, or 0.45 mg/ml) for 20 minutes per day over 8 days using a nose-only ultrasonic nebulizer exposure system. Two comparator groups received nebulized FP at either 0.15 or 0.30 mg/ml. A single control group was also nebulized with vehicle only (0.17% Tween 80 in sterile saline). On day 8, all mice were orotracheally inoculated with 1x10^4 colony forming units (CFU) of live *Klebsiella pneumoniae* (ATCC 43816). Following inoculation, animals continued to receive daily nebulized drug or vehicle. After 48 hours, blood samples were obtained for CFU measurement. Ten-day survival rates were recorded.

Results: Exposure to either BUD or FP at all delivered concentrations resulted in increased blood CFU 48 hours after infection vs. vehicle control. Furthermore, survival was compromised in all groups receiving nebulized BUD or FP vs. vehicle group. After correction for multiple comparisons, the differences vs. vehicle for both bacterial dissemination and survival remained statistically significant for all three doses of BUD but not for the two FP doses studied. For both blood CFU and survival data there was no dose-response relationship for either BUD or FP.

Conclusion: Pre-treatment with nebulized BUD or FP for 8 days increased bacterial dissemination and impaired survival in a murine model of pulmonary *Klebsiella pneumoniae* infection. In contrast to clinical data, these and the previous results obtained in this model suggest that inhaled corticosteroids as a class can adversely affect pulmonary host defenses against bacterial infection in mice. However, a lack of a dose-response relationship for either BUD or FP does not allow concluding significant distinction between different inhaled corticosteroids regarding effects on bacterial host defenses of the lung.
Activities of Daily Living and Risk of Falls among Patients with and without Diagnosed Osteoporosis in Nursing Homes in Louisiana

1EA Aguilar, 1SD Barry, 1CA Cefalu, 1A Abdo, 1W Hudson, 1US Campbell, 1TM Reske, 2M Bonafede, 2K Wilson, 2BS Stolshek, 3L Cheng, 3CJ Paoli; 1LSU Health Sciences Center, New Orleans, LA; 2Truven Health Analytics, 3AMGEN

Background
Osteoporosis (OP) is prevalent among residents in long-term care (LTC) facilities. Disability in activities of daily living (ADLs) and risk of falls are assessed routinely for residents in LTC facilities. The current study set out to describe the ADLs and risk of falls among patients with and without an osteoporosis diagnosis in nursing homes.

Methods
A retrospective chart review study was conducted in 11 LTC facilities in Louisiana from April 2012 to August 2013. Residents 30 of age residing for 3 months in one of the facilities were included. Data from pre-specified sections in patient charts, including the Minimum Data Set (MDS) 3.0, between January 2009 and the time of chart review were collected. Results A total of 746 patients met the study inclusion criteria. 132 patients had an OP diagnosis documented in the charts (age 82±12), and 614 patients did not (age 75±14). The majority of patients required greater assistance from caregivers for their ADLs. Physical mobility ADLs were limited among both those with and without an OP diagnosis. Fewer patients with an OP diagnosis were able to walk in room or facility independently (9.2%) compared to patients without an OP diagnosis (10.4%). Only 7.7% of patients with OP were able to transfer between surfaces independently compared to 10.9% of patients without an OP diagnosis. A high risk of falls was observed in 55.8% of all patients, and the rates were similar between those with and without an OP diagnosis. The prevalence of high risk of falls was higher among patients with current OP medication use (61.5%) compared to patients without (41.1%). Among patients with an OP diagnosis, 63.9% of those treated with OP medications were at high risk of falls, compared to 52.6% of those not treated with OP medications. Conclusions ADLs were limited in both patients with and without an OP diagnosis in nursing homes included in the current study. High risk of falls was observed in more than half of all residents, and the risk appeared to be higher in those treated with OP medications than those not using OP medications.

Results A total of 746 patients met the study inclusion criteria. 132 patients had an OP diagnosis documented in the charts (age 82±12), and 614 patients did not (age 75±14). The majority of patients required greater assistance from caregivers for their ADLs. Physical mobility ADLs were limited among both those with and without an OP diagnosis. Fewer patients with an OP diagnosis were able to walk in room or facility independently (9.2%) compared to patients without an OP diagnosis (10.4%). Only 7.7% of patients with OP were able to transfer between surfaces independently compared to 10.9% of patients without an OP diagnosis. A high risk of falls was observed in 55.8% of all patients, and the rates were similar between those with and without an OP diagnosis. The prevalence of high risk of falls was higher among patients with current OP medication use (61.5%) compared to patients without (41.1%). Among patients with an OP diagnosis, 63.9% of those treated with OP medications were at high risk of falls, compared to 52.6% of those not treated with OP medications. Conclusions ADLs were limited in both patients with and without an OP diagnosis in nursing homes included in the current study. High risk of falls was observed in more than half of all residents, and the risk appeared to be higher in those treated with OP medications than those not using OP medications.
INTRODUCTION: There are multiple reports in the literature of EKG changes associated with spontaneous pneumothoraces. However, there is no documentation of isolated left bundle branch block (LBBB) changes due to a right-sided pneumothorax. We will discuss a patient with a right-sided spontaneous pneumothorax with a new LBBB that resolved post treatment.

CASE: Our patient is a 62-year old African-American male with a history of chronic atrial fibrillation, gout, diabetes, hyperlipidemia, and hypertension who presented to the ED with a chief complaint of “chest pain and shortness of breath x 10 hours.” His atrial fibrillation was rate-controlled without medications. Home medications included warfarin, allopurinol, atorvastatin, furosemide, lisinopril, and metformin. In the emergency department, the patient was found to have new LBBB and atrial fibrillation with rate of 90 bpm on EKG, moderate-sized right pneumothorax on CXR, and normal cardiac enzymes. After FFP administration, CT surgery placed a catheter in the right chest. Repeat CXR showed complete re-expansion of the right lung. The patient had multiple EKGs in the ER that showed LBBB prior to chest tube insertion. However, serial cardiac enzymes were negative and serial EKGs showed lateral T-wave inversions and LBBB. The patient remained chest-pain free after the chest tube placement, and the tube was removed by the third hospital day. The final EKG on the day of discharge showed AFIB with resolution of the LBBB and improvement of T-wave inversions. Cardiac enzymes remained negative.

DISCUSSION: Common EKG changes that have been documented with pneumothoraces include ST-segment elevation, T-wave changes, axis deviation and incomplete right bundle branch block regardless of the side of the pneumothorax. Theoretically, pneumothoraces increase intrapleural pressures and decrease venous return and stroke volume; tachycardia then increases oxygen demand resulting in ischemic changes on EKG. However, this does not seem to be the case in our patient. Multiple sets of cardiac enzymes were normal despite the new LBBB and chest pain. This case emphasizes the importance of recognition of LBBB directly related to a pneumothorax rather than to myocardial ischemia thus avoiding unnecessary invasive procedures i.e. coronary angiograms.
**Chylous Ascites in Kaposi Sarcoma: A Case Report**

**Patrick Johnson, Ellen Chang, Elizabeth Smith, Betty Lo**  
Department of Medicine, LSUHSC.

**Introduction:** Chylous ascites is a known complication associated with Kaposi sarcoma (KS). However, upon our literature review, there are only three reported cases of chylous ascites in patients with KS.

**Case:** A 26 year old Caucasian male with a history of AIDS (CD4 - 123), KS, pleural effusion, and pulmonary emboli was admitted for diffuse abdominal pain and scrotal edema. Physical exam was notable for tachycardia, pallor, decreased basilar breath sounds, diffuse abdominal pain with distention, positive fluid wave and shifting dullness without rebound or guarding, tender scrotal edema, inguinal adenopathy, and purple lesions on his upper palate and torso consistent with KS. A prior EGD and colonoscopy showed Kaposi’s lesions throughout the GI tract. An abdominal CT revealed diffuse adenopathy. A paracentesis was performed and 1510mL of milky, turbid, blood-tinged fluid was removed. Fluid analysis was negative for malignancy but demonstrated 36,300; RBC’s and triglycerides concentration of 740 mg/dL. The patient was started on liposomal doxorubicin for his KS during his hospitalization and finally achieved adequate pain control and improvement of his ascites and scrotal edema after three rounds of treatment as an outpatient.

**Discussion:** Chylous ascites is an uncommon finding that is caused by the presence of intestinal or thoracic lymph in the peritoneal cavity. The incidence is reportedly 1 per 20,464 admissions at Massachusetts General Hospital during a 20-year period. It is diagnosed by milky ascitic fluid with a triglyceride content typically greater than 200 mg/dL. Causes of chylous ascites include: malignancy, trauma, chronic liver disease, inflammation, infection, postoperative. The underlying mechanism for the formation of chylous ascites is due to the disruption of the lymphatic system from obstruction or traumatic injury. While the exact cell of origin for KS remains unclear, the current opinion is that KS tumor cells are derived from lymphatic endothelium. Hence, the development of chylous ascites may possibly be due to in-situ KS in that region rather than metastasis to the thoracic duct as once thought. Chemotherapy for KS can often improve symptoms (response rate 60-90%) as was seen in our patient.
Objectives: Neurocognitive impairment and depression adversely impact HIV treatment adherence and identification of early markers of neurocognitive impairment could lead to interventions that improve psychosocial functioning and slow disease progression through improved treatment adherence. Evidence has accumulated for the role of miRNAs in neurocognitive disorders based on analysis of cerebrospinal fluid (CSF) and brain tissue, but these are not practical approaches for predicting/identifying neurocognitive disorders in the clinic.

Methods: We have developed an accurate and sensitive protocol to profile miRNAs in body fluids in which we hypothesize that plasma miRNAs may associate with subclinical neurocognitive impairment (CI), HIV treatment adherence, and HIV disease outcomes. Over 50 HIV+ patients with unknown neurocognitive status have thus far been recruited from the LSUHSC HIV Outpatient Clinic for this prospective cohort study. During routine clinic visits, validated assessments are performed for CI and depression, and whole blood is collected and separated into plasma fractions for miRNA profiling.

Results: We report miRNA profiling results from 36 HIV+ patients. 19 of 36 patients (52.8%) demonstrated CI. Moreover, 17 of 36 patients (47.2%) met predetermined criteria for depression. After controlling for HIV disease status and other factors associated with CI, miRNA signatures associated with CI and depression were identified.

Conclusion: Ongoing analyses will determine whether miRNA profiling offers a practical approach for identifying HIV+ patients with CI which are potentially amenable to interventions which, along with antiretroviral therapy, may improve HIV disease outcomes for these high-risk patients.
Clarithromycin associated hepatotoxicity

Samara Khalique, MD; Rose Paccione, MD MA MBA; Betty Lo, MD
Department of Internal Medicine, Louisiana State University Health Sciences Center, New Orleans, LA

Introduction: Clarithromycin hepatotoxicity is an uncommon adverse effect that has been documented in a few cases. Macrolide-induced hepatotoxicity is likely due to its inhibitory effect on Cytochrome P450 3A4 (CYP3A4). We describe a case of clarithromycin-associated hepatotoxicity in a patient with no known liver disease.

Case: Our patient, a 45 y/o Filipino man with a PMH of hypertension, hyperlipidemia, iron deficiency anemia, diabetes mellitus type II, presented with acute jaundice, abdominal pain and hyperbilirubinemia (T. bili 22 mg/dL). On admission, he had just completed a 7-day course of clarithromycin 250 mg bid along with Tylenol 1000 mg daily for a URI. His physical exam was pertinent for sclera icterus and jaundice. Abnormal labs included Total bilirubin 22 mg/dL, AST 225 U/L, ALP 128 U/L, ALT 310 U/L, lipase 75 U/L, ammonia 45 umol/L, albumin 3.1 g/dL, INR 1.4 sec. HIV, RPR, and hepatitis serology were negative. Abdominal ultrasound was unremarkable. He was treated with N-Acetylcysteine for three days for presumed acetaminophen toxicity and then discharged. One month later, he returned with worsening jaundice, abdominal distention consistent with ascites, sclera icterus, sublingual and skin jaundice. Labs included: Total bilirubin 19.8 mg/dL, AST 80 U/L, ALP 104 U/L, ALT 55 U/L, INR 1.5 sec, albumin 1.9 g/dL, lipase 49 U/L. EGD showed portal hypertension, gastropathy, and esophageal varices. Liver biopsy revealed chronic liver disease of unknown etiology and bridging fibrosis and inflammation consistent with acute toxic drug insult. Autoimmune work up was inconclusive. Paracentesis showed portal hypertension. He was discharged home on Lasix, aldactone, and lactulose. Repeat liver biopsy after discharge confirmed the initial biopsy results of fibrosis consistent with acute hepatotoxicity. Clinic labs five months later revealed complete resolution of both symptoms and LFTs and liver chemistries.

Conclusion: Hepatotoxicity is a known but less common adverse reaction of macrolides. Physicians should be aware of risk factors that may increase the risk of macrolide-induced hepatotoxicity: age > 55 y/o, female gender, multiple medical problems (chronic renal insufficiency), polypharmacy, prior macrolide use. Awareness of these risk factors prior to prescribing macrolides can help prevent irreversible liver damage.
ACCIDENTAL CHRONIC ACETAMINOPHEN TOXICITY: A CASE REPORT
L. Kistler, MD, R. Breaux, MD, L. Moreno-Walton, MD Section of Emergency Medicine, Department of Medicine, LSUHSC.

