New York | ACP American College of Physicians
Leading Internal Medicine, Improving Lives

New York Chapter
American College of Physicians

Resident/Fellow and Medical Student Forum

Poster Presentations

Friday, May 27, 2022

Desmond/Crowne Plaza Hotel
660 Albany-Shaker Road
Albany, NY

New York Chapter
American College of Physicians

Resident/Fellow and Medical Student Forum

Medical Student Clinical Vignette

Louis Arens

Iyerus Tariku, MD: Syracuse, NY VAMC, Hospitalist. Associate Program Director, Internal Medicine Residency Program, UMU. Assistant Clinical Professor, SUNY Upstate.

SUNY Upstate Medical University

CAVERNOUS SINUS SYNDROME: A UNIQUE PRESENTATION OF CD5+ DIFFUSE LARGE B-CELL LYMPHOMA

Introduction:

Cavernous sinus syndrome (CSS) is characterized by signs and symptoms that result from compression of the contents of the cavernous sinus, which include cranial nerves III, IV, V1 (ophthalmic), V2 (maxillary) and VI, as well as a portion of the internal carotid artery and its associated sympathetic nerve plexus. While typical causes of CSS include trauma, aneurysm, malignancy and infection, it is exceedingly rare for this syndrome to be the initial manifestation of lymphoma, especially in an immunocompetent patient as in this case.

Case Presentation:

We report a case of a 70 year-old male who presented to the emergency department with three weeks of right sided temporal headache with severe photophobia and three days of diplopia. A review of symptoms was otherwise unremarkable. Physical exam exhibited new right cranial nerve III and VI palsies. He also had left-sided incomplete facial nerve palsy from previous history of Bell"s palsy. MRI of the brain and orbits with and without contrast showed a mass in the right cavernous sinus. CSF showed mildly elevated protein, otherwise unremarkable. Bacterial and fungal cultures were negative for infectious etiologies. Cytology showed few lymphocytes but no malignant cells. Subsequently, a full metastatic work up showed a left sided pleural effusion, a mass-like thickening of the posterior left pleura, as well as mediastinal and mesenteric lymphadenopathy. A biopsy of the left pleural mass revealed diffuse large B-cell lymphoma (DLBCL), positive for the CD5 surface antigen on flow cytometry, a rare finding for this subtype of lymphoma. After this diagnosis of lymphoma, dexamethasone was started and the patient underwent 10 radiation therapy treatments directed at the right cavernous sinus. He is currently receiving R-CHOP plus intrathecal methotrexate. A repeat MRI showed a marked decrease in the size of the cavernous sinus mass.

Discussion:

This case illustrates the rare clinical presentation of CSS from DLBCL. It highlights the importance of keeping malignancy on the differential diagnosis when dealing with alarming headache symptoms, especially in an elderly patient. It also shows the significance of being able to localize cranial nerve deficits to the cavernous sinus when appropriate. Notably, CD5 positivity in DLBCL has been associated with central nervous system involvement as in this case, but has not been linked specifically to the cavernous sinus. Additionally, the inclusion of Rituximab in the chemotherapy regimen has been associated with increased overall survival in patients diagnosed with CD5+ DLBCL. In addition, this case also emphasizes the importance of including imaging when working up symptoms that do not entirely coincide with less serious, more common pathologies.

Younes Attlassy

Nabil Attlassy, Medical Student (affiliation: Medical College of Wisconsin)
Owen Chan, M.D. (affiliation: Department of Pathology, Pali Momi Medical Center, Aiea, HI, USA,
Mel A. Ona, M.D. (affiliation: Department of Gastroenterology, Pali Momi Medical Center, Aiea, HI, USA
Sindhura Kolli, MD (affiliation: Department of Internal Medicine, NYU Grossman School of Medicine, NY
NYU Grossman School of Medicine

Esophageal Fibrovascular Polyp: A Review of a Typical Presentation and Rare Complications

Introduction:

Fibrovascular polyps of the esophagus are benign masses present in the proximal third of the esophagus and make up less than 2% of all documented esophageal tumors. Initially presenting with dysphagia, they can grow to cause spontaneous asphyxiation. An accurate and early diagnosis and referral to gastroenterology or surgery for further management is vital. We herein detail a case of a large esophageal fibrovascular polyp which vitally contributes to the paucity of literature on this topic.

Case Presentation:

An 87-year-old man presented with three days of intermittent non-radiating epigastric abdominal pain and diarrhea. A computed tomography (CT) scan of the abdomen demonstrated an abnormal soft tissue lesion located within the mid to distal esophagus. An esophagogastroduodenoscopy (EGD) visualized a 13 cm x 2.5 cm submucosal mass in the esophagus 23 centimeters from incisors with no associated bleeding or stigmata. An EUS reported a similar size mass with regular borders and engulfing 50% of the esophageal lumen. EUS guided biopsies were taken. Pathology confirmed a benign lymphoid aggregate suggestive of an esophageal fibrovascular polyp.

Discussion:

Esophageal fibrovascular polyps are difficult to detect even by endoscopy as they have normal overlying squamous epithelium mucosa. Underneath their makeup includes a combination of fibrous and adipose tissue and vasculature.1 Our case is atypical given the dearth of symptoms despite the relatively large size of the mass. These polyps tend to arise in the cervical esophagus at the level of the cricopharyngeus muscle.1 They grow out of the loose submucosal tissue in the proximal esophagus and the act of propulsion causes elongation of the mass over time.1 In a large case series review of fibrovascular polyps, 87% of patients experienced dysphagia and to lesser degree shortness of breath and heartburn.1 The growth of these lesions is slow and typically benign. In rarer cases, these tumors can be regurgitated into the larynx and mouth and cause acute respiratory distress leading to severe pneumonia or spontaneous asphyxiation.2,3 Surgical excision of the tumor along with its stalk is the definitive treatment as well as solution to prevent a recurrence.3 Improving knowledge about this diagnosis and potential severe complications may be beneficial for accurate triage and management.

References:

(1) Levine, M. S (Et. Al) (1996). Fibrovascular polyps of the esophagus: clinical, radiographic, and pathologic findings in 16 patients. American Journal of Roentgenology, 166(4), 781â€“787. doi:10.2214/ajr.166.4.8610549

(2) Endara, S. (Et. Al) (2019). Asphyxia Caused by a Giant Fibrovascular Polyp of the Esophagus. ACG case reports journal, 6(7), e00126. https://doi.org/10.14309/crj.0000000000000126

(3) Sultan, P. K. (Et. Al) (2005). Fibrovascular polyps of the esophagus. The Journal of Thoracic and Cardiovascular Surgery, 130(6), 1709â€“1710. doi:10.1016/j.jtcvs.2005.05.043

Megan Betancourt

Fatima Bawany, MD

David Staudt, MD

University of Rochester School of Medicine & Dentistry

MORE THAN SKIN DEEP: REFRACTORY ERYTHRODERMA AS A MANIFESTATION OF CUTANEOUS T-CELL LYMPHOMA (CTCL)

INTRODUCTION

Erythroderma is a dermatologic emergency defined as diffuse erythema or scaling covering ~90% of body surface area (BSA). It can be a clinical sign of a variety of cutaneous and systemic etiologies, including preexisting dermatoses (e.g. atopic or contact dermatitis, psoriasis), drug reactions, cutaneous T-cell lymphoma (CTCL) (e.g. Sezary syndrome, mycosis fungoides), internal malignancies, or autoimmune diseases (e.g. dermatomyositis). We present a case of erythroderma with the unique presentation of incidental thromboembolism and suspected transition to malignancy.

CASE DESCRIPTION

A 61-year-old woman with history of erythroderma thought to be secondary to atopic dermatitis, Stevens-Johnson syndrome secondary to cephalosporin use, squamous cell carcinoma in-situ of the abdomen, and 53 pack-year smoking history presented to the ED with worsening erythroderma, chills, pruritus, and lower extremity swelling. On exam, she was found to have a confluent, erythematous rash covering >90% BSA with areas of scaling, flaking, and fissuring, along with left inguinal lymphadenopathy and pitting edema in the bilateral upper and lower extremities. Review of her medical records revealed that biopsies of her rash four months prior had been consistent with chronic active spongiotic dermatitis with a weak T-cell receptor (TCR) clonal band on molecular analysis. Biopsies and bloodwork were obtained, and she was evaluated by the Dermatology service. She was treated with IV solumedrol, triamcinolone ointment, Lidex solution, and wound care. Given concerns for an underlying malignancy, CT chest and abdomen were performed. Results were notable for bilateral, scattered subsegmental pulmonary emboli and left femoral DVT. Anticoagulation was initiated, and she was discharged home with prednisone. Her skin biopsies resulted with an atypical lymphocytic infiltrate with TCR gene rearrangement strongly positive for clonality. The results were highly suspicious for lymphoid malignancy, specifically mycosis fungoides, though definitive diagnosis could not be given solely based on histology. Patient is currently undergoing additional malignancy work-up and treatment outpatient, although follow-up has been inconsistent due to socioeconomic barriers.