Introduction: Acetaminophen toxicity is the most common cause of acute hepatic failure in the United States. Accidental overuse and suicide attempt cause an equal number of cases. Patients who accidentally overdose on acetaminophen do so because they may not understand the correct dosing of acetaminophen, or may not be aware that the ingredient is present in other compounds they are ingesting. More severe morbidity results from chronic use of acetaminophen than from acute intoxication, since patients usually present later in their course, once hepatic damage has already occurred. The hepatic enzyme cytochrome P450 metabolizes acetaminophen to N-acetyl-P-benzoquinoneimine (NAPQI), the compound responsible for toxicity. NAPQI is conjugated by glutathione, an antioxidant tripeptide abundant in the normal diet. Chronic acetaminophen users are often taking the medication because they feel ill, and so they usually have poor nutrient intake. Our case represents such an instance of a 43 year old female with a viral illness who chronically overdosed on acetaminophen.

Case Report: A 43 year old female with no past medical history presented with five days of malaise and subjective fevers with one day of near syncope, nausea, vomiting, and loose stools. The patient’s initial labs were significant for thrombocytopenia of 12,000 and mild transaminitis of alanine aminotransferase 274 IU/L and aspartate aminotransferase 507 IU/L. The patient was admitted to the intensive care unit for thrombocytopenia of viral origin. On day one of hospitalization, the patient’s liver function tests were acutely elevated to aspartate aminotransferase 1899 IU/L and alanine aminotransferase 880 IU/L. It was then that a history of excessive acetaminophen intake was obtained. The patient noted that she was taking about 4.5 grams of Tylenol daily in addition to drinking out of bottles of Dayquil and Nyquil and taking unknown amounts of Ther-a-flu. All three products include acetaminophen as an ingredient. It was estimated that the patient had taken six grams of acetaminophen daily for four days. The patient was started on intravenous N-acetylcysteine therapy, three doses per day, for five days. Her transaminases peaked on hospital day three and the liver transplant team and social work were consulted for consideration of hepatic transplantation. However, the patient’s liver function improved from days four to seven with continuation of intravenous N-acetylcysteine and she was discharged safely home.

Conclusion: While acetaminophen toxicity is common, clinicians may not recognize it initially as a cause of hepatic failure. Many factors contribute to chronic acetaminophen toxicity, including limited literacy and knowledge about the risks of excessive acetaminophen use. Additionally, patients that have been fasting, chronic alcohol users, and those taking medications that increase levels of cytochrome P450 are at increased risk of acetaminophen toxicity. Our case highlights the importance of inquiring about acetaminophen use in patients with acute hepatic failure, as treatment with N-acetylcysteine is paramount to recovery of liver function.
Introduction: Hypersensitivity to surgical metal implants is well described in orthopedic literature. However, methods for pre-surgical evaluation, diagnosis, and treatment are not well established. We report a case of a patient with no prior history of metal hypersensitivity or other atopic disease who developed signs of implant intolerance and was treated successfully with minimal intervention.

Case: A 16 year old male presented with a one week history of fever and shortness of breath, 21 days after surgical correction of pectus excavatum involving implantation of a stainless steel bar (Nuss procedure). Evaluation revealed leukocytosis, eosinophilia, elevated ESR, CRP, and pleural effusion. A chest tube was placed and IV antibiotics were started. Clinical improvement was demonstrated by decreased shortness of breath and fever resolution. Despite negative blood and pleural fluid cultures, chest tube drainage remained significant. Pleural fluid showed lymphocyte and eosinophil predominance, and a hypersensitivity reaction to the implanted steel bar was suspected. Skin patch testing was performed using T.R.U.E. TEST®. Patch testing confirmed Type IV Hypersensitivity to nickel. With nickel hypersensitivity thus identified, antibiotics were discontinued and oral Prednisone initiated (1mg/kg/day for 5 days, then tapered for 14 days total), with rapid cessation of chest tube drainage. He remains asymptomatic one year following this 14 day course of corticosteroids.

Discussion: This case emphasizes that clinically significant hypersensitivity reaction to implanted metal hardware may occur in patients without a history of atopy, rash, or metal intolerance. Rarely, as with this case, metal hypersensitivity following surgical metal implantation occurs without overlying dermatitis, offering few clues to the diagnosis. In this case, diagnosis was confirmed by demonstration of eosinophilia in pleural fluid, positive patch test to nickel, and response to corticosteroids. Although treatment methods have not been standardized, we clearly document that resolution may be achieved and maintained with a brief course of oral corticosteroids. Therefore, more aggressive treatment including higher dose and prolonged course of corticosteroids, or surgical implant removal may not be necessary.
SARCOID CARDIOMYOPATHY

Laura, Scott, MD; McShurley, Timothy, MD; Jain, Neeraj, MD

Department of Internal Medicine, Louisiana State University Health Sciences Center, New Orleans, LA

Introduction: Sarcoidosis is a systemic disease with the formation of non-caseating granulomas in a variety of tissues. Cardiac involvement is one of the least common manifestations, however it has been suggested that it may be present in up to 25% of those individuals diagnosed with systemic sarcoidosis. Cardiac sarcoidosis may affect both the conduction system and myocardial function through granuloma deposition and fibrosis leading to ventricular dysfunction, congestive heart failure, atrioventricular block, atrial or ventricular arrhythmias, and even sudden death.

Case: A 56 y/o obese female with past medical history of untreated sarcoidosis with pulmonary and neurological involvement (diagnosed by lumbar puncture several years prior), depression, anxiety, hypertension, hyperlipidemia, migraines, GERD, and asthma was referred for evaluation of chest pain and dyspnea on exertion. Her chest pain was described as sharp and left sided with radiation to the jaw. Patient stated pain lasted approximately 10-15 minutes, occurring 2-3 times per week for the past 3-4 months with exertion, rest, and coughing. Patient also described dyspnea when ambulating approximately 100 yards that was relieved with brief periods of rest, minimal intermittent pedal edema worsened by prolonged standing, and orthopnea for many years. Electrocardiogram showed normal sinus rhythm with occasional premature ventricular complexes. Two dimensional echocardiogram revealed left ventricular enlargement (LVIDd: 5.6 cm, LVIDs: 4.9cm) with an ejection fraction of approximately 45% and a thin, akinetic inferior wall consistent with scarring. Estimated pulmonary artery pressure was less than 35mmHg. Diastology revealed an abnormal relaxation pattern with normal left atrial pressure. The patient underwent coronary angiogram which revealed non-obstructive coronary artery disease. Chest radiography remained unchanged from computed tomography a few months prior which showed perihilar and suprahilar lymphadenopathy. Patient was discharged with pulmonary and cardiac follow up for continued management of her sarcoidosis.
**Hypertrophic Cardiomyopathy**

Laura, Scott, MD; Singh, Manpreet, MD; Jain, Neeraj, MD

Department of Internal Medicine, Louisiana State University Health Sciences Center, New Orleans, LA

**CASE:** A 47 year old woman female with family medical history of sudden death at the age of 60-70 was diagnosed with hypertrophic cardiomyopathy after presenting for 3 weeks of chest pain described as left sided, dull/achy, without radiation, and occurring both at rest and with exertion. The pain was associated with shortness of breath, dyspnea on exertion and palpitations which had progressed to occurrence after a single flight of stairs and light housework over the past week. An echocardiogram on admission revealed normal LV function of >55% with severe asymmetric septal hypertrophy, septal thickness of 20-29mm, moderate systolic anterior motion of the mitral valve, with peak left ventricular outflow tract (LVOT) velocity of 6m/s and peak gradient of 144 mm Hg. The patient underwent left heart catheterization which revealed normal coronaries with a large first septal branch demonstrating dynamic systolic compression. Hemodynamics revealed LV body pressure of 200/15 mm Hg with a late-peaking dagger shape as in dynamic LVOT obstruction, LVOT pressure of 100/15 mm Hg, aortic pressure of 100/61 mm Hg. No aortic valve obstruction was present. Cardiac MRI was performed which revealed an interventricular septum thickness of 31mm, LVOT obstruction, and a mid myocardial scar in the inferoseptal segment. The patient underwent placement of an ICD for primary prevention.

**DISCUSSION:** Hypertrophic Cardiomyopathy (HCM) is defined as left ventricular hypertrophy without an identifiable cause such as hypertension, aortic stenosis, or chronic renal failure that usually develops in the second decade of life. Prevalence in the general population is 1:500. HCM is inherited in an autosomal dominant pattern in approximately 50% of cases with the remaining due to new mutations. HCM, in the vast majority of cases, is associated with hypertrophy of the proximal anteroseptal wall, leading to obstruction of the left ventricular outflow tract in approximately 25% of cases.
Pregnancy Complications with Crohn’s Disease: Steroid Psychosis, Concern for Teratogenesis, and anti-TNF Treatment Selection

Benjamin Levy MD, Melissa Spera MD, and Milin Patel MD
Section of Gastroenterology, Department of Internal Medicine, Louisiana State University Health Sciences Center New Orleans

Introduction: Pregnant patients with Inflammatory Bowel Disease (IBD) present unique treatment considerations that can be further complicated by adherence issues, steroid psychosis, and the discontinuation of immune modulating agents by primary care physicians due to concern for birth defects. The benefit of preventing IBD flares during pregnancy, using low dose azathioprine, is not well appreciated by non-Gastroenterology.

Case: A 21 year-old African-American female G1 P1 presented to the ER complaining of recurrent vulvar and perianal cellulitis. The patient was admitted and diagnosed with atopic dermatitis, inguinal and gluteal fissures, plus vulvar cellulitis with fungal superinfection. During hospitalization, she was successfully treated by the Internal Medicine team with Vancomycin, Zosyn, and Fluconazole as well as nystatin powder and silver alginate. One week later, the patient was seen after a referral to Gastroenterology clinic, where the GI Fellow became concerned for hidradenitis suppurativa vs. Crohn’s disease, and a trial of flagyl was initiated. She subsequently underwent outpatient colonoscopy which revealed severe perineal disease with skin breakdown and possible fistulous tracts. The inflammation in the rectum extended proximally to 25cm. Asacol and azathioprine was prescribed for probable Crohn’s, but the patient did not fill the medication. MR Enterography was ordered, but the patient missed her radiology appointment and subsequent GI appointments. The patient returned ten months later complaining of abdominal pain. She was placed on prednisone 10mg PO daily (titrated to 30mg) along with azathioprine 50mg PO Daily (titrated to 100mg Daily). The patient and her husband were again instructed to use double contraception to prevent pregnancy. After several missed appointments and phone conversations, the patient returned three months later and was found to be pregnant on HCG testing. The patient was maintained on prednisone 30mg and she later discontinued azathioprine due to concerns about birth defects. One month later, the patient’s husband notified the clinic that she had been displaying behavioral changes and had attacked him with a knife. Psychiatry emergently evaluated the patient in the ER for steroid induced psychosis. Prednisone was tapered down to 10 mg PO Daily and she was discharged from the ED. The patient missed additional appointments, but later followed up in GI Clinic. She was maintained on 5mg prednisone until anti-TNF initiation due to continued intermittent mild, crampy abdominal pain. Certolizumab pegol was selected due to concerns about the other anti-TNF biologics having the ability to cross the placenta. Certolizumab pegol was initiated at week 28 and maintained throughout the duration of pregnancy. The patient delivered a healthy baby by C-Section at full term.

Discussion: Perianal involvement and fistulous formations help to differentiate Crohn’s Disease from Ulcerative Colitis and may precede the onset of abdominal symptoms. Steroid induced psychosis is a known treatment side effect that occurs with higher dosages of prednisone. Data from the PIANO registry has determined that immune modulating agents and anti-TNF agents can safely be continued during pregnancy (with special timing considerations for infliximab and adalimumab during the third trimester) to prevent early delivery and IBD flares without harm to the mother or fetus.
Case: A 33-year-old male presented with progressively worsening substernal chest pressure and dyspnea on exertion relieved with rest over three months duration. Physical examination revealed diminished carotid pulse with a II/VI systolic crescendo murmur radiating to both carotids. Transthoracic echocardiogram showed a heavily calcified aortic valve with limited motion consistent with aortic stenosis. Peak gradient across the aortic valve was 110 mmHg with a calculated aortic valve area of 0.6 cm² consistent with severe aortic stenosis. The other valves appeared normal in structure and function. The patient underwent surgical aortic valve replacement. Gross examination revealed a heavily calcified, slit-shaped unicommissural aortic valve.

Discussion: Unicuspid aortic valve is a rare congenital malformation seen in 0.019% of patients undergoing echocardiography and in 5.59% of patients undergoing aortic valve replacement. Approximately 60% of unicuspid aortic valves in adults are diagnosed after surgical resection or at autopsy while only 20% are found on echocardiography. Two sub-types have been described. A pinhole-shaped UAV typically presents in early infancy while a slit-shaped unicuspid aortic valve commonly presents later in early adulthood.
INTRODUCTION: The small bowel is a very rare location of metastatic deposits of non-small cell lung cancer (NSCLC).

CASE: A 58 year old patient with a history of Stage III (T2N2M0) NSCLC treated with chemotherapy and radiation presented to the hospital with a one week of shortness of breath and chest discomfort. The patient’s NSCLC had been considered to be in virtual remission based a PET scan following his treatment. At presentation the patient was found to have a severe microcytic anemia. Initial workup for a source for the patient’s blood loss was negative. A review of the patient’s medical record suggested a suspicious finding on a surveillance CT involving the small bowel. The patient underwent CT enterography to and was found to have a partially obstructing mass located on the mesenteric side of the small bowel. Laparoscopic exploration of his abdomen was performed with resection of the mass with re-anastamosis of the small bowel; no signs of other masses or metastatic deposits were evident. Gross pathology revealed an 8cm lesion fixed on the mesenteric side of the bowel serosa eroding into the bowel lumen which was determined to be a poorly differentiated carcinoma invading through both the mucosal and serosal surfaces. Immunostaining of the sample revealed CK7 and TTF-1 staining characteristics in line with the biopsy from the patient’s primary lesion in the lung and a diagnosis of NSCLC metastatic to the early ileum was made. The patient was considered to have a solitary metastatic event to the small bowel and was discharged with plans to undergo salvage therapy. Several weeks later the patient returned to the Emergency Room with nausea, weight loss, melena, and decreased appetite and on CT scanning was found to have widespread carcinomatosis with implants throughout his large and small bowel along with nodules in his liver, adrenal glands, and kidneys.

DISCUSSION: While an extremely rare location for isolated metastasis in patients with NSCLC, metastatic disease to the small bowel may be associated with mild and non-specific symptoms that may not be immediately recognized as metastatic disease. While these lesions generally portray a very poor prognosis; early and aggressive therapy may improve time to further relapse and quality of life.
INTRODUCTION: Commercial diving is a thriving industry that attracts many young men and women. However, matriculating through dive school and the expenses related to diving equipment and licensing are significant. Commercial diving is also dangerous. Exposure to increased ambient pressures, sea life, hypothermia, equipment failure and hostile environments are continual hazards. Socially, the men and women who work as commercial divers are a very physically active, hard-working and enjoy a very close camaraderie common to this type of difficult and specialized work. When these divers are injured, a multitude of factors may influence a diver to minimize or deny injury including: fear of job loss or banishment, self-denial, misplaced motivation, ignorance, financial loss, and embarrassment. The culture of commercial diving may perpetuate the dangerous practices of divers to under-report or fail to report injury symptoms related to decompression sickness (DCS) and other illnesses.

CASE REPORT: A 31 year old, experienced commercial diver presented for consultation 5 weeks after getting bent. He complained that, "since he got bent," he is unable to function because of debilitating bitemporal headaches and other cognitive neurologic symptoms. The patient was injured during an episode of omitted decompression due to equipment malfunction. The omitted decompression was noted, and the patient was treated with a USN TT6. The patient, however, denied symptomology and remained on the job. He performed a second dive 3 days later. Ninety minutes after surface decompression, he developed neurologic symptoms and became unconscious. He received USN TT6 with 2 extensions and achieved 'complete resolution' of his symptoms. The patient maintained that he was "perfectly fine' until a patent foramen ovale (PFO) study revealed significant shunting with Valsalva. Upon learning of his PFO and of the recommendation that he could return to work only when he was completely asymptomatic and PFO repaired, he -confessed' to the diving medical officer (DMO) that he has been experiencing a whole gamut of symptoms since the first dive. Suspecting secondary gain, the DMO sent the patient for a second opinion. The patient was fully evaluated and given hyperbaric tailing treatment with serial examinations. He symptomatology has remained waxing and waning. Moreover, the discovery of a PFO in an experienced diver without any previous injuries, may suggest that the PFO may have been acquired during his deep Valsalva's and a significant contributing factor in this case.

CONCLUSION: DCS is a complicated injury at times due to the protean nature of symptoms. The correct diagnosis and treatment may be complicated by patient issues of secondary gain as well as significant psychosocial and economic stressors. Additional factors include incomplete documentation, contradictory histories and the financial and liability interests of the diving company. These factors cloud the diagnosis and delay the appropriate treatment of DCS, risking significant and permanent disability.
Anesthesia Controversy: When is it safe to begin post-operative HBO, when nitrous oxide is part of the anesthetic regimen?

Murillo IF, LeGros TL, Murphy-Lavoie H and HA Wyatt. LSU School of Medicine Research Forum, February, 2014

INTRODUCTION: There are several emergent indications for hyperbaric oxygen (HBO) therapy in post-surgical patients. These infectious and traumatic indications include compromised flaps, compromised grafts, arterial insufficiency, crush injuries, compartment syndrome, necrotizing fascitis, gas gangrene, and iatrogenic air gas embolism. The challenge is that these post-surgical patients may have received nitrous oxide (N2O) as part of their anesthetic regimen. Nitrous oxide has the propensity to distend air-filled cavities and may result in pressure accumulation and decompression sickness (DCS) in post-anesthetic patients undergoing HBO therapy. The current post-anesthetic protocol in some facilities involves administering 15 Uminute O2 via non-rebreather mask for at least 2 hours prior to initiation of HBO therapy.

MATERIAL AND METHODS: We conducted a comprehensive review of the relevant literature, including the journals, archives and reference literature of MEDLINE, PUBMED, the American Society of Anesthesiology, the American Medical Association, the Undersea and Hyperbaric Medical Society, Lippincott Williams and Wilkins, and the Duke Hyperbaric and Diving Medicine resource library.

RESULTS: Several reports describe serious concerns with N2O use during surgery at increased ambient pressure within a HBO2 chamber. One case report presented a diver who experienced a recurrence of previously resolved DCS symptoms following exposure to N2O immediately after a dive. However, our literature review revealed no published data relating any danger in initiating HBO therapy following recent exposure to N2O.

DISCUSSION: Nitrous oxide's low blood solubility produces both a rapid onset and offset of anesthesia. Although N2O has a low blood-gas partition coefficient (0.46), it is 34 times greater than that of N, (0.014), resulting in faster entry into enclosed spaces (faster than N2 can be eliminated). The resultant gas separation may lead to expansion of a pneumothorax, intestinal obstruction, air embolism, as well as increased pressure within noncompliant cavities, such as the middle ear, confined tissue compartments, or the cranium. While this may problematic for a hyperbaric exposure before or during N2O exposure, there are no published studies relating any danger in initiating HBO2 follow recent N2O anesthesia. However, as N2O does seek potential spaces, it is appropriate to be vigilant regarding the potential existence of an occult pneumothorax. Further studies are needed.
Analysis of EGFR mutations and EML4-ALK gene rearrangement in lung adenocarcinoma patients: A 3-year experience of the Louisiana State University (LSU) public hospital in New Orleans.

Shravan Narmala, Brian C. Boulmoy Section of Hematology/Oncology, Louisiana State University Health Sciences Center, New Orleans, LA

Background: The National Comprehensive Cancer Network recommends that all patients with lung adenocarcinoma (LA) be tested for EGFR mutation and EML4-ALK gene rearrangement (EGFR/ALK). EGFR mutations are found in approximately 10% of white patients and up to 50% of Asian patients with LA. The prevalence of EML4-ALK gene rearrangement is between 2-7% in LA patients. Both are more common in non-smokers. We analyzed the frequency of EGFR mutations and EML4-ALK gene rearrangements from the biopsy samples submitted for these analyses.

Methods: We identified patients from LSU diagnosed with metastatic LA whose specimens were sent for EGFR/ALK from January 1, 2009 to June 30, 2013. Data collected included number of specimens sent for EGFR/ALK, number of samples with inadequate tumor, biopsy technique utilized and number of re-biopsy attempts for EGFR/ALK.

Results: 54 patients were evaluated in the study time period; 58 individual biopsy specimens were sent for EGFR/ALK. 34/58 (58%) of specimens were found to be adequate for EGFR and/or ALK. 6/34 samples were inadequate for EGFR, but adequate for ALK, 2/34 were inadequate for ALK, but adequate for EGFR. In 12/34 samples on EFGR was tested, ALK was not tested. Only 1 of the 28 samples tested for EGFR had the mutation and none of the 22 samples tested for EML4-ALK had the gene rearrangement.

Conclusions: A substantial proportion of initial LA diagnostic biopsies were inadequate for EGFR/ALK analysis. EGFR mutations and EML4-ALK rearrangement are rare in LA patients seen at LSU public hospital. Most of patients in the analyzed tend to be black and almost all had an extensive smoking history which could explain the low frequency of EGFR mutations and EML4-ALK rearrangement.
Adequacy of lung cancer tissue samples for ancillary molecular testing in conventionally obtained biopsy material: A 3 year experience of the Louisiana State University Public Hospital (LSU) in New Orleans

Shravan Narmala, Brian C. Boulmay Section of Hematology/Oncology, Louisiana State University Health Sciences Center, New Orleans, LA

BACKGROUND: The National Comprehensive Cancer Network recommends that all patients with lung adenocarcinoma (LA) be tested for EGFR mutation and ALK gene rearrangement (EGFR/ALK). Metastatic LA is diagnosed with biopsies often sufficient only for non-molecular based diagnostic techniques; our institutional experience suggested conventionally obtained material was inadequate for EGFR/ALK. We analyzed biopsies performed only with the intent of diagnosing malignancy for adequacy for EGFR/ALK.

METHODS: We identified patients from LSU diagnosed with metastatic LA whose specimens were sent for EGFR/ALK from January 1, 2009 to June 30, 2013. Data collected included number of specimens sent for EGFR/ALK, number of samples with inadequate tumor, biopsy technique utilized and number of rebiopsy attempts for EGFR/ALK.

RESULTS: 54 patients were evaluated in the study time period: 58 individual biopsy specimens were sent for EGFR/ALK. 24/58 (41%) of specimens were found to be inadequate for EGFR/ALK. 11/26 (42%) of bronchoscopically obtained biopsies were inadequate, 9/18 (50%) of computed tomography guided core needle (CTGCN) biopsies were inadequate and 4/14 (28%) samples obtained via thoracentesis, wedge resection, craniotomy, spinal tumor excision, fine needle aspiration of lymph nodes or video assisted thoracoscopic surgery were inadequate. 4/54 (7%) patients underwent rebiopsy, 3 via bronchoscopy and 1 via CTGCN; 3/4 (75%) rebiopsies were sufficient for EGFR/ALK analysis.

CONCLUSIONS: A substantial proportion of initial LA diagnostic biopsies were inadequate for EGFR/ALK analysis. While EGFR/ALK analysis is now standard of care for patients with LA, only a small percentage of patients in our study underwent rebiopsy. Our institutional practice will be modified to encourage additional biopsies for the specific purpose of molecular testing at the time of initial biopsy for those with suspected LA.
Introduction: Hypercalcemia develops in 10-30% of all patients with cancer, including those with hematological malignancies. The management usually includes intravenous volume expansion and most of the cases require additional therapies such as bisphosphonates, calcitonin, steroids and occasionally renal replacement therapies. We present a patient with newly diagnosed T-cell lymphoma whose hospital course was complicated by refractory hypercalcemia.

Case presentation: A 62 year old African American male with newly diagnosed T-cell lymphoma was admitted with altered mental status. Physical examination revealed a confused, disoriented male with diffuse lymphadenopathy, hyperreflexia and was hypertensive 170/100. The rest of physical examination was unremarkable. He was found to have serum calcium of 18.3 mg/dl, creatinine (Cr) 1.59 mg/dl. Further work-up showed normal iPTH, 1,25-OH-Vitamin D, serum protein electrophoresis and urine protein electrophoresis. PTH related peptide (PTHrp) was elevated which was consistent with humoral hypercalcemia of malignancy. No lytic bone lesions identified by skeletal survey. The patient was given aggressive IVF therapy, and calcitonin for few doses. As his hypercalcemia failed to improve, pamidronate 90 mg and prednisone 60 mg were added on day 3, which were ineffective. With development of acute kidney injury daily intermittent hemodialysis (IHD) with low calcium bath was initiated. Since no significant change in calcium was observed, IHD was switched to continuous renal replacement therapy (CRRT). It was able to normalize the calcium. However, the calcium level rebounded each time CRRT was held. After a week of struggle treating the refractory hypercalcemia, we administered one dose of denosumab, after disclosing to the patient family its off-label use. After the initiation of denosumab, the calcium level of the patient fell rapidly within 2 days. Patient maintained normocalcemia for the next 4 days. Due to other comorbidities, the family withdrew care.

Discussion: Denosumab is a human monoclonal antibody that inhibits the receptor activator of nuclear factor kB (RANK) currently FDA approved for prevention of skeletal-related events in patients with bone metastases from solid tumors, especially breast or prostate cancer. Limited data exist for use of Denosumab in hematological malignancies. Our case demonstrates effective use for highly refractory case of hypercalcemia from overexpression of PTHrp by T-cell lymphoma. The most common side effect of Denosumab is hypocalcemia, hypophosphatemia and nausea that we did not observe most likely due to short duration of available follow up.
Purpose of Study: Human papillomavirus (HPV) is the most common viral sexually transmitted disease and is the causative agent of cervical cancer. We have previously identified Epstein-Barr Virus (EBV) as a possible cofactor when coupled with HPV in increasing rates of cervical dysplasia by two- to four-fold in an HIV+ population. Furthermore, HPV-related cervical dysplasia puts these individuals at a greater risk of developing similar pathology of the anus. With a marked increase in incidence of anal cancer seen in HIV+ individuals, we have begun to look at possible correlations between the co-shedding of HPV and EBV in increased anal dysplasia and pre-cancerous lesions.

Methods Used: Subjects are HIV+ women currently enrolled in a longitudinal study examining the interaction of HPV and EBV in the development of anogenital lesions. Participants are followed every three months over the course of five years, with cervical and anal Pap smears and swabs collected at each visit. Cervical and anal swabs are DNA-extracted using a Qiagen kit. HPV is detected using Roche linear array targeting the L1 gene. To test for the presence of EBV, a PCR assay is run to detect the BamH1-W gene. These results are correlated with concomitantly obtained cervical and anal Pap smears.