DISCUSSION

This case highlights the importance of a complete malignancy work-up in patients with an erythroderma flare. This is especially true for patients who worsen despite aggressive treatment of the presumed underlying driver of disease, as worsening of symptoms may point to an underlying transition to malignancy. Although our patient”s prior biopsies were not concerning for malignancy, during her flare, these same studies were concerning for CTCL. This patient also had lymphadenopathy, which can be benign in chronic erythroderma but should raise suspicion in the setting of an acute worsening of symptoms. The incidental finding of pulmonary emboli highlights that when working up malignancy, it is important to investigate possible complications of a malignancy, especially when combined with other risk factors such as tobacco use.

Madiha Khan

Jose Canabal MD, Regine Cherazard, MD

Long Island Jewish Forest Hills, Donald & Barbara Zucker School of Medicine at Hofstra/Northwell

ELEVATED N-TERMINAL PROHORMONE BRAIN NATRIURETIC PEPTIDE IN THE SETTING OF URINARY RETENTION WITHOUT HEART FAILURE

N-terminal prohormone brain natriuretic peptide (NT-proBNP) is a highly sensitive biomarker widely used in heart failure diagnosis and prognosis. NT-proBNP's use as a biomarker in other diseases has been little explored. This case report discusses a patient with an elevated NT-proBNP level with urinary retention and atrial fibrillation without heart failure.

An 80-year-old woman with a medical history of atrial fibrillation presented to the hospital with concerns of dysuria and suprapubic pain. She denied chest discomfort, orthopnea, and dyspnea. Her vital signs were within reference ranges. Her physical exam revealed an irregular heart rhythm, trace lower extremity edema, and suprapubic distention. Her laboratory tests revealed elevated NT-proBNP at 2908 pg/mL (reference range, 0â€“125 pg/mL), increased from 1187 pg/mL 1 month earlier. On admission, her serum creatinine was 1.06 mg/dL (range, 0.5â€“1.3 mg/dL) compared to her baseline of 0.6 mg/dL. Her initial troponin-I level was elevated at 0.300 ng/L (reference range, 0â€“0.04 ng/L) with a repeat troponin-I level of 0.372 ng/L. An electrocardiogram demonstrated atrial fibrillation at 86 beats/min. On Foley catheter insertion, she had 1L of urine output, relieving her suprapubic distention and improving her renal function. Urine cultures grew pansensitive Proteus mirabilis managed with ceftriaxone. Her transthoracic echocardiogram obtained 1 month before presentation showed normal left ventricular systolic and diastolic functions. A recent nuclear stress test showed no evidence of myocardial ischemia. Further cardiac studies were not recommended by the cardiology consultant, given the patient”s recent normal evaluation.

An elevated NT-proBNP is not always attributable to heart failure or cardiovascular disease as levels are influenced by sex, age, race, body mass index, renal function, and other factors. Nonseptic infections and atrial fibrillation have been independently associated with elevations in NT-proBNP. Atrial fibrillation correlates with an average NT-proBNP level of 1086 pg/mL; however, this patient”s level was much higher. A study of 9 participants demonstrated an average NT-proBNP level of 2521.85 pg/mL in those with urinary tract infections. As a signifier of myocardial injury, elevated troponin-I levels may also raise NT-proBNP levels. Urinary excretion is the primary mode of NT-proBNP elimination, with excretion impairment contributing to elevated serology levels in acute urinary retention. There have been no randomized controlled studies evaluating the effect of urinary retention on NT-proBNP levels.

This case demonstrates the multifactorial causes of acute elevation in NT-proBNP. The combined effect of age, decreased urinary excretion secondary to urinary retention, infection, and atrial fibrillation likely resulted in this patient”s acutely elevated NT-proBNP level. A comprehensive understanding of factors associated with NT-proBNP levels broadens differential diagnosis to predict disease processes, improving the quality and breadth of healthcare.

Elizabeth Khusid

Sarah Huang MD

New York Presbyterian Brooklyn Methodist Hospital

The Curious Case of Catamenial Endometriosis

Catamenial pneumothorax (CP) is a rare and complex clinical condition in which menstruating patients get spontaneous recurrent pneumothorax due to thoracic endometriosis. The abnormal migration of endometrial tissue from the uterus to other areas of the body, such as the diaphragm, results in holes allowing air and fluid to pass through into the pleural space. These holes recur with menstruation as the abnormal endometrial tissue in the diaphragm sheds according to hormonal cycles. Therefore, the diagnosis of CP depends on the consistent and repetitive hospitalization or medical treatment of patients for pneumothorax; however, the clinical presentation of pneumothorax can vary from the sudden onset of stabbing chest pain to being asymptomatic. Consequently, the rarity of CP, along with its variable presentations, makes diagnoses challenging. A 36-year old African American female with a past medical history of resected ameloblastoma, endometriosis, and prior small right apical pneumothorax presented to the ED with a one day history of severe shortness of breath and no chest pain. Review of symptoms was positive for constipation and nausea. On admission, the patient informed doctors that she had similar symptoms of â€œair bubblingâ€ in her right chest and shortness of breath during her menstrual periods for over a year. These symptoms always began on the first day of her period and would slowly decrease in severity over the course of her 5 day cycle. When menstruating, the patient experienced difficulty with daily activities including walking long distances and lifting heavy objects. Due to her cyclical symptoms, the patient's PCP sent her to an endometriosis specialist who recommended imaging if she developed these symptoms again. One month after her PCP”s recommendation and conservative medical management with oral contraceptive pills, the patient had a CAT scan performed which revealed a small right apical pneumothorax, prompting her immediate transfer to our ED. In the ED, the cyclical pattern of the patient”s symptoms was recognized and a diagnosis of CP was made. Shortly after, a right sided wayne catheter chest tube was placed to enable reexpansion of lung. Over the course of the patient”s 10 day hospital stay, the patient was stable on room air, and she received daily chest x-rays to assess the state of her pneumothorax. As expected, the pneumothorax along with associated symptoms improved toward the end of her menstrual cycle. The patient was ultimately discharged with a one way valve chest tube, plan for removal of endometriosis, and pleurodesis. CP remains a puzzling disease that is difficult to diagnose due to inconsistent presentation. The key to diagnosis is the temporal relationship between symptoms and menstruations. Consequently, it is crucial for providers to take a thorough medical history and perform diligent chart reviews in patients with suspected CP.

Diana Magiricu

Kathleen DiCapprio OMS-IV1, Helen Stutz MD2, Sajid Mir MD2, Sandeep K Garwin MD2, Shawn Brito MD

1 Touro College of Osteopathic Medicine, NY, NY

2 Montefiore St Luke"s Cornwall Hospital, Newburgh, NY

Montefiore St. Luke's Cornwall

MRSA UTI SECONDARY TO AN INFECTED KNEE PROSTHESIS IN A PATIENT REQUIRING INTENSIVE CARE

Urinary tract infections (UTI"s) in adults are commonly associated with uropathogens from fecal flora. Without any other reason to suspect a UTI, acute onset atrial fibrillation in a patient with no history of arrhythmias can serve as a useful sign. Furthermore, when the etiology is rare such as MRSA, prompt source control is crucial even before physical signs of septicaemia are made manifest.A 63 year old male with a prosthetic knee, coronary artery disease, type two diabetes mellitus, obesity and hypertension was evaluated in the ER for refractory joint pain and rapidly deteriorated after initial presentation. He was admitted to the intensive care unit (ICU) immediately with acute hypoxemic, hypercapnic respiratory failure and acute tachycardia with conversion to atrial fibrillation. The patient was intubated and was initiated on Amiodarone and Cardizem infusions. As concern for sepsi grew, empiric antibiotic treatment began with Zosyn and Vancomycin and cultures came back positive for MRSA in the blood and urine.The patient remained febrile with worsening hypotension on three vasopressors. Infectious endocarditis was ruled out after an unremarkable trans-thoracic echocardiogram and a trans-esophageal echocardiogram which showed normal left ventricular ejection fraction with no evidence of valvular vegetation. The patient"s right knee became erythematous, edematous and inflamed. As this was a contender for the source of sepsis, a bedside aspiration was performed. The aspirate came back positive for gram positive cocci. Repeated bedside incision and drainage procedures were performed, and one incision and drainage was performed in the OR. The plan was to have a more vigorous attempt at eradicating the localised infectious nidus. We sent the patient to the OR for open irrigation and debridement with explantation and total knee replacement with placement of antibiotic impregnated spacer and beads.The benefits of surgery in reduction of bacterial load and probable eradication of sepsis outweighed the risks associated with the procedure given his ongoing critical condition. The surgery was performed and tolerated well by the patient. Thus, the source of the urinary tract infection (UTI) and sepsis was ultimately found to be the right knee hardware. He remained at risk for development of distributive/septic shock and was being closely monitored in the ICU for weeks.He remained in acute renal failure but off of dialysis, non-oliguirc and tolerating a Foley catheter. Repeat blood cultures were negative, and discharge planning was ongoing for long-term acute care. This patient had a prolonged and complicated hospital course. However, he improved after open irrigation debridement of the right knee and subsequent explantation and total knee replacement. The objective of the case report is to bring attention to a high risk patient with rapid deterioration who ended up having a rare MRSA UTI with dissemination.

Diana Magiricu

Taha B. Abdullah OMS-IV1 , Kalyani Bapat MD3, Jeffy Kalevelil MD2, Scott Silver MD2, Aleksandar Rakhlin MD4 , Lawrence Simon MD4 , Lee Fleischer MD4

1 Touro College of Osteopathic Medicine, Harlem, NY

2 Montefiore Nyack Hospital, Department of Internal Medicine, Nyack, NY

3 Montefiore Nyack Hospital, Department of Pathology, Nyack NY

4 Montefiore Nyack Hospital, Department of General Surgery, Nyack, NY

Montefiore St. Luke's Cornwall Hospital

COLONIC INTUSSUSCEPTION: AN UNUSUAL ETIOLOGY

Adult intussusception is characterized by non-specific abdominal complaints and can lead to complete bowel obstruction. Neoplastic processes acting as a lead point is the most common etiology seen in adults. Rarely, an ulceration secondary to parasitic infection acts as the lead point. A 38 year old presented to our emergency department with nausea, vomiting, diarrhea, reduced appetite, and diffuse abdominal pain. The patient regularly exercised and had a BMI of 21.8. Additionally, he traveled to Guyana two years ago and frequently traveled internationally. He denied any abdominal surgeries, bloody stool, or family history of colorectal cancer. He was otherwise in excellent health. On physical examination the patient was in mild distress. He had a temperature of 97.5 F, pulse of 52 beats/min, blood pressure of 127/76, respiration of 18 breaths/min, and oxygen saturation of 100% on room air. Cardiopulmonary examination was unremarkable. Abdominal examination revealed normoactive bowel sounds with diffuse tenderness but no guarding or rebounding. Laboratory findings revealed acute kidney injury (Cr = 1.58 mg/dl) and a normocytic anemia (MCV =86.2 FL, Hgb =11.4 gdL) without leukocytosis. Per primary care team, antiemetics and opiates were given without any reduction in abdominal discomfort. A non-contrast abdominal CT was performed and demonstrated a large colocolonic intussusception involving the descending colon. It extended from the proximal descending colon to the sigmoid colon with no signs of intraperitoneal free air or pneumatosis intestinalis. A limited colonoscopy was performed and an indurated, ulcerated, mass at the head of the intussusception was observed. Gentle insufflation was ineffective at completely reducing the intussusceptum. As there was now concern for ischemia, the patient was taken for an open exploratory laparotomy. Intra-operatively, the point of intussusception was identified in the transverse colon and a transverse colectomy with a functional end-to-end anastomosis was performed. The gross specimen of the transverse colon measured 11 cm in length prior to formalin fixation. A 3 x 2.5 cm well-circumscribed circular mucosal ulcer with hemorrhagic edges was present in the central portion.Microscopic examination showed a broad-based mucosal ulceration with acute inflammatory exudate and fibrinoid necrosis of capillaries. Within the inflammatory exudate were identified singly scattered rounded pale blue protozoal forms with eosinophilic nuclei and some with intracytoplasmic ingested red cells. These were reported by Pathology as Entamoeba Histolytica induced ulceration. The post-operative course was uncomplicated. The patient was discharged on Day 6 with oral Metronidazole and Paromycin. Here we demonstrated a unique sequela of a chronic parasitic infection.The objective of the case report is to bring attention to manifestations related to Entamoeba Histolytica and the importance of considering this parasitic infection in the differential diagnosis for unexplained abdominal pain in hospitalized adults.

Karen Medgyesy

Jason McCarl, MD, Banner Health Physicians Colorado, Greeley, Colorado; Diana C. Medgyesy, MD, University of Colorado, Fort Collins, Colorado; Carolyn J Lefkowits, MD, University of Colorado, Aurora, Colorado

Albany Medical College

PULMONARY TUMOR EMBOLISM IN A PATIENT WITH SYNCHRONOUS BREAST AND OVARIAN CARCINOMA

Pulmonary tumor embolism (PTE) is a rare cause of dyspnea due to the occlusion of pulmonary microvasculature with tumor cells. A cancer patient with pulmonary hypertension of unknown etiology should raise suspicion for PTE, but diagnosis is difficult due to the lack of a reliable antemortem diagnostic approach.

A 62-year-old woman presented to the Emergency Department (ED) with two-month history of shortness of breath and chest tightness. CTA of the chest was negative for pulmonary embolism but demonstrated cardiophrenic adenopathy. CT scan of the abdomen and pelvis showed peritoneal stranding and omental caking, worrisome for malignancy. Biopsy of the omental mass revealed high-grade serous carcinoma of Mullerian origin. The patient was discharged with supplemental oxygen, doxycycline, and inhaled corticosteroids for post-viral bacterial pneumonia. A PET scan in the outpatient setting showed hypermetabolic uptake in the peritoneum, left adnexa, right breast, and right axilla. Breast mass and axillary lymph node biopsies showed primary invasive mammary carcinoma, ductal type, hormone receptor strongly positive, Her2/neu negative. After two days, the patient was admitted to the hospital with severe dyspnea on exertion on 2L/min of supplemental oxygen, chest heaviness, and palpitations. Physical examination was unremarkable with lungs clear to auscultation bilaterally and regular rate and rhythm without murmur or bruit. CTA and chest x-ray were unremarkable. Echocardiogram detected increased right atrial pressure of 8 mm Hg. Ipratropium and albuterol inhalers and CPAP did not improve the patient”s breathing and her oxygen demands rose to 3-4L/min two days following admission. At this time a repeat echocardiogram indicated pulmonary hypertension with right ventricle systolic pressure of 45-55 mmHg. A right heart catheterization was performed the following day in search of cancer cells on aspirated blood from a wedged pulmonary artery catheter sample. No malignancy was identified in the two samples. Overnight, the patient developed symptomatic hypotension. She was transferred to the ICU where norepinephrine IV was started for blood pressure control. Repeat echocardiogram revealed worsening pulmonary hypertension with a right ventricular systolic pressure of 65-70 mm Hg. Her oxygen demands rose to 6 L/min and palliative chemotherapy with carboplatin and paclitaxel was initiated the following day. She experienced a hypersensitivity reaction to paclitaxel with severe tachypnea, hypotension, and obtundation. She required intubation and maximum support for blood pressure control. The patient passed away peacefully after withdrawal of care at the request of her family. Autopsy findings of the lungs confirmed PTE with secondary vascular changes of pulmonary hypertension.

Cytologic examination of blood from a wedged pulmonary artery has an unknown diagnostic accuracy, but it is thought that negative cytology cannot exclude the diagnosis of PTE. This case illustrates the difficulty of diagnosing PTE and the need to rely on clinical suspicion. Treatment involves urgent aggressive chemotherapy.

Ania Stolarczyk

Minh Thu T. Nguyen, MD

Fatima Shahid, MD

University of Rochester Medical Center

A Shocking Case of Fulminant Lupus Myocarditis

Introduction:

Myocarditis is a rare but potentially deadly complication of systemic lupus erythematosus (SLE). Here we share an atypical case of lupus myocarditis presenting as acute cardiogenic shock in a patient with newly diagnosed late-onset SLE.

Case:

An otherwise healthy 66-year-old woman presented with six weeks of progressive weakness, joint pain, dyspnea, diarrhea, and a widespread rash in the setting of newly diagnosed SLE. Echocardiogram displayed normal left ventricular ejection fraction (LVEF) and normal right heart function. She received 4L of intravenous fluids for acute kidney injury and high-dose steroids for SLE. On day 4, she developed acute hypoxia requiring 6L O2 with chest X-ray demonstrating new pulmonary edema. Her N-terminal pro-brain natriuretic peptide (NTpro-BNP) increased from 884 on admission to 32,205. On day 6, she experienced atrial fibrillation and worsening hypoxia. She was treated with IV diuresis, beta blockers, and bilevel positive airway pressure.