Summary of Results: Data was obtained for seventy-two HIV+ women who had utilizable results for all samples obtained. HPV was detected in anal swabs of 54 (75%) subjects, as well as in the cervix of 54 (75%) subjects. Among these individuals, 43 (59.7%) were concordant. Of those samples from which HPV was detected, mean = 4.8 types were found in anal samples compared with mean = 3.2 types from cervical swabs. Furthermore, EBV was detected in anal swabs of 27 (51.4%) subjects, as well as in the cervix of 33 (45.8%) subjects. Among these individuals, concordance was found in 18 (25%).

Conclusions: In this cohort of HIV+ women, HPV was found commonly in both anal and cervical samples. HPV discordance between the two sites was approximately equal (anal+/cx- vs. anal-/cx+). More types of HPV were found in the anus. EBV was approximately equal in all categories. Future plans include analyzing individual viral types and persistence of HPV and EBV shedding in the anus and cervix of these subjects over multiple visits.
INTRODUCTION: Hypocalcaemia after thyroidectomy is a common finding. It may be transient or a permanent post-operative complication if removal of the parathyroid occurred incidentally during thyroidectomy. Hypocalcaemia should be considered as a cause of hypotension in these patients. Here we discuss a case of severe hypotension secondary to hypocalcaemia.

CASE: A 72 year old Caucasian female with a history of hypertension, hypothyroidism status post thyroidectomy two months prior, chronic alcohol abuse and depression was found down in her home. On physical exam vitals: HR 96 bpm, respirations 21 breaths/min on mechanical ventilation, BP 71/31 mmHg, temperature 98.6 F. Of note, she was sedated at the time of the physical exam, but bilateral upper extremity twitching was present. The remainder of the physical exam was unremarkable. Pertinent laboratory findings included ionized Ca 0.65 mmol/L, calcium 3.6 mg/dl, magnesium 1.6 mg/dl, phosphorus 10.2 mg/dl, potassium 2.5 mmol/L, creatinine 5.3 mg/dl with baseline normal kidney function. PTH <5.0 pg/ml, cortisol WNL and the remainder of the work up was normal. Blood and urine cultures were negative. Due to profound hypocalcaemia, the patient was placed on continuous renal replacement therapy. After three days, the calcium normalized and the patient no longer required vasopressor support. Her mental status and kidney function improved. The patient was sent home off dialysis and on vitamin D and calcium supplements.

DISCUSSION: Hypocalcaemia following near total of total thyroidectomy is a common complication. It can be a result of a disruption of the blood supply to the parathyroid gland or total removal of the parathyroid. The hypocalcaemia can range from asymptomatic to severely symptomatic. Hypocalcaemia traditionally manifests as tetany, seizures, altered mental status and/or arrhythmias. However, it can also present as refractory hypotension, as was the case in our patient. Once traditional calcium supplementation has been implemented and fails to adequately replace the calcium, dialysis should be considered.

CONCLUSION: Hypocalcaemia should be considered among the differential as the cause of severe hypotension.
Introduction: Loin pain hematuria syndrome is a rare diagnosis that typically occurs amongst young adults. For this reason their pain may be dismissed and patients are often regarded as drug seeking without the appropriate diagnosis being made.

Case presentation: A 22 year old Caucasian female presents with hematuria and flank pain. She reports that following childbirth 4 years ago, she had a catheter related urinary tract infection (UTI) and then began to have frequent and recurrent bouts of sharp right flank pain, requiring numerous visits to the emergency room. The pain is located on her lower back bilaterally. It extends around to the front of her abdomen. It does occur every 3-4 days. She notes gross blood in her urine daily. Her past medical history is significant for UTI, hematuria, and recurrent flank pain. She has received many procedures including cystoscopies, retrograde pyelograms and voiding cystourethrograms, stent placements/removals, numerous CT scans, a nuclear medicine renal perfusion scan and a kidney ultrasound with normal results. There is no contributory family history. Physical exam is unremarkable. Urinalysis reveals numerous dysmorphic RBCs and no proteinuria. Rheumatoid factor, C3, C4, C-ANCA, P-ANCA, ANA, anti-GBM were negative. Renal biopsy shows thin basement membrane, preserved foot processes, tubules containing numerous red blood cells, negative immunofluorescent stain and no electron dense deposits which are consistent with thin glomerular basement membrane (GBM). Constellation of GBM, hematuria and unexplained chronic flank pain directs us to the diagnosis of loin pain hematuria syndrome.

Discussion: Loin pain hematuria syndrome was first discovered in 1967 and there are now approximately two hundred cases documented in the literature. It is most often seen in young women in their twenties. It is characterized by combination of hematuria with recurrent unilateral or bilateral flank pain that may be constant or intermittent. The etiology of the pain is poorly understood. There is some evidence to suggest that it may be associated with glomerular basement membrane defects. Kidney biopsy in these patients has shown red blood cells in the tubules, suggesting glomerular damage. Once the tubules become blocked this can increase pressure inside the kidney and result in capsular stretch which may cause the pain in these patients. Treatment consists primarily of pain management, though additional management may aid in the reduction of symptoms. There is some evidence to suggest that ACE inhibitor or ARB therapy may reduce the frequency or severity of the pain.
Introduction: We describe a case of metastatic choriocarcinoma with brain lesions and the importance of its inclusion in the differential diagnosis of young men with testicular masses and neurological symptoms.

Case: A 28 year old Hispanic man transferred to our hospital after initial evaluation demonstrated an intracranial mass with midline shift. He complained of worsening frontal headaches with concurrent nausea and vomiting for four days prior to presentation. He also reported a painless testicular mass which had increased in size over the last four months. At the time of our evaluation, his vital signs were: Blood pressure 104/42 mmHg, Pulse 88 bpm, Temp 98.4 °F, Resp 16 /min, BMI 25.18 kg/m2. Pertinent findings on physical exam included a 10 cm x 10 cm firm, non-tender left testicular mass. Gait abnormalities included a slight limp with a dragged left foot. Visual acuity was 20/20 OS, 20/40 OD. He had a peripheral field defects at his left lateral and lower visual fields. MRI of his brain showed a single lesion, 3.4 cm x 3.7 cm x 3.8cm with 12 mm midline shift. Initial testicular US showed a 13.5 cm x 12.3 cm x 10.5 cm heterogenous hypoechoic testicular mass. Further imaging with cat scan revealed multiple pulmonary metastases bilaterally and liver metastases. Initial beta-hCG and AFP were both significantly elevated. Craniotomy with resection of his brain metastases was performed and pathology revealed a malignant neoplasm with features consistent with choriocarcinoma. He was diagnosed with a nonseminomatous germ cell tumor stage IIBC, poor risk. Chemotherapy with Bleomycin, Etoposide, and Cisplatin (BEP) was initiated. His Beta-hCG, AFP, LDH decreased. An orchiectomy was scheduled.

Discussion: Choriocarcinoma is the most malignant tumor of gestational trophoblast origin. Although a traditionally curable neoplasm, metastatic brain lesions significantly worsen prognosis. However, if there is a high index of suspicion for this neoplasm, increased the overall survival has occurred with aggressive surgical intervention and advances in chemotherapy and radiotherapy. Neurological symptoms in conjunction with a testicular mass should raise suspicion for this neoplasm with the possibility of metastatic disease.
Background: The purpose of this review is to evaluate studies linking Vitamin D deficiency and cognitive impairment in the elderly and if proper supplementation can prevent worsening cognition.

Description: The thought behind Vitamin D deficiency and cognitive impairment stems from the fact that research has shown it has neuroprotective functions. This occurs by modulating production of nerve growth factor, neurotrophin 3, glial cell derived neurotrophic factor, nitric oxide synthase, and choline acetyl transferase, which are essential for proper brain function. Also plenty of studies, mostly cross-sectional and case-control, have shown statistical significant results correlating Vitamin D deficiency with cognitive impairment and dementia. Here we reviewed 4 different studies including a combined systemic review and meta-analysis, a prospective study, and a cross-sectional investigation.

Methods: A search using PubMed was done and the specific terms used in the search engine were Vitamin D deficiency, cognition, and dementia in the elderly. Relevant articles used were published after January of 2010 so that relevance was as up to date as possible. All studies included patients older than the age of 65 and primarily used the MMSE to diagnose their cognitive function. They all correlated 25-hydroxyvitamin D [25(OH)D] levels with diagnosis of dementia or cognitive impairment.

Results: In the study that was a combined systemic review and meta-analysis 8 studies used MMSE scores and compared them with 25(OH)D levels either <50nmol/L or >50nmol/L. These studies showed a higher average MMSE score in those participants with higher 25(OH)D (>50nmol/L). 6 studies compared Alzheimer’s Dementia (AD) to control groups, showing those with AD had a lower Vitamin D concentration compared to the control group. The cross-sectional investigation showed a higher prevalence of dementia amongst participants with 25(OH)D levels <20ng/mL (30.5%). Also participants with 25(OH)D levels <20ng/mL was associated with more than two times the odds of all-cause dementia. A prospective study over a 6 year period showed a relative risk of patients with cognitive decline was 1.6 when comparing Vitamin D deficient patients (<25nmol/L) with patients who had sufficient Vitamin D levels (>75nmol/L). Also patients severely Vitamin D deficient had MMSE points dropped by an additional 0.3 points per year compared with those who had sufficient levels.

Discussion: The evidence shows from these 3 different studies a significant link between Vitamin D deficiency and cognitive impairment, as well as dementia, in the elderly. At this point more studies are being conducted, especially randomized controlled studies to see if early treatment of Vitamin D deficiency can prevent worsening cognition. Unfortunately, a recent randomized controlled trial in women showed no significant association between the two. However, more of these studies should be conducted with more accurate follow up, over a longer period of time, and in both women and men.
**Introduction:** Acquired factor VIII inhibitors (also referred as Acquired Hemophilia A) is a rare bleeding diathesis caused by autoantibodies directed against clotting factor VIII and is associated with bleeding involving soft tissues. It is known to cause significant morbidity and mortality with mortality rates reported to be 8-22%.

**Case:** A 79-year-old Caucasian man presented to the emergency room with complaints of right hip pain and left elbow pain for 2 weeks after falling. On physical exam he had a large edematous area with significant ecchymosis over his right gluteal area and left elbow. He was anemic with a Hgb of 6.2g/dL and an MCV of 90fL. His platelet count was normal, 300K/µL. A CT scan of the pelvis showed a large right sided retroperitoneal hematoma and subcutaneous hematoma. Coagulation studies revealed a PT of 11.2s, INR of 1.0, and a PTT elevated at 113s. The patient was unaware of any bleeding disorders in his or his families’ past medical history. D-dimer and fibrinogen both came back elevated so DIC seemed less likely. He received fresh frozen plasma and prothrombin complex concentrate which each improved his PTT temporarily. A mixing study was done which did not correct. Further coagulation studies were sent and came back showing a low Factor VIII activity level of 8IU/dL and an elevated Factor VIII inhibitor level of 28BU/mL. With these results the patient was given a diagnosis of an acquired factor VIII inhibitor. He was started on Rituximab and received recombinant factor VIIa after a bleeding episode. His PTT did begin to improve and dropped as low as 71s; however, he became unstable after developing abdominal compartment syndrome from the large pelvic hematoma and went into cardiopulmonary arrest and died.

**Discussion:** Differential diagnosis of a prolonged PTT with normal PT includes deficiencies of factors VIII and IX, as well as inhibitors of these factors. A mixing study is used to confirm the presence of an inhibitor. Confirmation of a factor VIII inhibitor is made with low factor VIII activity levels and elevated factor VIII inhibitor levels. Treatment involves attempts at raising factor VIII levels with DDAVP and factor VIII concentrates and to bypass factor VIII with activated prothrombin complex concentrates or recombinant factor VIIa in cases of bleeding. Agents used to eliminate the inhibitor include rituximab, cyclophosphamide with prednisone, IVIG and cyclosporine. Unfortunately, because of the rarity of this condition, these recommendations for treatment are based on small case series.

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**Hemophilia A is not a disease just for kids.**

Viresh Patel, MD and Robert Ramirez, DO and Ross McCarron, MD

Department of Internal Medicine, Louisiana State University Health Sciences Center, New Orleans, LA
GERIATRIC EMERGENCY ROOM UNITS– A REVIEW OF LITERATURE WITH REGIONAL PERSPECTIVE.

Thomas Reske MD, Michelle Loch MD, Charles Cefalu, William Hudson MD, Erwin Aguilar MD, Marco Ruiz MD, Abir Abdo MD. Department of Medicine, LSU HSC.

Introduction: 12.9% of Louisiana inhabitants are age ≥ 65. In the greater New Orleans Metropolitan area – including New Orleans, Kenner and Metairie – 13.5% fall into this age category. Older individuals tend to be higher user of health care services. Based on national data an average of 15-25% of all patients visiting emergency rooms fall into the age group >65. ER visits in this age fraction have significantly increased over the past decades. Older patients have a 4.6 higher likelihood of a subsequent inpatient admission. Literature has shown reduced hospitalization and health care utilization in patients triaged in emergency room departments that have special geriatric emergency room units. The greater New Orleans area lacks an academic center with a dedicated specialized ER for the older patients. This literature review focuses on exploring outcomes of the implementation of geriatric emergency rooms with the goal of establishing these services in the future Louisiana University Hospital in New Orleans.

Methods: A PubMed search was performed that included the terms “geriatric emergency room” and “geriatric emergency department”. The former revealed 695 publications and the latter 1101. All 1796 abstracts were reviewed to assess for relevant content, study design, outcome measure and conclusion.

Results: Out of 695 searches with the term “geriatric emergency room” 9 and 17 out of 1101 utilizing the term “geriatric emergency department” met the inclusion criteria for individualized geriatric emergency room units. 65% of the papers were retrospective chart reviews. 35% were prospective longitudinal outcome studies. No randomized trials were among the papers reviewed. Common treatment focus was on the major geriatric syndromes, reduction of hospitalization, 30-day re-hospitalization and improved transition of care.

Conclusion: Specialized geriatric emergency department units have a significant impact on hospitalization and transition of care in the older patient. The literature reviewed shows this based on retrospective and prospective data. There is a lack of randomized clinical trials. The older patient population is vulnerable and geriatric syndromes are frequent. Immediate screening and interventions have been shown to improve outcomes and reduce hospitalizations and patient satisfaction. Dedicated academic geriatric emergency rooms in the New Orleans metropolitan area are needed to teach future physicians geriatrics models of care and to improve patient outcomes.
Background and Objectives: Trichomonas Vaginalis (TV) is associated with increased risk of Human Immunodeficiency Virus (HIV) infection, abnormal pregnancy outcomes and pelvic inflammatory disease. The prevalence of TV increases with age and lifetime number of sexual partners, particularly among African American (AA) women, who also have a much higher TV prevalence compared to women of other races and ethnicities. TV is not a reportable infection in any country, so information about its global and local prevalence and distribution is limited. The aim of this study is to confirm known TV demographic associations in our population and to gather insight into the local geographic distribution of these infections in New Orleans.

Methods: This is a retrospective record review study from the New Orleans Delgado Personal Health (STD) Clinic where TV cultures using the In Pouch system has been the standard of care for women having pelvic examinations since March of 2013. Data was recorded on the Louisiana Office of Public Health Laboratory Request and Report Lab 15 form and then entered into an Access data base.

Results: 1063 women were cultured for TV and 169 (15.9%) were positive. Mean age of TV positive women was 31.2 years compared to 29 for women without TV infection (P = 0.004 by 2 tailed t-test). 167/945 (17.7%) AA women were positive compared to 2/118 (1.7%) of non-AA women (P < 0.001 by Chi square). Symptomatic women were more likely to have TV infection than asymptomatic women but the difference, 17.1% vs. 13%, was not significant. 835 women from 27 zip codes in New Orleans, were included in the survey. 16% of them representing 17 different zip codes had positive TV cultures. Women residing in the 70117 zip code had a higher TV prevalence rate (29/111 - 26.1%) than all other New Orleans women (106/724 - 14.6%, P = 0.003).

Conclusions: TV infections are unusual among STDs in that older women are more likely to be infected than younger women. As with other STD’s, AA women are at higher risk for this infection. The fact that TV is frequently asymptomatic is not widely appreciated. Women residing in the 70117 zip code may be at higher risk for TV infection. It is clear that prevention programs will require screening asymptomatic women and, if additional data clearly establishes geographic clustering of TV infections such programs can focused on those areas.
A MOMENT OF PAUSE BEFORE TAPPING A KNEE

Siavash Sarlati, MD; Christine Butts, MD
Louisiana Health Sciences Center, Department of Internal Medicine, Section of Emergency Medicine, New Orleans, LA

Case: A 27 year-old male presented to the Emergency Department with gradually worsening pain and swelling to the right knee over 2-3 months. He denied any trauma. He described himself as an active person; playing basketball and running several days per week. Over the past week, the pain and swelling began to impair his normal range of motion and daily activities. He was evaluated 3 days prior at an outside facility where arthrocentesis was unsuccessfully attempted and the patient was diagnosed with bursitis. At the current encounter the patient was afebrile with normal vital signs. His exam was benign with the exception of right inguinal lymphadenopathy and a warm, swollen, mildly tender right knee with considerably limited range of motion secondary to pain. The leg was neurovascularly intact and otherwise normal. Radiographs of the knee demonstrated minor degenerative changes with joint effusion and chondrocalcinosis of the lateral meniscus. Labs, including a complete blood count, complete metabolic panel, C-reactive protein level, and erythrocyte sedimentation rate, were within normal limits. At this point, the differential diagnosis still included septic arthritis, bursitis, gout, and pseudogout. A bedside ultrasound was performed to evaluate for joint effusion or bursitis. The joint and bursa appeared within normal limits; however, a heterogeneous object was noted surrounding the patellar tendon that was not present on the unaffected extremity. The Orthopedics service was consulted and, after evaluating the patient, the radiographs, and the ultrasound, recommended emergent magnetic resonance imaging. These images revealed a mass wrapping around the patellar tendon and violating the cortex of the anterior tibia. Biopsy of the mass at a later date revealed a synovial sarcoma. Treatment planning is currently under way.

Discussion: Synovial sarcomas are a rare and devastating disease that predominantly affect young people in the prime of their lives. They comprise up to 10 percent of all soft tissue sarcomas and are predominantly extra-articular with only a handful of intra-articular cases reported in the literature. Initial misdiagnosis as septic arthritis, gout, bursitis, synovial chondromatosis, or other more common intra-articular pathologies is nearly universal. Patients can have vague symptoms for months to years before a final diagnosis is made. Meanwhile the mass grows in size. The overall 5-year survival rate is 36-55 percent and is associated with tumor size. Tumors less that 5 centimeters in diameter carry a 5-years survival rate of 77 percent with treatment while those greater than 5 centimeters result in considerably higher mortality with a 5-year survival rate of only 26 percent. Wide excision resulting in limb amputation or disarticulation is the most common treatment option. Local excision may be possible with early detection of small tumors. As demonstrated in this case, ultrasound represents a simple, cost-effective, and readily available bedside modality that can prevent misdiagnosis and has the potential to lead to early diagnosis.
Case: 33 y/o female presented to the emergency department complaining of multiple falls, dizziness and lightheadedness and intermittent double vision. She stated over the last two months she has noted increased difficulty ambulating and increasing abdominal girth over the past 9 months, coupled with irregular and heavy vaginal bleeding. She denied any loss of bowel or bladder. She had no significant past medical or surgical history. She took no medications. She had no known allergies. She denied tobacco, alcohol or illicit drug use, including intravenous drug use.

Physical exam was significant for contusions and abrasions, in differing stages of healing, to bilateral lower extremities, which the patient attributed to multiple falls. A large, non-tender abdominal mass extended just above the umbilicus, occupying a significant portion of her right abdomen. Pelvic exam revealed no significant vaginal bleeding or discharge with, again, a large mass extending up into the abdomen. Neurologic exam: Cranial nerves II-XII intact. No nystagmus or subjective diplopia. Finger to nose and heel to shin were intact. Romberg was negative. No pronator drift; able to march in place; light touch grossly intact. Deep tendon reflexes were 2+ in bilateral biceps and patella, and 0 at the Achilles. 3/5 strength to right hip flexors/ 4/5 to left hip flexors, 3/5 strength to knee flexors with bilateral foot drop. The right lower extremity was slightly weaker than the left. Upper extremity strength within normal limits. Rectal exam good tone without gross blood. Differential diagnosis included cauda equina, spinal stenosis, electrolyte abnormality, Guillain Barre syndrome, multiple sclerosis, epidural abscess, spinal/ abdominal mass causing cord compression, CVA/ stroke, sciatica, radiculopathy or retroperitoneal abscess/ mass.

Initial studies: mildly anemic at 9.6 and 29.3. WBC and electrolytes within normal limits. Liver function test were mildly elevated. Urinalysis wnU; urine pregnancy test and HIV test negative. Chest x-ray showed a markedly elevated right hemidiaphragm with an accompanying small pleural effusion. CT of the head revealed a questionable lesion of the posterior lateral parietal lobe, however no intracranial hemorrhage or acute changes were noted. CT of the abdomen/ pelvis revealed a large (24 x 12 x 18 cm) lobulated uterine mass with areas of low attenuation and calcification, suggesting degenerated leiomyomas with necrosis. There was no associated lymphadenopathy. A bi-lobed cystic focus approximately 6.3 x 3 cm in left adnexa was noted. Another cystic focus, 4 x 3 cm was noted in the right adnexa. Neurologic, Neurosurgical and Gynecologic consults were placed and the patient was admitted for further work up and on-going care.

As an inpatient: thorough neuropathy work-up, including ESR, ANA, RF, TSH, acute hepatitis panel, cryoglobulins, anti-Ro, anti-La, vitamin B12 and folate, coupled with EMG of bilateral lower extremities.; pelvic ultrasound and MRI of the lumbar/ sacral spine, and brain, and lumbar puncture. MRI of the lumbar spine revealed compression of the Cauda Equina. Nerve conduction studies showed evidence of myopathic disease. CPK was 5715. Neurology felt the patient’s presentation was most consistent w/ an intrinsic muscle disease, likely Limb-Girdle, and General Surgery was consulted for muscle biopsy. The muscle biopsy revealed both inflammatory and myopathic changes.

Discussion: Limb-Girdle Muscular Dystrophy is generally an autosomal recessive, progressive disease that affects the shoulder and pelvic girdle muscles at varying levels (autosomal dominant cases comprise less than 10%). There are several protein defects in the biologic function of muscle that can result in LGMD. Severe disability may occur by 20-30 years old, however there is a wide variation in the onset, severity and progression of disease depending on specific genes/ proteins affected. Muscle biopsy is generally used to make the diagnosis, revealing vacuolations within the muscle cells. Several different stains are used to elucidate varying characteristics of the abnormal muscle cells. Unfortunately, there is no cure for LGMD. Primary goals are to preserve ambulation via aggressive physical and occupational therapy. Gene therapy may be of some use in the future.

At the patient’s last Neurology clinic visit, she continued to display weakness to her bilateral lower extremities. However, her weakness was not worsening. She continued to use ankle braces and work with both physical and occupational therapy to preserve her mobility. Per Neurology, she was placed on steroid therapy, as well as medication to control her neuropathic pain. The patient has not yet been seen by Neurosurgery, as she had to reschedule her appointment. She is currently scheduled for a total abdominal hysterectomy to remove her large leiomyoma and treat her menometrorrhagia.
POTENTIAL OF BISPHOSPHONATES IN THE MANAGEMENT OF BACK PAIN IN POTT’S DISEASE - A CASE PRESENTATION.
Navneet Sharma MD, Matthew Weingard T4, Sung Cho DO. Section of Physical Medicine and Rehabilitation Residency.

Introduction: In Pott’s disease, back pain has an insidious onset with variable presentation and thus often goes undiagnosed. Direct remodeling of bone via osteoclast activity is implicated in the bone pain caused by Pott’s disease. By inhibiting the remodeling process, bisphosphonates may play an important role in managing this process. Multiple studies have shown reduction in pain intensity in 60% of patients with Paget’s disease using bisphosphonates. However, little is known about the use of bisphosphonates in Pott’s disease.

Case Presentation: A 73y/o male presented with painless hematuria and progressive low back pain for four days. He had a 20-pound weight loss over a 4-month period, with decreased appetite and progressive fatigue. His back pain began in 1956 when he was in the military. He described his pain as cramping and limited to his lower back with a “jolt-like” pains extending down his left lower extremity to the sole of his foot. His cough had been present for ten years and was productive of yellow sputum but recently changed to a tan color, which he believed was blood.

- Physical examination revealed a cachectic male with right costo-vertebral angle tenderness and pain at the lumbosacral junction with flexion of Lumbar spine. Pt also had bilateral crackles and rochias at lung bases and decreased breath sounds throughout all lung zones.
- MRI showed discitis and osteomyelitis of the L5-S1 due to granulomatous disease. Diagnosis of Pott’s disease was made and the patient was started on “RIPE” therapy along with IV morphine 1mg every four hours as needed and hydrocodone/APAP 5/325mg every four hours as needed. This did not control the patient’s pain. Pain management was consulted with recommendations to start MS Contin 15mg BID along with IV morphine for breakthrough pain. Pain management also suggested Gabapentin for the patient’s radicular pain. Five days later patient reported mild improvement in overall pain including the radicular symptoms. There was discussion regarding the use of bisphosphonates for pain control in this patient, however the literature showed a limited number of studies relating pain relief from bisphosphonates in patients with bone diseases.

Discussion/Conclusion: The back pain of Pott’s disease is slow to progress and frequently presents as dull and aching chronic pain that may eventually involve radicular components. The etiology of this pain is multifactorial including pain from bone remodeling through osteoclast activity. Opiates alone may not provide adequate relief and the complications of using these medications may be significant. In these situations the bisphosphonates may prove beneficial. Little is known about the usefulness of bisphosphonates for treating pain related to Pott’s disease. However, in other causes of pain related to osteoclast activity, bisphosphonates have shown favorable outcomes. Further investigation is warranted to measure the efficacy of bisphosphonates in these patients.
INTRODUCTION: Neurosyphilis, caused by infection to the brain by *Treponema pallidum*, can be classified as early or late forms. Early neurosyphilis is more common and can be asymptomatic or cause meningitis, cerebral arteritis, or ocular disease. Late neurosyphilis can manifest as general paresis or tabes dorsalis. The diagnosis is made with CSF studies. Current preferred treatment is Penicillin G.

CASE: A 68 year old African American man presented with an extensive history of progressive lower extremity weakness and dementia. Initially the patient was able to ambulate without assistance, and then in sequential order required crutches, cane, walker and finally he has been wheelchair bound for the past three years. He required assistance with all activities of daily living including transfers to and from his wheelchair. Previous medical records revealed a serum RPR titer of 1:132. He underwent a lumbar puncture and his CSF was positive for FTA/ABS. CSF protein was elevated at 63mg/dl, and CSF VDRL was nonreactive. The patient had a history of a penicillin allergy so penicillin desensitization was undertaken in the intensive care unit. He successfully received three days of intravenous penicillin in the hospital and was discharged home completion of IV penicillin therapy.