Bedside echocardiogram showed new severely reduced LVEF (20%) with globally weakened contraction. She remained in respiratory distress, requiring urgent intubation. Lactate was elevated at 15.5. Shortly after, the patient underwent cardiac arrest and needed CPR briefly. EKG showed no ischemic changes. Highly concerning for cardiogenic shock based off catherization pressures, the patient was started on venoarterial extracorporeal membrane oxygenation (VA ECMO) and Impella placement for seven days with gradual improvement in her hemodynamics and oxygenation. A heart biopsy was not obtained because it would not change management.

The patient remained in the hospital for 6 weeks of intensive inpatient rehabilitation prior to discharge to home. At 5 months post-hospitalization, cardiac function returned to baseline and SLE was determined to be serologically quiescent.
Discussion:

Although SLE is often diagnosed in women of childbearing age, 10-20% occur in patients older than 50 years of age, known as late-onset SLE. This may be triggered by immune system changes secondary to aging. Even less frequent is the incidence of myocarditis in this subgroup.

It is unclear what precipitated the patient”s rapid cardiac decline, but it is likely there was myocardial inflammation prior to the cardiac arrest as demonstrated by the elevated BNP and pulmonary edema, despite a normal echocardiogram. Thrombosis, infection, and cardiac ischemia were ruled out.

Demographics for lupus myocarditis tend to be relatively young and healthy patients with early signs of multi-organ failure. Cardiogenic shock can progress precipitously with paradoxical complete recovery in patients who survive the initial hemodynamic collapse. Gold standard for diagnosis is endomyocardial biopsy, however, biopsy is not routinely pursued due to low sensitivity and potential for complications. Given the rarity of the condition, little is known about the ideal treatment regimen and long-term sequelae.

New York Chapter
American College of Physicians

Resident/Fellow and Medical Student Forum

Medical Student Research

Gautam Kanakamedala

Carly E. Wallace

Arnot Ogden Medical Center

MARGARITA PHOTODERMATITIS: A SYSTEMATIC REVIEW OF PHYTOPHOTODERMATITIS

Background: Phytophotodermatitis is an uncommon phototoxic dermatitis that results from contact with photosensitizing botanical compounds with subsequent exposure to UV light. It has also been called margarita photodermatitis, as the limes used to make the drink can cause this skin reaction. The diagnosis of phytophotodermatitis is often difficult to establish given its resemblance to other types of dermatitis, heterogeneous presentation, and the myriad of plants that may act as phototoxic agents. The typical course of phytophotodermatitis is painful blisters and bullae upon sun exposure followed by hyperpigmentation of the area. There are numerous individual case reports on phytophotodermatitis however a comprehensive review has not been published to the best of our knowledge. Therefore, the purpose of this review is to summarize the etiology, clinical presentation, and methods used to treat phytophotodermatitis.

Methods: The Preferred Reporting Items for Systematic Reviews and Meta-Analysis criteria was followed for this work utilizing the databases PubMed and ScienceDirect to collect primary literature. Major keywords used included: phytophotodermatitis, photodermatitis, fig, rutaceae, giant hogweed, moraceae, parsnip, umbelliferae, celery, rue, carrot, lime, citrus. A total of 109 articles met the selection criteria.

Results: The most common etiology of phytophotodermatitis was contact with parsnip, lime, fig, giant hogweed, rue, celery, and gas plant, in descending order. While there were numerous methods by which individuals were exposed to the aforementioned plants, the most common were through gardening, sun tanning oil, medical decoction, accidental contact, and food preparation. The skin findings were most often described as edematous erythematous blisters and bullae in unusual distributions, such as linear, perioral, gravity dependent, or resembling a handprint. Many patients experienced burning pain, with a minority reporting pruritus. In all cases, the patients reported sunlight exposure within 48 hours of contact with the substance. Treatment options ranged from topical corticosteroids, antibiotic ointments, and wound care while others were self-resolving and required no treatment. Recovery time varied depending on the severity of the dermatitis.

Conclusion: There are a wide array of herbal substances that can lead to the development of plant dermatitis. While contact dermatitis from poison ivy readily comes to mind given a history of plant exposure, phytophotodermatitis is an important differential diagnosis to keep in mind given its preventable nature. Therefore, the diagnosis of phytophotodermatitis should be suspected in patients presenting with irregularly distributed blisters and bullae following plant contact.

Dustin Kee

Keith M. Sigel, MD2, Juan P. Wisnivesky, MD2, Minal Kale, MD2

1. Icahn School of Medicine at Mount Sinai, New York, NY

2. Division of General Internal Medicine, Icahn School of Medicine at Mount Sinai, New York, NY

Icahn School of Medicine at Mount Sinai

TIMELY FOLLOW-UP AFTER POSITIVE LUNG CANCER SCREENING

Purpose:

The objective of this study was to examine timely real-world adherence to the recommended follow-up scan after a positive low-dose CT (LDCT) lung cancer screening (LCS).

Methods:

This study included patients from two primary care practices within an academic medical center in New York City. We excluded patients who were imaged for other indications, including pneumonia or metastatic cancer monitoring. A retrospective chart review of individuals who met the USPSTF lung cancer screening eligibility and had a positive finding on a LDCT scan between 2013 and 2020 was conducted. These individuals were recommended for a shorter interval (7, 30, 90, or 180 days) follow-up repeat CT, CT biopsy, or PET/CT. Adherence was defined as completing the prescribed imaging within 14 days of the suggested time frame for 7-, 30-, and 90-day follow-up and within 30 days for 180-day follow-up. Data abstracted included demographic, personal health characteristics, healthcare utilization, LDCT, and any subsequent follow-up tests.

Results:

The sample included 106 patients who had a positive LDCT with a median age of 65 years, 31% were White and 33% African American, and 62% female. Overall, 67 (63%) individuals were adherent to follow-up testing within the recommended time frame. Median follow-up time was 34 days (IQR 30), 96 days (IQR 71), and 277 days (IQR 185) for recommended follow-up of 30, 90, and 180 days respectively. Adherence was 74%, 73%, and 36% for individuals with recommended follow-up of 30, 90, and 180 days respectively. The 7-day follow-up sample was too small for meaningful results. Among the adherent, a higher proportion were female, English speakers, went to the predominantly private, non-teaching vs. Medicaid teaching clinic, had shorter recommended follow-up, and were prescribed CT biopsy or PET/CT scan (all $p<0.05$). There were no significant differences found in age, insurance status, comorbidities, smoking status, or pack year smoking history. Among 22 individuals with newly diagnosed lung cancer, 83% were adherent to follow-up testing and 74% of the cancers were Stage 1A or limited stage.

Conclusions:

In this sample of LCS patients, there was highly variable adherence to recommended LCS follow-up despite concerning initial results. This study suggests that there is not an efficient, systematic approach for LCS follow-up, with delays in repeat testing potentially undermining the benefits of early detection. Further investigation of barriers to adherence to recommended follow-up could allow for intervention development to target this high-risk group of screening patients.

Katherine Loboda

John Dodson, Seymour Katz, David Hudesman, Feza Remzi, Aasma Shaukat, Adam Faye

NYU Langone Health

Risk Factors for Incomplete Telehealth Appointments Among Patients with Inflammatory Bowel Disease

Introduction: The start of the COVID-19 pandemic in March 2020 led to an increased rate of telehealth visits. Older adults, however, may be more vulnerable to missing appointments given cognitive, physical, and technological gaps. We looked to determine the completion rate of telehealth appointments for older adults with inflammatory bowel disease (IBD), as well as predictors of incomplete appointments.

Methods: We conducted a retrospective analysis of all patients with IBD who had at least one telehealth visit at the NYU IBD Center between 3/1/2020-8/31/2021. Only the status of the first telehealth appointment was considered, with an incomplete visit defined as left before being seen, a cancellation or no-show. Medical records were parsed for relevant co-variables, and logistic regression was used to estimate the adjusted association between demographic factors and telehealth appointment completion rates.

Results: From 3/1/2020 to 8/31/2021 there were 2,508 patients with inflammatory bowel disease (IBD) who had at least one telehealth appointment, with 1088 (43%) having Crohn's disease (CD), 1037 (41%) having ulcerative colitis (UC), and 383 (15%) with indeterminate colitis. Of the 2,508 initial telehealth visits, 519 (21%) were not completed, including 435 (20%) among patients under the age of 60-years as compared to 84 (23%) among patients over the age of 60-years. On multivariable analysis, patients with CD had higher odds of an incomplete appointment as compared to patients with UC (adjOR 1.37, 95%CI 1.10-1.69). Additionally, females had significantly higher odds of an incomplete appointment vs. males (adjOR 1.26, 95%CI 1.04-1.54), and patients who had a non-1st degree relative listed as an emergency contact also had significantly higher odds of an incomplete appointment vs. those with a spouse listed (adjOR 1.69, 95%CI 1.16-2.44). Age over 60-years, partnership status, and comorbidities were not associated with appointment completion rates. Among the 361 patients over the age of 60-years who had a telehealth appointment, sex, emergency contact information, IBD subtype, and partnership status were not found to be associated with odds of completing a telehealth appointment.