DISCUSSION: Neurosyphilis should not be discounted in a patient with a negative CSF VDRL; the false negative rate approaches 30%. Patients with a penicillin allergy may ceftriaxone or high dose doxycycline may be used to treat patients with penicillin allergy but data is limited and titers should be closely monitored if using these therapies. Patients who do not respond to the alternate therapies may be candidates for penicillin desensitization. Of note, there are no current controlled trials on the efficacy of the penicillin therapy. Recommendations are based on penetrance of antibiotics into the CSF.
INTRODUCTION: Eosinophilic gastroenteritis is a rare condition that presents with varying gastrointestinal complaints depending on layer of involvement; mucosal, muscular, or subserosal.

CASE: A 27 year old Mexican woman presented with three weeks of intermittent supra umbilical abdominal pain and progressively worsening abdominal distension. On physical examination the patient was noted to have abdominal distension with shifting dullness but was non tender to palpation. The CBC with manual differential showed a WBC of 19.4 x10^3/ul with 39% eosinophils. Computed tomography of her abdomen and pelvis with contrast showed diffuse mural thickening and edema of the small bowel with a large volume of free mesenteric and intra peritoneal fluid. Upper double balloon enteroscopy revealed diffuse congested mucosa in the third and fourth part of the duodenum. Patchy congestion was found throughout the jejunum. Pathologic exam of biopsies taken from the stomach, duodenum and jejunum showed increased lamina propria and mildly increased epithelial eosinophilia with an epithelial eosinophil count of 14 per high power field (range of 0-14) in the duodenum and jejunum. Cytology was negative for malignant cells. Ultrasound guided paracentesis was performed for diagnostic purposes. The serum to ascites albumin gradient was 0.5 g/dL. The ascitic fluid was amber and clear with a WBC count of 9960/ul with the differential of 76% eosinophils, 19% mesothelial cells, 3% monocytes and 2% lymphocytes. The ascites fluid adenosine deaminase level was unremarkable. The patient was treated with an empiric course of albendazole for possible underlying intestinal parasite infection prior to the initiation of oral steroids as a treatment for serosal eosinophilic gastroenteritis.

DISCUSSION: Patient with serosal eosinophilic gastroenteritis typically present with eosinophilic ascites with abdominal bloating and a high peripheral eosinophilia. Diagnosis is made with endoscopic biopsy of the affected area which usually shows greater than 20 eosinophils per high power field. When endoscopic biopsy is non diagnostic, full thickness surgical biopsy should be undertaken. Abnormal lab values including a peripheral eosinophilia, hypoalbuminemia, and elevated ESR may be present. Treatment consists of long term treatment with corticosteroids with relapses frequently occurring following steroid taper.
**Introduction:** Acute cord compression due to a malignant neoplasm is an oncologic emergency. The cord compression can be due to lytic bone compression, tumor invasion, or tumor induced edema. Depending on the level of cord compression, it can manifest with pain, weakness to complete paralysis, and/or bowel and bladder symptoms. The most common malignancies causing an acute cord compression are multiple myeloma and metastatic breast and lung cancer; however, a variety of other cancers can present in this manner. We describe a case of diffuse large B-cell lymphoma presenting with lytic bone lesions and acute cord compression.

**Case Presentation:** 43 yo male presented to emergency department with one day of lower extremity weakness and decreased urination. He reported a 50 lbs weight loss over the past weeks. An emergent MRI of the entire spine showed lytic lesions with multiple layers of cord compression from C3-L5. The morphologic features on imaging were initially reported as being concerning for multiple myeloma, as this patient also had kidney function abnormalities and slightly elevated serum kappa light chains. A bone marrow biopsy performed a week prior to his presentation to the emergency room showed no increased plasma cell fraction. In the ER he was started on high dose corticosteroids. A tissue sample of a lytic bone lesion was obtained to guide therapy. The bone biopsy was highly necrotic but confirmed features suggestive of lymphoma. Radiation therapy was begun to treat his acute cord compression. An additional kidney biopsy was obtained to clarify morphologic abnormalities on imaging, and this confirmed diffuse large B-cell lymphoma. Post completion of his 10 days of radiation he was started on R-CHOP chemotherapy.

**Conclusion:** Acute cord compression from a neoplasm is an oncologic emergency. Timely treatment is critical and may entail neurosurgical intervention, corticosteroids, and/or radiation therapy. This case demonstrates the importance of tissue diagnosis in oncology prior to treatment as the initial impression of multiple myeloma is treated very differently than diffuse large B-cell lymphoma.

INTRODUCTION: The commercial diving business in the Gulf of Mexico is a thriving enterprise. This region produces more than 25% of the nation’s oil (686 million barrels per annum) and 15% of nation’s natural gas. Currently, greater than 70% of the diving platforms are 1,000 feet or deeper. In Louisiana, there are over 4,000 production platforms. This work is technically difficult and dangerous, and decompression sickness (DCS) is a constant threat. DCS occurs when nitrogen, saturated within the tissues of the diver, comes out of solution, resulting in progressive and sometimes lethal cardiopulmonary and neurological injuries. Hyperbaric oxygen (HBO₂) therapy is the treatment of choice for these diving emergencies. This complex case highlights the importance of a detailed understanding of the pathophysiological derangements that occur with DCS as well as the gas physics inherent in the appropriate treatment of DCS.

CASE REPORT: The diver was hand jetting for 60 minutes at 103 fsw. Upon completion of his task, the diver completed his in-water stops and surfaced to begin the remainder of his decompression obligations in the deck decompression chamber. During his treatment in the HBO₂ chamber, the diver had a seizure. Per protocol, the chamber operator contacted the company’s on-shore diving medical physician. He recommended a USN air table 1A. After 8 hours in the HBO₂ chamber, the patient was still feeling “out of it,” groggy and confused. He finished this treatment table, but was unable to perform his deck duties. Additionally, he had memory lapses, intense headaches, and mood swings. Six days later, the diver was sent ashore to meet with company diving medical physician. He was diagnosed with anxiety and PTSD as it was thought that “his symptoms are constitutional in nature.” The physician ordered a brain MRI which revealed “sinusitis.” He treated this patient with Flonase, but also ordered 5 HBO₂ tailing treatments (33 fsw X 90 minutes). The patient’s condition was unchanged following these interventions, although the patient reported transient improvement immediately following the HBO₂ therapies. Fifteen days following the initial accident, the patient contacted LSU for a second opinion. Our provisional impression was an oxygen toxicity related seizure in chamber with omitted decompression and DCS. We recommended continued HBO₂ therapy (1.5 ATA X 60 minutes) until symptom plateau. Serial evaluations, brain SPECT imaging (prior to and following HBO₂ therapy), and detailed neuropsychometric testing were also performed.

RESULTS: The initial SPECT brain imaging revealed “defects in the parietal lobes (watershed areas).” The repeat SPECT imaging was read as “normal.” Neuropsychometric testing reported cognitive deficits, however, the patient’s symptoms consistently improved with treatment. The patient reported “more clarity” and better sleeping and significant relief in his headaches symptoms. Symptoms recurred with treatment interruptions.

CONCLUSIONS: This case highlights the importance of a correct initial diagnosis prior to the use of HBO₂ treatment tables and a low threshold for the diagnosis of DCS. The symptoms of DCS may be subtle and vague, and delays in treatment can result in devastating consequences. This patient’s response to HBO₂ supports the use of HBO₂ for both acute and chronic brain wounding.
Objectives: Complicated Obesity is prevalent in the Southern US. Management dependent solely on lifestyle modification oft has limited long term success in sustaining weight loss. While there are presently limited medication options for weight management (Wmgt) some of the best weight loss results other than bariatric surgery involved use of combination pharmacotherapy. Qsymia, a recently approved combination medication has shown promise for long term weight management in certification clinical trials but remains largely inaccessible for poor underserved, underinsured patients (pts). We report on the use of the individual components of Qsymia; phentermine (Ph) and topiramate (Tp) in combination therapy in a “real world” setting of an underserved outpatient Wmgt program.

Methods: The pts were seen in a Wmgt program for underserved, underinsured pts. The decision to include pharmacotherapy in the individual pts Wmgt was made by the multidisciplinary team on a case by case basis. As part of the standard Wmgt protocol all pts had serial follow up and labs every 3-4m. All pts were recommended to participate in a dietician run lifestyle and dietary counseling program.

Results: 109 pts have been recruited to date. Data analysis was done with intent to treat. 86 were female and 65% were African American, 35% Caucasian and 1% others (Hispanic and Asian). Mean duration of medication use was 6m±5.8 with a range of 1-45m. The mean initial weight (lbs) and BMI (kg/m2) were 334±110 and 53.6±14.7. This significantly reduced at final observation to 315±96 and 50.7±12.8. The weight loss ranged from 110 to a weight gain of ~ 22 and the mean % weight lost was 5.3±5.9 with a range of 25% loss to 5% gain. The mean Ph dose was 19.3mg with 15mg being most commonly used while the mean Tp dose was 71mg with 50mg the most common dose. Weight loss was also associated with a significant reduction in blood pressure, pulse rate, triglycerides, HBA1c, fasting glucose, and waist circumference. Serum uric acid, 25 OH vitamin D, urine microalbumin and other lipids were not significantly different. The medication combination was well tolerated with only 5 pts (0.05%) having adverse effects requiring discontinuation of one or both medications.

Conclusion: Combination therapy of Ph and Tp is effective in achieving robust weight loss and associated cardiometabolic benefits in a cohort of underserved subjects with complicated obesity. The clinical response is however quite variable and overall is not as dramatic as that reported in the certification trials for Qysmia.
Persistent hypertension following successful treatment of bilateral renal artery stenosis: A Case of tertiary hyperaldosteronism

Gabriel I Uwaifo, MD, Amy Varughese MD.

Introduction: Secondary hypertension (HTN) is known to be common and its recognition is growing in importance due to potentially reversible causes. Renovascular HTN is the most common cause of secondary HTN. Persistent HTN after treatment of renal artery stenosis (RAS) can be an alerting sign. The most common etiology in this setting is coexistent essential HTN but the possibility of another secondary etiology due to renovascular HTN needs to be sought.

Case: A 46 YO Black American woman with obstructive sleep apnea (OSA) presented with sixteen years of HTN. Patient developed hypertensive emergency and was found to have bilateral renal artery stenosis (RAS) with elevated serum aldosterone 30 ng/dl (1-21) and a plasma renin activity (PRA) 5ng/ml/hr (0.6-4.3). The RAS was due to fibromuscular dysplasia (FD) and she underwent bilateral renal artery angioplasty without improvement in HTN. Further work up showed an aldosterone of 12 ng/dl and PRA of 0.41 (ARR: 30(<20)). 24 hour urine aldosterone with oral sodium loading yielded an aldosterone of 12.9ng/dl (<12 UG/24 hr) and sodium of 314 ng/dl (>200 ng/dl). Adrenal computerized tomography (CT) was normal and biochemical features typical of primary hyperaldosteronism (PAH) post successful RAS repair. Patient started on eplerenone 50mg daily resulting in reversal of HTN but higher aldosterone levels (44ng/dl). These finding are consistent with PAH following prior secondary hyperaldosteronism (SAH) caused by bilateral RAS. This suggests progression from prior SAH to autonomous tertiary hyperaldosteronism (TAH) probably due to idiopathic bilateral adrenal hyperplasia.

Discussion: PAH is one of the common causes of Secondary HTN. In PAH, aldosterone production is inappropriately high and non-suppressible by sodium loading. Persistent HTN after treating the reversible causes of SAH suggests zona glomerulosa autonomy called TAH. TAH is uncommon and most commonly occurs in older patients with prior SAH due to atherosclerotic plaques of renal arteries. Her untreated OSA may have contributed to the development of TAH following SAH.

Conclusion: Recognition of this entity, TAH, is important to enable effective blood pressure control in patients with persistent HTN despite apparent hemodynamic correction of renovascular HTN.
Background: The pathophysiology of sarcoidosis involves dysregulation of dependent factors of bone metabolism, such as vitamin D and calcium, and high dose persistent treatment with steroids may lead to low bone mineral density (LBMD). Advancing age, female gender, low body mass index (BMI), smoking and steroids are risk factors for LBMD. LBMD in sarcoidosis is presumed but has yet to be described.

Methods: A retrospective chart review of biopsy-proven patients with a diagnosis of sarcoidosis for >1 year was used to compare parameters of prevalence, age (at chart review), gender, race, smoking status and designation of LBMD based results of Dual Energy X-ray Absorptiometry (DEXA) studies. All calculations are based on non-parametric analyses using Fisher’s exact for categorical data and Mann Whitney tests for continuous variables.

Results: 61 patients (86.9% African-American) were identified that met criteria, 38 (62.3%) with LBMD (30 with osteopenia and 8 with osteoporosis). A significant difference was found in occurrence of LBMD in patients with BMI >30 vs <30 with patients BMI >30 having lower levels of LBMD (as is expected in the general population), but no significant differences (table) were found in occurrence of LBMD in patients age >65 vs <65, in ever vs never smokers (age between ever smokers and never smokers was not significantly different), or in males vs females (with females being significantly older than males and female age range 34-79).