Conclusions: In our study, older patients with IBD were not at higher risk for missed telehealth appointments as compared to younger patients. On multivariable analysis, patients with CD as compared to patients with UC, females as compared to males, and patients who had a non-1st degree relative listed as an emergency contact as compared to those who had a spouse listed were more likely to miss telehealth appointments. Future studies should explore the role of these factors, including the role of social support, in order to design interventions aimed at limiting missed telehealth appointments.

Michael Meyerovich

Akshaya Gopalakrishnan, MD;

Viswanath Vasudevan, MD

The Brooklyn Hospital Center

Socioeconomic Healthcare Disparities in Asthma Severity and Control: Descriptive Study of 30-day Readmissions and Health Insurance Status (NRD 2016-2018)

Background:

Lower socioeconomic status is associated with poorer control of asthma and subsequently higher hospital readmission rates leading to a disparity in the care of Asthma. It is unclear whether current efforts from policy and research have been able to reduce the previously reported readmission rates and mitigate the disparity of socioeconomic status. It is the objective of the present study to document the prevalence of 30-day Asthma readmissions over a three-year period, with special emphasis on a low-income group (socioeconomically disadvantaged) patient population and their chronic comorbidities such as obesity, sleep apnea, substance abuse and smoking.

Methods:

Data was collected from The Healthcare Cost and Utilization Project National Readmission Database from years 2016 to 2018. This database contains approximately 18 million discharges each year and when weighted, estimates 35 million discharges. Inclusion criteria included an admission for asthma and an age >18 years old. The primary outcome measure is hospital readmissions which is defined as hospital admission for asthma within 30 days of a previous asthma admission (index case). The independent variable of low socioeconomic status is defined as a participant with government health insurance (Medicaid or Medicare) or inadequate health insurance (Self-Pay).

Results: There was an average of 12,000 index asthma admissions per year that met the study inclusion criteria (median age=47 year old, 74% female). The readmission rate observed was higher in 2018 (17.18%) when compared to the 2016 (16.11%) ($P<0.05$). Over 75% of participants had government health insurance or inadequate insurance, with 40% of readmissions having a family income in the first quartile (lowest) for their zip code. Amongst the readmissions, 12% were smokers, 34% were obese, and 16% had sleep apnea as comorbidities.

Discussion: The data suggest that the readmission rates for asthma have not changed when compared to previously reported data, and low socioeconomic status is present in the vast majority of readmissions, as evidenced by government health insurance or inadequate insurance. Therefore, a socioeconomic disparity in the care of asthma persists.

Kole Niemi

Leta Yi, Srinidhi Venkatesh, Brent Albertson, Steven Park, John Grable

University of Rochester School of Medicine and Dentistry

Treating Tobacco Dependence in Hospitalized Patients with Pancreatitis

Purpose: Smoking is a known risk factor for acute and chronic pancreatitis. Smoking cessation in ambulatory patients with pancreatitis is challenging. Helping pancreatitis patients stop smoking could improve their overall health and may reduce further pancreatic injury. The purpose of this pilot is to explore if an inpatient based smoking cessation program can help hospitalized pancreatitis patients to quit smoking.

Methods: An inpatient consult service composed of residents and medical students screened pancreatitis patients admitted to Strong Memorial Hospital. Enrolling patients received 2 bedside counseling sessions and were encouraged to start cessation medications before discharge. After discharge, patients were offered 2 treatment calls from the New York State Quitline. 2 additional treatment calls from a medical student counselor were conducted. Smoking outcomes were assessed by calls at 4 weeks, 3 months, and 6 months.

Results: 45 eligible patients were screened between 7/21/20- 12/6/20. 19 patients enrolled and were followed for 6 months. 6 patients completed our counseling and follow up calls. The smoking cessation rates for those patients reached for followup are 20%, 33.3%, and 50% at 4 weeks, 3 months, and 6 months, respectively. The general cohort had smoking cessation rates of 14%, 21%, and 21%, respectively. Patients who enrolled but did not quit smoking (n=4) had an average reduction in cigarette usage of 49 percent.

Conclusion: Inpatient smoking cessation programs for hospitalized patients with pancreatitis can achieve promising quit rates. Our pilot program efficiently counsels patients with the novel use of medical students, thus reducing burden on healthcare providers while providing a high quality of care.

Ayesha Samad

Ayesha Samad, BSa,b; Matan Khanian, BSa,d; Bailey Corona, BSa,c; Tamana Bismillah, BSa,d; Kelly L. Cervellione, MPhila,e; Jonathan Robitsek, PhDe; Tofura Ullah, MDa,e; Jason Hourizadeh, MDf; Doreen Khakshour, MDg; Karen P Beekman, MDa; Robert I. Mendelson, MDe; Alessandro E Solinas, MDa.

a Flushing Hospital Medical Center, Queens, NY
b Ross Medical School, St. Michael, Barbados
c American University of the Caribbean, Cupecoy, St. Maarten
d St. George's University School of Medicine, Grenada, West Indies
e Jamaica Hospital Medical Center, Queens, NY
f St. John's Riverside Hospital, Yonkers, NY
g New York Presbyterian Queens, Queens, NY

Flushing Hospital Medical Center

TRENDS IN VACCINATION STATUS AMONG ADULT PATIENTS ADMITTED TO THE MEDICAL EMERGENCY ROOM OR MEDICAL INPATIENT UNITS DURING THE COVID-19 OMICRON-VARIANT SURGE IN NEW YORK CITY

Introduction:

One-year into the COVID-19 vaccine campaign in the US, little is known about the real-world impact on hospitalizations in the US, especially during the most recent wave of COVID-19 infections. This study aims to investigate trends in vaccination status among adult patients hospitalized in ethnically diverse, high-immigrant communities in NYC during the current omicron-surge.

Methods:

A chart review study was conducted at two community hospitals in Queens, NY. Included were adult patients who tested positive for COVID-19 and were treated and released from the medical emergency room (ER) or admitted to the hospitals' medical units, including the medical intensive care (MICU) service. Preliminary data from the omicron-surge (12/1/21-1/17/22) are included here. COVID-19 PCR positive tests were queried from the EMR. Those admitted to units other than medical ER and medical units were excluded. SPSS v27.0 was used for analyses.

Results:

Over 2,200 positive COVID-19 PCR tests were obtained in the ER and inpatient units between December 1, 2021, and January 17, 2022, corresponding with the omicron-variant surge. We summarize preliminary results of 1,228 adult patients who met study criteria and had manual review for vaccine status. After review, 268 (22.1%) were found not to have vaccine status documented, the majority (62%) being treated and released from the ER. Of the remaining 942, approximately 50% were treated in the ER and 50% admitted. This final sample comprised of 262 (27%) unvaccinated, 84 (9%) partially vaccinated, 485 (52%) fully vaccinated, and 111 (11.8%) boosted individuals. Mean age of boosted patients (64.7y) was significantly higher than unvaccinated (57.8y), partially vaccinated (52.1y), and fully vaccinated (55.6y) patients ($F=7.82, p<.01$). Unvaccinated patients were more likely to be admitted for any cause to inpatient units (61%) rather than treated and released from the ER compared to partially vaccinated (52%), fully vaccinated (43%), or boosted (57%) individuals ($X2=24.56, p<.001$). Of the unvaccinated patients coded with a principal problem related to COVID-19, 50% required hospitalization versus 33% of partially vaccinated, 23% of fully vaccinated, and 41% of boosted patients. Amongst admitted patients, there was 11.9% all-cause mortality in unvaccinated patients versus 7.0% in fully vaccinated/boosted patients. For patients fully

vaccinated/boosted, current COVID-19 positive result was a median of 29 weeks (IQR=13-37) from last vaccine dose.

Conclusion:

During the omicron-surge, a large proportion (64%) of infected patients were previously vaccinated or boosted (median=7 months prior). Despite this, a significantly higher proportion of unvaccinated patients subsequently required in-patient admission. COVID-19-related admissions and all-cause mortality were significantly higher in unvaccinated patients. Further analysis regarding symptoms, comorbidities, hospital course, length of stay, and COVID-related mortality are needed; however, data in our community support that vaccination, even after 6 months or longer, protects against severe illness and mortality from COVID-19 during the omicron-surge.

George Tawfellos

Mikhail Torosoff, MD

Albany Medical College

Impacts Of Social Isolation During The COVID-19 Pandemic On Congestive Heart Failure Disease Management

Background: We investigated the impact of social isolation associated with the COVID-19 pandemic on the severity and frequency of congestive heart failure (CHF) symptoms and the frequency of hospital admissions.