<table>
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<tr>
<th>Table 1. Comparison of Factors Influencing Bone Mineral Density within a New Orleans Sarcoidosis Population</th>
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<tr>
<td>% &gt;65 Years Old</td>
</tr>
<tr>
<td>% Male</td>
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<tr>
<td>% BMI &gt;30</td>
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<tr>
<td>% Smoker</td>
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Conclusion: Factors protective against LBMD in the general population were not demonstrated in this population of sarcoidosis patients. A lower risk of LBMD was not conferred by age <65, male gender, or non-smoking status. These trends including significantly older age of females vs males suggests an abnormal distribution of LBMD in our sarcoidosis population that is not expected in the general population. Further examination of LBMD in sarcoidosis may yield evidence to support increased vigilance in steroid use and perhaps consideration/consensus to initiate steroid sparing agents earlier in the disease course, as well as earlier screening for LBMD in patients with sarcoidosis. Future studies evaluating impact of steroid use, levels of factors in bone metabolism (e.g. calcium, vitamin D, etc) and fracture risk are much needed.
Gender influences on Organ Manifestations in a New Orleans Sarcoidosis Population

MR Walker¹, A Janof², H Grewal³, M Yu⁴, MK Lammitt⁵, LA Sakkellou⁶, T Hsu⁷, A Montali⁸
¹ LSU HSC - School of Medicine, ² Department of Medicine, ³ Section of Rheumatology, ⁴ Section of Pulmonary Medicine and Critical Care, ⁵ Scleroderma and Sarcoidosis Patient Care and Research Center

Objectives: Sarcoidosis is a multi-organ disease of unknown etiology characterized by granuloma formation and fibrosis in affected organs. The prevalence of sarcoidosis is 1-40/100,000. Pulmonary manifestations predominate; with skin, eyes, heart, gastrointestinal tract (GI), reticuloendothelial, renal and nervous systems commonly involved. Prior studies have shown a gender association with organ specific manifestations. Male gender is associated with a more severe radiographic picture and female gender with more frequent extra-pulmonary manifestations (EPM). We conducted a survey of gender-based differences of organ-specific manifestations of sarcoidosis in a New Orleans cohort from a tertiary care institution cohort.

Methods: A retrospective chart review on patients seen in our clinics from 2006-2012 with biopsy proven sarcoidosis and a diagnosis >1 year were included. Data was collected on gender, smoking status, presence of EPMs (cutaneous, ocular, cardiac, neurologic, GI, and renal), chest radiographs and pulmonary function testing (PFT). Differences in gender and presence of EPMs and pulmonary sarcoidosis (defined as chest radiographic findings consistent with hilar adenopathy or pulmonary fibrosis) were calculated. Gender differences in FVC, TLC, and DLCO were calculated using a t-test for the mean. PFTs were stratified by time of diagnosis in five year intervals. PFT results were averaged if more than one test was done in a five year period. To control for tobacco exposure, smoking status between males/females and those with/without pulmonary sarcoidosis was assessed.

Results: Of 511 charts reviewed, 156 pts met inclusion criteria. Males had ocular sarcoidosis (OS) more frequently (M=0.28, F=0.104, p=0.005) and relative risk was calculated to be 2.24 (p<0.05, 95% CI 1.09 to 4.63). Gender was not a significant risk factor for other EPMs, nor for all EPMs combined. However, N limited statistical analysis of an apparent trend in the presence of GI/splenic sarcoid disease favoring females (F=11%, M=6%). The presence of pulmonary sarcoidosis was not associated with gender (p=0.3). PFTs showed significant gender difference in that males had worse FVC (M=69.0, F=77.9, p=0.03) and TLC (M=63.0, F=78.86, p=0.003) 5-10 years after diagnosis. Diffusing capacity also showed gender specific differences with females having a worse DLCO than males 10-15 years after diagnosis. (M=72.0, F=55.33, p=0.024). Conclusion: Male sex was a risk factor for ocular sarcoidosis. Though gender was not associated with radiographic sarcoidosis, when controlled for smoking, increased severity of restrictive lung disease was demonstrated in males. Differences in DLCO warrant investigation for risk of pulmonary vascular disease in females.

<table>
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<tr>
<th>Time of PFT relative to diagnosis</th>
<th>0-5 years</th>
<th>5-10 years</th>
<th>10-15 years</th>
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<tr>
<td>PFT (percent predicted)</td>
<td>FVC</td>
<td>TLC</td>
<td>DLCO</td>
</tr>
<tr>
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Clinical History:

49 year old male complaining of progressive abdominal pain after a motor vehicle accident one week ago. Patient was driving a “4-wheeler” while vacationing out of state and lost control. He was thrown forward over the front of the vehicle as it flipped, then landed on top of it. He denies loss of consciousness. He was taken to the nearest trauma center where he states he underwent “cat scan”, but is unsure what other medical care he received. He remained at this hospital for 2 days before leaving against medical advice because he wished to return home and receive local care if necessary. For the past 2 days, he has had increasing abdominal pain and progressive bruising of his abdomen and flank. He denies having bloody stool or urine, fevers or chills. He also denies headache, dizziness, change in vision, gait instability or nausea/vomiting. He denies prior medical problems or medication use.

Physical Exam:

- **Head**: ecchymosis on left lateral forehead
- **Eyes**: ecchymosis of orbits bilaterally without discoloration of lids (no Raccoon Eyes); PERRL; EOM intact; visual fields full
- **Ears**: no hemotympanum; no Battle’s Sign
- **Nose**: atraumatic, nares clear
- **Throat**: unremarkable
- **Neck**: supple, full ROM
- **Chest**: normal S1,S2; no murmurs, rubs or gallops; tenderness to palpation present over R chest wall
- **Lungs**: CTAB bilaterally
- **Abdomen**: obese, soft, diffusely tender; several areas of ecchymosis extending from LLQ laterally to the left flank
- **Extremities**: multiple abrasions and ecchymosis on upper and lower extremities; 2+ pulses in all distal extremities
R. Weems

Introduction: Osteosarcoma is a rare and highly malignant tumor with an estimated incidence of 3 cases/million population/year (0.2% of all malignant tumors). This cancer typically presents in the first or second decades of life and primarily affects the long bones. Initial presentation of extremity pain followed by soft-tissue swelling is very similar to that of deep venous thrombosis (DVT).

Clinical Vignette: A 29 year old man with a medical history for hypertension and DVT presented to the emergency room with worsening left leg pain and swelling 2 months after being started on warfarin therapy for the non-obstructive left popliteal vein thrombosis. One month after his initial diagnosis he returned to the ER with similar symptoms of left leg pain and swelling, a repeat ultrasound revealed no expansion of the original clot. He was noted to be therapeutic on warfarin and he was discharged with compression stockings. He continued to have progressing left leg pain and swelling despite compliance with his warfarin and compression stocking therapy. On admission, he denied dyspnea, fever, chills, or weight loss. He did endorse a 3 minute episode of upper left-sided chest pain one day prior to admission which resolved with acetaminophen. On exam, he was noted to have non-pitting, taut edema with tenderness of the left lower extremity from the toes up to the knee. The leg was without erythema or any evidence of abscess or cellulitis. He was unable to move his left foot, had absent sensation of the lateral left foot, and had an absent Achilles reflex on the left. A CT angiogram performed in the ER to rule out pulmonary embolism given his episode of chest pain revealed multiple bilateral pulmonary lesions of varying sizes consistent with metastatic disease. Biopsy of one of these lesions revealed high-grade sarcoma with a positive osteonectin immunohistochemical stain suggestive of osteosarcoma. Plain films of the left leg revealed a mass of the posterior proximal tibia causing periosteal elevation. A CT scan of his brain, which was done because of headache, revealed a 6 centimeter suprathalamic mass with adjacent edema. Neurosurgery declined to intervene given the size and location of the brain mass as well as his multiple pulmonary metastases. The patient completed two cycles of palliative chemotherapy without change in the size of his brain mass. The patient passed away two months after diagnosis.

Observation: Venous thromboembolism is unlikely in a healthy young adult without risk factors, such as recent surgery or major trauma. Malignancies are well known to create pro-coagulant states which can lead to a DVT. Additionally, tumors can cause thrombosis by external compression of vessels or by vascular invasion. Thrombin itself has been implicated as a contributor to both proliferation and migration of soft-tissue sarcomas in particular. Earlier investigation into the cause of this patient’s DVT may have resulted in an earlier diagnosis and treatment for his osteosarcoma.

Conclusion: Malignancy should be ruled out as a cause of refractory DVT in a young healthy patient.
INTRODUCTION: There are many causes of rhabdomyolysis, including excessive exercise. One of the most serious complications of rhabdomyolysis remains acute kidney injury (AKI), which is caused by non-protein heme pigment that is released from myoglobin. Furthermore, inflammation of the muscle can compress structures in the same fascial compartment resulting in compartment syndrome.

CASE: A 24 year old inmate was brought to the emergency department with severe thigh pain and dark colored urine after participating in "The Mike Tyson Challenge" During this challenge he performed 372 squats over a 45 minute time interval. The thigh pain began the next morning followed by "coca cola" colored urine. On physical exam his thighs were extremely tense and he underwent emergent bilateral fasciotomy for compartment syndrome. He was found to have a creatinine kinase of 401,880 U/L, BUN of 45 mg/dl, serum creatinine 7.21 mg/dl, and potassium of 6.3 mmol/l. Urinalysis revealed 250 blood/ul but only 3-5 red blood cells/HPF. He received insulin, sodium polystyrene sulfonate, IV fluid hydration, and hemodialysis. He slowly improved while receiving 3 weeks of hemodialysis and physical therapy in the hospital.

DISCUSSION: In his prime Iron Mike Tyson was the self proclaimed ‘baddest man on the planet’. A workout based on his physical training was developed and named the Mike Tyson Beast Workout or Challenge. Some rules of the ‘Beast Workout’ are as follows: 1) The workout must be performed in no more than one hour; 2) The aim is to perform dead lifts, bench press, squats, chest press and dumbbell curls through-out the hour. Our patient barely survived the squats. Fortunately, aggressive surgical intervention, fluid hydration and hemodialysis were able to reverse the damage caused by the release of myoglobin from injured muscle.
“Deadly Dermatomyositis: A Case of Rapid Decompensation”
Alexandra Wright and Melissa McKay
Department of Internal Medicine, LSU Health Sciences Center, New Orleans, Louisiana

INTRODUCTION: Dermatomyositis is an uncommon inflammatory disease marked by muscle weakness and characteristic cutaneous findings with the exact cause remaining unknown but likely a disease of autoimmune relation. It has been associated with interstitial lung disease and, less commonly, cardiovascular disease including congestive heart failure and arrhythmias. In recent years, a subset of patients with polymyositis and dermatomyositis have been found to have "antisynthetase syndrome" which is now recognized as an important cause of autoimmune inflammatory myopathy.

CASE: Patient is a 54 year old white male with who had been diagnosed with dermatomyositis within the past month and presented complaining of worsening generalized weakness and difficulty breathing. Patient had seen his rheumatologist outpatient once in the meantime where he was given a dose of Methotrexate and told to resume Prednisone 80 mg/day. During his initial work-up at an outside hospital, CT chest was performed as dermatomyositis is known to be associated with underlying malignancy, and revealed incidental findings compatible with interstitial lung disease. Upon presentation to our hospital, patient was mildly hypoxic with mild tachypnea and fine posterior rhonchi noted on physical exam. CT chest was performed to rule out pulmonary embolus and revealed drastic worsening of the interstitial lung disease findings as noted on the initial CT just 3 weeks prior. Pulmonary and Rheumatology were consulted to help in the management of this patient as it was suspected that his dermatomyositis was complicated by with likely antisynthetase syndrome and acute alveolitis. He was started on high dose steroids and initially admitted to the floor. VATS was performed for tissue diagnoses. Patient was transferred to the ICU and was extubated a few days later; he remained in the ICU as he continued to display hypoxia and unpredictable variations in his respiratory status as well as new-onset systolic heart failure. On day 19 of his admission, patient showed rapid decline in his blood pressure and oxygen saturation so he was re-intubated and pressers were started. Patient was found to have multi-organ failure with marked metabolic and respiratory acidosis as well as bilateral pneumothoraces and pneumomediastinum. His DNR status was discussed with his family and withdrawal of care was performed the next day. The patient died approximately 6 weeks after his initial diagnosis of dermatomyositis.

DISCUSSION: Dermatomyositis is typically a disorder of residual weakness and disability whereby the great majority of patients affected do not die from this disease process itself. However, ~5% have a fulminant progressive course with eventual death, mostly from muscle weakness or cardiopulmonary involvement. Those cases that result from pulmonary failure may actually be attributable to a condition known as antisynthetase syndrome, which is difficult to diagnose initially because the presentation is varied and often nonspecific. However, the diagnosis is critical as some effective treatment for this interstitial pneumonia with immunosuppressive therapy is possible. Unfortunately despite aggressive therapy with high dose steroids and cyclophosphamide, our patient did not respond well and developed a rapidly progressive respiratory failure leading to multi-organ compromise and eventual withdrawal of care.
Objectives: Recent trends suggest the incidence of anal cancer is rising, particularly in high-risk populations that are susceptible to infection with human papillomavirus. The value of implementing screening programs for high-risk populations such as men who have sex with men and those living with HIV has only recently come to light; however, insufficient understanding of the natural history of anal HPV infections and HPV-associated anal lesions has precluded the development of clear screening and treatment guidelines. Furthermore, the role of HPV testing as an adjunct to cytology in anal cancer screening programs is unknown. Our objective was to demonstrate the feasibility of HPV testing in residual anal Pap smears.

Methods: Residual anal thin-prep Pap smears were obtained from men and women attending the Interim LSU Hospital HIV Outpatient Clinic. Genomic DNA was extracted from the cell material present in the sample. The DNA preparations were evaluated for PCR adequacy by amplification of the cellular beta-globin gene. Human papillomavirus was detected by PCR amplification of the viral L1 gene, and HPV genotype was determined by linear array (Roche).