Hypothesis: We assessed the hypothesis that the psychosocial impacts of loneliness, as manifested during the COVID19 pandemic, caused potentially worsened congestive heart failure symptom frequency and severity as well as the frequency of hospitalizations.

Material and methods: This was a single tertiary center cohort study of inpatients admitted with a primary diagnosis of congestive heart failure. Each patient was asked to rate the extent of isolation related to the pandemic and the extent of changes in the severity and frequency of symptoms on a numeric scale during an in-person interview. The number of admission due to CHF since the start of the pandemic and in the two years before the start of the pandemic was also compared.

Results: The study cohort included 40 patients, 52.5% females, 69.7+/-13.3 years old. Of these patients, 47.5% reported near-complete pandemic-related isolation and an additional 32.5% reported mild isolation. Symptom worsening was reported in 55% of all patients, which was more common in socially isolated patients (73.7%), while patients who maintained social contacts more commonly reported no change or improvement in symptoms (61.9%, p=0.024). There was also a strong trend in increased symptom frequency associated with social isolation (63.2% in isolated patients vs. 33.3% in the rest of the cohort, p=0.059). The pandemic period was also associated with a significant overall reduction in CHF-related hospital admissions, from 1.9+/-1.3 to 0.7+/-1.4 times (p=0.001), but no significant differences according to the social isolation status.

Conclusions: Our findings suggest that the COVID-19 pandemic resulted in a significant symptom increase in patients who reported social isolation. At the same time and despite this symptom increase, a significant reduction in CHF-related hospital admissions suggests reluctance of patients to be treated in the hospital environment. The effects of interventions aimed at reducing social isolation should be investigated.

New York Chapter
American College of Physicians

Resident/Fellow and Medical Student Forum

Resident/Fellow Clinical Vignette

ZEINAB ABDULRAHMAN MD

Hayder Azeez, MD (Resident; Zucker School of medicine at Hofstra/ Northwell at Mather Hospital)

Yasser Abdelbaki, MD (Attending Physician. Zucker School of medicine at Hofstra/ Northwell at Mather Hospital)

Alan Kaell, MD FACP FACR (Adjunct Clinical Professor of Medicine Zucker SOM Hofstra Northwell, Clinical Professor of Medicine SUNY SB Renaissance SOM)

Zucker School of medicine at Hofstra/ Northwell at Mather Hospital

A Rare Case of Renal Minimal Change Disease in an Asymptomatic COVID 19 Patient post- MAB EUA Therapy

Introduction

Minimal change disease (MCD) is a relatively rare cause of nephrotic syndrome in adults, approximately 10 percent.

Etiopathogenesis of MCD is unknown. Renal injury described in viral respiratory infections including adenovirus, influenza A and B, and severely affected Covid-19 patients may occur, but MCD has only been well documented post- mRNA vaccination. No documentation of MCD in post asymptomatic COVID 19 has been reported.

Case presentation

A 64-year-old female, with three weeks of progressive generalized anasarca saw her primary care physician and urine dipstick revealing 4+ proteinuria prompted admission to our hospital.

Medical history was notable for; non-insulin dependent type 2 diabetes without nephropathy, hypertension, hyperlipidemia, hypothyroidism, and asymptomatic COVID-19 positive PCR, receiving monoclonal antibody treatment six weeks prior to onset of anasarca.

Physical examination was significant for 2+ lower extremities pitting edema up to the thigh and bilateral eyelid edema. Laboratory was significant for spot Urine Protein/ Creatine ratio >16 gram. 24-hour Urine Protein was >17 gm. BUN/Creatin 12/0.54, albumin 2.1; urine analysis microscopic-without hematuria, RBC or casts. Immunological work up (including C3, C4, anti-ds-DNA, hepatitis panel, anticardiolipin antibodies, PLAR2 antibodies, anti-MPO and PR-3) were all negative. Kidney US showed normal size.

Renal biopsy without vasculitis or cellular infiltrates, did show on EM 30 % effacement of podocytes consistent with MCD with 1-2+ global mesangial electron dense deposits. Immunofluorescence staining demonstrated 1-2+ granular mesangial Ig A and equivocal 1+/- C3. Both the nephrologist and pathologist thought the clinical presentation in conjunction with histopathology was most consistent with MCD. The patient's prompt response to high dose steroids alone since discharge with Urine protein/ Creatine more than 600. And increase in serum albumin to 3.5. Patient currently on tapering dose of steroid.

Conclusion

MCD has not been previously reported after asymptomatic COVID 19 patients whether treated or not with monoclonal antibodies under EUA guidelines. No reports of nephrotic syndrome temporally correlated to the monoclonal antibodies (EUA) use in high-risk asymptomatic COVID-19 patients have been reported. In patients who present with nephrotic syndrome after asymptomatic COVID 19 whether treated with monoclonal therapy or not, we advise consideration of MCD within the differential diagnosis.

Resident/Fellow Clinical Vignette

Mustafa Al-Taei MD

Joseph Hong, MD.

Kristin Swedish, MD.

Montefiore Medical Center-Wakefiled campus.

UNUSUAL RASH OF IMMUNOGLOBULIN A VASCULITIS IN AN ELDERLY PATIENT.

Introduction: Immunoglobulin A (IgA) vasculitis (IgAV) is a clinicopathologic syndrome in children, but its incidence in adults is rare. A recent case series from Japan showed a bimodal distribution of diagnoses in patients older than 20 years, with 2 peaks: one at 20-29 years and the other 60-69 years. The American College of Rheumatology (ACR)'s diagnostic criterion for IgA vasculitis includes palpable purpura, acute abdominal pain, age at onset < 20 years, and biopsy showing granulocytes in small vessel walls.

Case presentation: An 89-year-old woman with diabetes mellitus, hypertension and heart failure presented with acute abdominal pain and diarrhea (loose non-watery, non-bloody, 4-5 times a day). She recently visited an urgent care for a left foot ulcer and was treated with Amoxicillin 875 mg for 5 days . While admitted, her diarrhea worsened, and she developed a skin rash. Physical examination was significant for petechial rash on her bilateral lower extremities with a non-palpable purpuric rash on upper extremities and no mucocutaneous involvement. Laboratory findings were notable for platelets 249 k/uL(normal range 150-400 k/uL), partial thromboplastin time 40.5 seconds (normal range 25.9-38.9 seconds), INR level 2.2 (normal range 0.9-1.2), creatinine 3.15 mg/dL (normal <1.20 mg/dL), IgA level 738 mg/dL (normal range 60-400 mg/dL), IgG 1508 mg/dL (normal range 700-1600 mg/dL), IgM 98 mg/dL (normal range 50-300 mg/dL), C3 level 39 mg/dL (normal range 80-300 mg/dL), and C4 level 19 mg/dL (normal range 20-60 mg/dL). Infectious stool panel revealed Norovirus. A biopsy of her petechial rash revealed deposition of IgA and C3 in the vessels, consistent with IgA vasculitis. She was treated with Methylprednisone 500 mg intravenously for 3 days and then prednisone 60 mg orally with a six-month taper. On follow-up visits, the patient's kidney function had normalized, and her skin lesions had resolved.

Conclusion: European Alliance of Associations for Rheumatology (EULAR) published a different criterion, which includes acute abdominal pain, arthralgia, kidney involvement (proteinuria, hematuria), and leukocytoclastic vasculitis with predominant IgA deposition. The mandatory criterion is palpable purpura without thrombocytopenia or coagulopathy. Diagnosis in adults includes the same criteria with increased risk for severe renal involvement including end-stage renal disease (ESRD).

The oldest patient reported in the literature was 85 years old, while our patient was 89 years old at time of diagnosis. In addition, our patient had flat purpura while palpable is mandatory in the diagnostic criteria.

This case should raise awareness and clinical suspicion for the diagnosis of IgA vasculitis when skin, gastrointestinal, and renal involvement are encountered, regardless of the age group. Early recognition and treatment of this disease is associated with a favorable prognosis and decreased complications.

Adina Amin MD

Neil Khoury MD

Miguel Lacayo MD

Sofia Kostanyan MD

NewYork-Presbyterian Brooklyn Methodist Hospital

COPPER DEFICIENCY-INDUCED NEUROPATHY AFTER BARIATRIC SURGERY DISGUISED AS DEMYELINATING DISEASE

Introduction: Neuropathy may arise from many different etiologies, including diabetes, nerve compression, viral infections, chemotherapy side effects, and others. While some etiologies produce irreversible neuropathy, others, such as vitamin and mineral deficiencies, lead to a possibly reversible disease process once treated. Therefore, clinicians should strive for prompt and accurate detection of the cause of the neuropathy whenever possible.

Case Description: A 73-year-old female with past surgical history of Roux-en-Y Gastric Bypass 20 years prior, and a past medical history of cobalamin deficiency, hypothyroidism, anxiety, and hypertension, presented to the emergency department for difficulty ambulating due to painful neuropathy. She had severe pins and needles in her feet, worsening for the past three months, which progressed to her mid-shins and bilateral fingertips. Outpatient nerve conduction studies (NCS) and electromyography (EMG) suggested the patient had a demyelinating peripheral neuropathy. She denied fevers, chills, recent illness, or diarrhea. Her vital signs on admission were within normal limits. On exam, she had decreased proprioception bilaterally, and decreased sensation to light touch to her mid-shins bilaterally and symmetrically. Admission labs were significant for Thyroid Stimulating Hormone (TSH) â€‹â€‹56.600 micro IU/mL and Vitamin B12 â€‹â€‹1414 pg/mL. A lumbar puncture resulted in normal cerebrospinal fluid (CSF) studies, and she was given five days of intravenous immune globulin (IVIG) for empiric treatment of possible chronic inflammatory demyelinating polyradiculoneuropathy (CIDP). When her copper level and ceruloplasmin resulted after several days of admission, they were both low (copper 27 mcg/dL and ceruloplasmin 14 mg/dL). She was started on intravenous copper supplementation with initial improvement of symptoms, and was discharged on day 15 to complete a two-week course of oral copper supplementation.

Discussion: Copper deficiency can lead to significant morbidity in the post-bariatric surgery patient population. The mechanism underlying neurological damage in copper deficiency likely involves copper's critical role in the electron-transport chain, oxidative phosphorylation, and serotonin synthesis. Our patient went through extensive workup, including a nerve conduction study, EMG, lumbar puncture, a five-day course of IVIG, and 15-day hospital admission, to diagnose a mineral deficiency that could have been found during screening. In this case, the diagnosis was further delayed due to diagnostic anchoring on an outpatient diagnosis of a demyelinating disease (CIDP). Although copper deficiency neuropathy is not completely reversible, physicians can halt the progression of bothersome neuropathic symptoms with timely treatment. Thus, early diagnosis of copper deficiency in post-bariatric surgical patients by regular screening of copper and ceruloplasmin levels (at least annually, per the American Society for Metabolic and Bariatric Surgery) can prevent significant morbidity, as well as potentially unnecessary and invasive testing.

Tashina Andrade MD

Mary Hanna

Sofia Zahid

Zeina Hasan

Dr. Zheng Yuanpu (Attending)

Dr.Qi Feng (Attending)

NYP brooklyn Methodist

GIST: It's a Bleeder

Gastrointestinal Stromal Tumors (GIST) arise from mesenchymal tissue and can affect any part of the gastrointestinal tract as a subepithelial mass, including the stomach or small intestine (more common in jejunum/ileum than the duodenum). GIST is usually asymptomatic, but if the tumor size is large, patients can exhibit hematemesis or melena from bleeding of the tumor. Early intervention and identification of the etiologic source for a gastrointestinal bleed can decrease the risk for ischemia, organ dysfunction, as well as death.

A 64 year old Caucasian Female presented to the Emergency Department with a chief complaint of melena, dizziness, and syncope. On presentation, the patient was found to have significant orthostatic hypotension and was noted to be guaiac positive, with a hemoglobin of 10.8 g/dL (decreased from 13 g/dL on prior visit). Her hemoglobin decreased to 7.1g/dl within 14 hours without further episodes of melena or hematochezia. Patient underwent urgent endoscopic evaluation which revealed a large, oozing submucosal mass of the lesser curvature of the stomach, suspicious for GIST. CT Abdomen and Pelvis depicted a mass in the posterior wall of gastric antrum with exophytic and endophytic components measuring 3.3cm x 3.0cm x 2.3cm , unremarkable uterus, and no lymphadenopathy. Biopsy via endoscopic ultrasound was unsuccessful, and she subsequently underwent robotic assisted laparoscopic wedge resection of the gastric tumor. Pathology later confirmed the mass to be GIST, spindle cell type, with negative margins. Immunohistochemistry was positive for CD117/CD34, negative for S100 and Desmin. It was determined that the patient did not require further treatment post-resection, and she was discharged with outpatient follow-up.

GIST is a rare tumor with 3 types: spindle, epithelioid, and mixed, and carries a 10-30% risk for malignant transformation. Treatment with resection or medical therapy is guided by risk stratification, which is based on tumor size, localized versus advanced disease, anatomic location, perforation, and mitotic rate. On pathology mitotic feature is a good marker to determine low grade GIST. These factors will influence the choice of treatment after resection, ranging from surveillance only, to the inclusion of neoadjuvant or adjuvant chemotherapy. Expression of CD117, part of the KIT receptor, a protooncogene coding for tyrosine kinase, is thought to be one of the gene mutations for tumorigenesis and specific for GIST. Imatinib, a tyrosine kinase inhibitor, is first line therapy if the tumor measures 5 cm or greater once resection is complete. Patients are more likely to experience complications from GIST tumors due to their size and possibility of ulceration or perforation leading to hemorrhage. GIST tumors that bleed carry an increased risk of morbidity and mortality, and thus a worse prognosis.

Reema Anjum

Kalpana Reddy MD, Regine Cherazard MD, Samreen Khuwaja MD

Long Island JEWISH FOREST HILLS HOSPITAL

HYPOTHYROIDISM PRESENTING WITH MASSIVE PERICARDIAL EFFUSION: A CASE REPORT

Hypothyroidism is a well-known endocrine disorder with a worldwide prevalence. It ranges from mild to sub clinical to overt hypothyroidism. It can be manifested in various forms, usually easily detectable, however, can be detrimental if undiagnosed or if treatment is delayed. One of the uncommon complications is pericardial effusion

Here we present a case of a 34-year-old female with no past medical and surgical history who presented with worsening shortness of breath. Cardiac troponin I and C-MB levels were normal 0.009 ng/ml (0â€“0.06) and 12.66 U/l (0â€“25) respectively. Patient had normal natriuretic peptide. Respiratory causes of shortness of breath were ruled out. Chest X-ray showed increased cardio-thoracic index in favor of the cardiac silhouette and clear lungs. Bedside echocardiogram showed normal ejection fraction and cardiac wall motion. Computed tomography angiogram of the chest was negative for pulmonary embolism, however, it showed massive pericardial effusion. Bedside echocardiogram showed early developing cardiac tamponade. Patient was taken for urgent pericardiocentesis. 1500 milliliters of fluid were removed leading to significant clinical improvement in clinical symptoms.

Complete blood count, electrolytes, renal and hepatic function tests, and erythrocyte sedimentation rate were normal. No bacterial growth was observed in pericardial fluid samples and cytological examination revealed no findings of malignancy. Adenosine deaminase was negative hence tuberculosis was ruled out. Rheumatoid factor, antinuclear antibody profile, and viral markers (HIV and HBsAg) were negative.

Interestingly, the patient's thyroid stimulating hormone was 399.8(IU/L) and free thyroxine levels were 0.42 ng/dl. A diagnosis of primary hypothyroidism was made and in the absence of other causative factors, the pericardial effusion was most likely caused by hypothyroidism. Patient was started on 200mg of oral levothyroxine. Repeat bedside echocardiogram after 24 hours showed significant improvement in the pericardial effusion with only 30ml output from the drain. Patient was eventually discharged home the next day with close follow up.

Pericardium is usually elastic. Normal amount of pericardial fluid is 15-20 milliliters. Hypothyroidism leads to a decreased synthesis of albumin. Increased permeability of the capillaries results in the loss of albumin from the intravascular compartment through increased transcapillary escape rate of albumin. Thus, the consequent increase in the concentration of the albumin in the extravascular compartment causes increased interstitial fluid volume and impaired lymphatic drainage thus leading to effusion. Pericardial effusion alone generally disappears with levothyroxine treatment only, however, cardiac tamponade is an indication of urgent intervention.

Hypothyroidism is a treatable disease, and our case highlights the importance of accurate and timely diagnosis of severe untreated presentation which, otherwise, can lead to life-threatening cardiac tamponade. In a patient with pericardial effusion, we should always rule out hypothyroidism as a potential cause.

Reema Anjum

Regine Cherazard MD, Neeraj Singh MD

Long Island Jewish Forest Hills Hospital

NITROUS OXIDE POISONING: A CASE REPORT

Patients who present with altered mental status are more often considered to be septic. However, in rare cases, their acute encephalopathy may be caused by drug toxicity. We present here a case of nitrous oxide poisoning in a young female who was found with altered mental status for unknown duration in her apartment along with five hundred cartridges of nitrous oxide.