Results: Out of 50 samples tested, 33 (66%) tested positive for beta-globin and were subjected to further analysis. Of these samples, 17 (51.5%) were positive for HPV. Of the 37 HPV genotypes detected by the linear array, 21 were identified at least once. HPV-58 was the most common genotype detected (found in 35.3% of all HPV-positive specimens), followed by HPV-53 and -70 (29.4%). Multiple HPV genotypes were detected in 36.4% of the samples.

Conclusions: Our data demonstrates the feasibility of detecting HPV in residual anal Pap smears. In this high-risk population, anal HPV infection is highly prevalent and often includes concurrent infection with multiple HPV genotypes. This study represents the first step in determining the utility of HPV testing as an adjunct to liquid cytology for anal cancer screening programs.
Purpose: To collect data from pulmonary hypertension (PH) patients and from PH validated instruments necessary to build a WHO ICF Core Set relevant to functioning and accommodations PH.

Background: The WHO Assembly adopted the ICF to collect scientific data on disability and health. The ICF is used worldwide by health-systems to collect data for policy-making, distribute resources, promote research, and monitor individual patients. Medicare and Medicaid are currently examining the utility of ICF for reimbursement, health outcomes research and clinical performance measurement. Disease-specific languages (Core Sets) have been developed in twenty chronic diseases. The ICF is an alpha-numeric classification based on the bio-psycho-social model of health divided into 4 broad domains: body structure, body function, activities and participation, and environmental factors. PH is a complex disease impacting many spheres of patient functioning and well-being often unrecognized by clinicians and investigators. To preserve parity and accuracy for PH patients, it is important that an PH-ICF Core Set be developed by PH experts (both patients and healthcare professionals).

Methodology: 1) Patients were invited by a national PH patient organization on behalf of the investigators to attend focus groups and interviews. During these sessions they answered open-ended questionnaires in brief essay format. Questions remained general: ‘How has PH affected or changed your life?’, ‘What are your most disabling symptoms?’, ‘How has your ability changed?’, ‘If you could change 3 things about having PH what would they be?’. 2) A literature review was performed to identify and extract all validated PH outcome measures/instruments (both traditional and patient-reported) utilized in clinical investigations. 3) Data from both sources were deconstructed to the most basic meaningful concepts, and linked to ICF by the investigators who had established a prior proportion of agreement of 0.94 (adjusted for chance was 0.72).

Findings: The initial item collection resulted in 149 preliminary categories and populated categories in all ICF domains with 9 in Body Structure, 58 in Body Function, 62 in Activities and Participation and 20 in Environmental. Tables highlight differences in data collection strategies.

Implications: These are the founding steps in the development of a PH-ICF Core Set. Except for ‘Body Structure’, PH patient collection consistently provides a significantly greater quantity of information; while the deconstruction of validated instruments in PH supplied lesser but different information - validating importance of both methods. Additional phases of item collection will continue with PH specialists and patients, then undergoing item reduction with assessment for differences between WHO PH groups potentially necessitating WHO Group specific PH-Core Sets.
Introduction: Neuroleptic malignant syndrome (NMS) was first described by the symptoms of pallor, hyperthermia, and respiratory and psychomotor abnormalities in association with haloperidol.

Case: A 48-year-old male mental health resident with a history of schizoaffective disorder was noted by facility staff to have a stooped posture, a mild temperature elevation and abdominal rigidity on exam. The patient was given two doses of benztropine prior to transfer to our hospital. His medications included clonazepam, divalproex sodium, olanzapine, and risperidone. At the time of admission his rectal temperature was 103.1°F, heart rate 108 beats/min, blood pressure 134/99, respiratory rate 43, and oxygen saturation 100% on room air. He appeared distressed and tremulous. He was alert and oriented to person, place, and time but required frequent re-direction. He was tachypneic with decreased breath sounds at the bases but without crackles or wheezes. Bowel sounds were absent and his abdominal muscles were visibly contracting. He had increased muscle tone and was hyperreflexic throughout. His laboratory findings revealed a white blood cell count of 10,800/ul with bandemia of 19% and mild thrombocytopenia of 112,000/ul. He had rhabdomyolysis with creatinine kinase level of 103,275 u/l causing acute kidney injury and myoglobinuria. He also had transaminitis (AST 1660 u/l and ALT 356u/l). All of his medications were stopped. Cooling blankets, fans, and ice packs were used for his hyperthermia. He was given aggressive IV fluid repletion, placed on bromocriptine, valium as needed for agitation, and given one dose of dantrolene. Per psychiatry, he was restarted on his home dose of divalproex sodium. His muscle rigidity improved.

Discussion: NMS is classically associated with high potency first generation antipsychotics. However newer atypical agents, as well as other classes of anti-dopaminergic drugs are recognized causes. As soon as NMS is suspected, the offending agent must be discontinued. Respiratory and circulatory systems should be monitored closely while intravenous fluids and treatment of fever are undertaken. Treatment consists of conservative therapy, benzodiazepines, dantrolene, and dopamine agonists, with electroconvulsive therapy used for refractory cases.

Various mechanisms have been proposed to explain the pathogenesis of NMS. Since extrapyramidal symptoms are present in NMS and all antipsychotics are associated with some degree of D2 receptor inhibition, it is speculated that NMS is secondary to dopamine receptor antagonism. NMS is mainly a clinical diagnosis. It is also a diagnosis of exclusion, so it is imperative to rule out other diagnoses that may present similarly. One of the earliest documented criteria formulated was known as Levenson’s Criteria. In 1994, the Diagnostic and Statistical Manual of Mental Disorders (DSM) included their own criteria for the diagnosis of NMS. The latest proposal for diagnostic criteria occurred in 2011. A seventeen member international expert panel including psychiatrists, neurologists, anesthesiologists, and ER physicians convened and used the Delphi method to come up with a multi-specialist agreed upon criteria for the diagnosis of NMS.
Laquel Brown, Xavier Student; Grant Johnson, MPH; L. Moreno-Waiton, MD, MS, MSCR
Section of Emergency Medicine, Department of Medicine, LSUHSC.

BACKGROUND: The CDC currently recommends routine HIV testing of all patients presenting to the ED. We hypothesize that most medical students, EM residents and faculty are not aware of this standard of care and have knowledge gaps about HIV testing and counseling.

METHODS: Survey investigation examining attitudes toward and knowledge about HIV testing in the ED of an urban teaching hospital. A random convenience sample of 150 people; 25 in each of 6 cohorts (attending, residents, nurses, ancillary staff, medical students, patients) took an anonymous 15 item survey. Data was analyzed using simple percentages and chi square test. Critical value was set at 11.070, 5 degrees of freedom and alpha=0.05. Odds ratios were calculated with a 95% confidence interval.

RESULTS: Physicians were more likely to answer knowledge based questions correctly. Overall, residents averaged the highest percent correct. Percentages of nurses and ancillary staff answering these questions correctly were as low as 36.0% and 24.0%, respectively. Nurses sometimes scored lower than patients on knowledge based items. Profession was found to have a significant (p<.05) association on 50% of the knowledge based questions, as well as all questions regarding HIV testing habits. 88-92% of all cohorts have ever been tested for HIV, with the exception of medical students (52%). Patients and ancillary staff have been tested more recently than physicians and students.

CONCLUSIONS: In this urban ED, residents were best informed about HIV, but least likely to follow CDC testing recommendations. Nurses showed a generally low level of knowledge, corresponding to low likelihood of compliance with testing recommendations. Patients and ancillary staff had intermediate knowledge, but were most likely to comply with testing recommendations. By identifying gaps in particular segments of the surveyed population, future education programs can be created and tailored for each group.
Background: The Broselow tape is a color-coded tape which is placed next to the supine pediatric patient, measuring the child from head to toe and assigning a specific weight class which determines dosages and sizes of commonly used resuscitation drugs and equipment. Some recent studies have shown BT to underestimate a child’s weight, particularly as age increases, potentially complicating pediatric resuscitations and adversely affecting outcomes. The relationship of race and ethnicity to the accuracy of the BT has also been suggested.

Objectives: To assess the reliability of BT in predicting the weights of all children, African American children (AA) and White children (W) in a US city.

Methods: This is a retrospective chart review of 1591 children aged 1-12 years seen in an urban teaching Pediatric Emergency Department. Each chart was assigned a subject number. Race, age, height, predicted BT weight and measured weight were recorded. BT predicted weight and measured weight were compared on a logarithmic scale and on a scatter plot. Error level was calculated from actual and BT predicted weight. Independent T-tests were used to compare differences in means between racial populations where alpha was 0.05%. Percent Error was calculated to assess the levels of error that BT was allowing. Chi-square was used to assess associations between categorical variables.

Results: BT underestimated the weight of both AA and W children in this study. This effect was more likely in AA children (p=0.0271). BMI did not impact the accuracy of BT predicted weight. Both mean weight and mean BMI were statistically different between genders (p= 0.0094; p= 0.0270). There was a statistically significant association between error levels and race (p < 0.0001). 17.22% of AA children fall into the 30% error level when using BT as opposed to 10.74% of W children.

Conclusions: BT has been a reliable tool for guiding pediatric resuscitation for decades, but it appears to no longer be reliable as large error levels of weight increase. Additionally, it tends to misestimate the weights of AA children more than W children. BT is probably not a reliable guide during pediatric resuscitation.
Objectives: Central administration of the hypothalamic neuropeptide QRFP, selectively increases high fat diet intake in male and random-cycling female rats. In female rats fed a chow diet, hypothalamic prepro-QRFP mRNA levels fluctuate across the estrous cycle. The current experiments were conducted to determine the role of estradiol on the feeding effects of QRFP and the hypothalamic expression of QRFP in female rats.

Methods: In Experiment 1, female rats were habituated to either a high fat (60% kcal from fat) or a low fat (10% kcal from fat) diet, ovariectomized and implanted with an indwelling cannula aimed at the lateral ventricles. Estradiol benzoate (EB, 4ug/100ul) was administered once weekly to all rats. For testing, QRFP (1nM) was administered via cannula either two days prior to EB administration of 1 day following EB administration and food intake was assessed at 1h, 2h, and 4h. In Experiment 2, rats were habituated to high fat or low fat diet prior to ovariectomy. EB was administered every 4 days to mimic a rats’ estrous cycle. Following 9 cycles, brains were removed and hypothalamic prepro-QRFP mRNA, GPR103a mRNA, GPR103b mRNA, and QRFP protein levels were measured.

Results: In Experiment 1, QRFP administration increased high fat diet intake. QRFP-induced increases in high fat diet consumption were attenuated by EB administration. QRFP administration in the absence of EB did not alter low fat diet consumption, however QRFP administration in the presence of EB increased low fat food intake. In Experiment 2, prepro-QRFP mRNA levels in the ventromedial hypothalamus/arcuate nucleus were significantly decreased by EB administration. EB administration did not alter prepro-QRFP levels in the lateral hypothalamus. GPR103a and GPR103b mRNA in the ventromedial hypothalamus/arcuate nucleus were decreased following EB administration in high fat fed rats. Immunohistochemical analysis of QRFP protein expression indicated that EB administration decreased QRFP-immunoreactivity in the medial hypothalamus.

Conclusion: Our studies indicate that QRFP potently and selectively increases high fat intake in the absence of estradiol. Administration of EB was sufficient to attenuate QRFP-induced increases in high fat food intake and decrease the expression of prepro-QRFP mRNA and QRFP peptide levels in the medial hypothalamus. These data suggest that estradiol regulates the hypothalamic expression and feeding effects of QRFP in female rats.
**Objectives:** The detection of dietary fat mediates the intake of high fat foods and may be regulated by the oral cavity. Differences in fatty acid sensors in the oral cavity have been proposed as mechanisms contributing to the susceptibility in becoming obese. The fatty acid receptor, CD36, is expressed on the circumvallate papillae (CV) of the tongue and is a potential taste receptor for fat. The goal of the current study was to examine the role of CV CD36 on fat preference in obesity-prone Osborne-Mendel (OM) rats and obesity-resistant S5B/Pl (S5B) rats.

**Methods:** OM and S5B rats were habituated to a non-pelleted high fat (55% kcal from fat) and low fat (10% kcal from fat) diet using a two-choice paradigm. RNA interference techniques were used to reduce the expression of CD36 on the CV. CD36 siRNA or non-targeting control siRNA were applied to the CV for 5 days. Food intake and fat preference were determined during the application of siRNA and for 6 days following application.

**Results:** RNA interference techniques significantly reduce CD36 mRNA expression on the CV immediately following the 5-day application period. Furthermore, CD36 protein levels were significantly decreased on days 0 and 3 following CD36 siRNA application. Food intake was measured daily and high fat preference was determined. On Day 2 of siRNA application, CD36 siRNA transiently decreased fat preference OM and S5B rats. Immediately following siRNA application, CD36 siRNA decreased fat preference in the obesity-resistant S5B rats (<50% preference), but not in the obesity-prone OM rats. OM rats exhibited a daily fat preference >75%, with the exception of one day. Total food intake was measured daily. CD36 siRNA application reduced total food intake in obesity-resistant S5B rats on days 2 and 3 following siRNA treatment, without altering total food intake in obesity-prone OM rats.

**Conclusion:** These data support the use of RNA interference to significantly decrease the expression of CD36 on the CV in rats. These data indicate that CD36 on the tongue mediates fat preference, and transiently reduces total food intake in obesity-resistant S5B rats. CD36 siRNA applied to the tongues of obesity-prone OM rats was not sufficient to decrease fat preference in this strain, suggesting that OM rats may not use information from the oral cavity to make dietary selections.