Patient was found to be hypotensive, hypothermic, and bradycardic, mute, with decorticate posturing. She was admitted to the Intensive Care Unit. Fortunately, she was able to maintain her airway. Blood cultures and lumbar puncture were negative and did not reveal evidence of bacteremia or acute encephalitis. Labs showed homocysteine levels of 40.6umol/L, methylmalonic acid was 3618nmol/L which supported the diagnosis of nitrous oxide poisoning. Routine electroencephalogram did not show any seizures. Magnetic resonance imaging of the brain revealed periventricular white matter abnormalities in the temporal and parietal regions which was suggestive of toxic leukoencephalopathy which is also seen with nitrous oxide poisoning. The patient was managed symptomatically, with stabilization of vital signs, treatment with high doses of vitamin B12 and folic acid, and aggressive physical therapy. The patient's recovery period was taxing on both her physical and mental wellbeing; as well as causing distress for her primary caregiver and family.

Nitrous oxide is highly lipid-soluble and therefore, more likely to deposit in the lipid-rich cerebral white matter. It selectively inhibits methionine synthase thus interfering with vitamin B12 and folate metabolism. The duration of action is typically 15-20 minutes; but prolonged exposure can cause megaloblastic bone marrow suppression, polyneuropathy, cerebellar dysfunction, neurocognitive dysfunction, and hypoxic respiratory failure. The mainstay of treatment is removal of nitrous oxide exposure and supportive management. Patients require high doses of vitamin B12 supplements. Vitamin B12, homocysteine, and methylmalonic acid levels can be checked regularly to track improvement, however, they do not have prognostic value.

This case reveals the importance of early intervention in case of nitrous oxide poisoning and supportive therapy which includes proper counseling and social support. Quick identification of this condition is critical to a successful recovery, which can be long and arduous, both physically and mentally.

Zauraiz Anjum MD

Saifur Rehman, MD, Rochester General Hospital, ROC, NY, Hafsa Faisal, MD, Rochester General Hospital, ROC, NY, Lakshmi G Nair, MD, Rochester General Hospital, ROC, NY, Charoo Iyer, MD, Rochester General Hospital, ROC, NY, Ahmed Elkhapery, MD, Rochester General Hospital, ROC, NY, Muhammad Ahmed Malik, MD, Unity Hospital, ROC, NY

Rochester General Hospital

COVID INDUCED RHABDOMYOLYSIS

Introduction:

Rhabdomyolysis results when muscles undergo necrosis and release intracellular components. Common causes include trauma, drugs, compartment syndrome, immobilization and toxins etc. COVID 19 has been shown to have quite a few extra-pulmonary manifestations commonly including emboli, myocardial infarction, myocarditis etc (1). We hereby present a case of COVID-induced rhabdomyolysis in a 41 year old male.

Case:

Our patient is a 41 year old male without significant past medical history who was diagnosed with COVID on 1/17/22. His chief complaint at that time was upper respiratory tract symptoms and myalgia. Gradually, his upper respiratory symptoms resolved but myalgia kept worsening. He started noticing hematuria around 1/23/22 and presented to the Emergency on 1/26/22. He denied trauma, falls, seizures, headache, dizziness, chest pain or dyspnea. He was tachycardiac and hypertensive. Physical exam was significant for tenderness in the proximal thigh muscles. His strength was intact but limited by pain. Rest of the exam was unremarkable. His labs were significant for an AST of 1371 U/L, ALT 204 U/L, Creatinine 0.9 mg/dL and Creatine Kinase (CK) 310200 U/L. He was managed with fluids as a case of non-traumatic rhabdomyolysis secondary to COVID. He kept on improving subjectively and objectively, and, on 2/4/22 he was discharged home with labs showing CK 7709 U/L, AST 168 U/L and ALT 203 U/L.

Conclusion:

Rhabdomyolysis has been described as a complication of COVID by some authors previously (1) (2). Our case also highlights that rhabdomyolysis can be a complication of COVID infection. We hereby conclude that treating physicians should have a low threshold of suspecting and managing rhabdomyolysis in patients with COVID, especially those who present with refractory myalgia and/or muscle tenderness.

1. Meegada S, Muppidi V, Wilkinson DC 3rd, Siddamreddy S, Katta SK. Coronavirus Disease 2019-Induced Rhabdomyolysis. Cureus. 2020;12(8):e10123. Published 2020 Aug 29. doi:10.7759/cureus.10123

2. Suwanwongse K, Shabarek N. Rhabdomyolysis as a Presentation of 2019 Novel Coronavirus Disease. Cureus. 2020;12(4):e7561. Published 2020 Apr 6. doi:10.7759/cureus.7561

Geetika Arora MD

Maria Riasat MD, Karishma Rupani MD, Andrea Nieves Delgado MD, Sreelakshmi Vasudevan MD, Dahlia Rizk MD

Department of Medicine, Mount Sinai Beth Israel

Mount Sinai Beth Israel

Gemella morbillorum endocarditis: a rare cause of infective endocarditis

CASE PRESENTATION:

A 38-year-old male presented to the emergency department with fever, chills, cough, and dyspnea with exertion for 5 weeks. He also noticed a loss of appetite and nausea with approximately 30 lb weight loss. He denied any past medical history, intravenous drug use, recent travel, or ill contacts. Patient reported a recent dental procedure that was limited to cleaning by a dental hygienist. On examination, patient was found to have a new loud 3/6 holosystolic murmur heard throughout the precordium loudest at the apex. A transthoracic echocardiogram showed prolapse and flail P2 segment of the posterior mitral valve leaflet with torn chordae, mild prolapse of A2 and P3 scallops with very severe eccentric mitral regurgitation, findings consistent with infective endocarditis. No vegetations were identified. Blood cultures were positive with Gram-positive cocci in clusters. Gemella morbillorum susceptible to ceftriaxone was isolated. Patient was initially started on broad-spectrum antibiotics which were narrowed according to susceptibility testing. His symptoms improved after receiving antibiotics for 6 weeks. He underwent mitral valve repair after completion of antibiotic treatment. His symptoms resolved completely, and his exercise tolerance improved tremendously after surgery.

DISCUSSION:

G. morbillorum was described for the first time by Tunnicliff in 1917. Initially classified as Streptococcus morbillorum, this organism is part of flora in the genitourinary and gastrointestinal system. It has been implicated as the causative agent of a variety of infections including meningitis, arthritis, sinusitis, septicemia, and cerebral abscesses. It is a rare pathogen in infective endocarditis, accounting for <1% of cases. Native valve endocarditis is reported more commonly relative to prosthetic valve endocarditis. Mitral and aortic valvular involvement are almost observed at the same ratios. Predisposing factors for G. morbillorum endocarditis include poor dental hygiene, dental manipulation, gastrointestinal procedures, inflammatory bowel disease, and colon malignancies. In our patient, the likely source of infection was dental manipulation during cleaning. The treatment of G. morbillorum is either surgical replacement of the valve or medical therapy. Urgent surgical treatment is recommended in cases of progressive cardiac failure, large vegetations that may embolize, and in cases of lack of response to medical therapy. However, surgery can be delayed until completion of antibiotics if the clinical condition is stable, as in our case. G. morbillorum is generally sensitive to penicillin G and ampicillin. In our case, the G. morbillorum isolated was sensitive to ceftriaxone. G. morbillorum endocarditis is a potentially treatable condition if timely diagnosis is made.

CONCLUSIONS:

Physicians should consider the fact that rare pathogens such as G. morbillorum could lead to endocarditis to prevent delay in diagnosis and treatment. The potential requirement for urgent surgical treatment despite a good response to medical treatment should also be kept in mind.

IQRA ARSHAD MD

Marcia Gossai, MD

Lincoln Medical Center

Acute HBV flare in HIV patient; unmasked by IRIS after starting HAART

Introduction:

Immune Reconstitution Syndrome (IRIS) is a well-recognized complication after initiation of highly active antiretroviral therapy (HAART) in HIV patients. Acute HBV flares after initiating HAART; has been reported in 20-25% of patients having HIV/HBV Co-infection, an estimated 1-5% of whom develop clinical hepatitis. Liver biopsy and serological evaluation could support the hypothesis that flare is precipitated by IRIS. Current guidelines recommend treatment of all co-infected patients with antiviral therapy targeting both HIV and HBV.

Case presentation:

24-year-old African American homosexual male, non-smoker with PMH of latent syphilis (undocumented if treated) and HIV; diagnosed in 2018; was taking Atripla but stopped taking for unknown duration. Patient came to HIV clinic of our hospital to establish care. Initial labs were notable for HIV viral load 83K, CD4 count 494, syphilis screen positive for anti-treponemal Ab and RPR titer <1:1. Patient was started on biktarvy. Three weeks later, patient presented to the emergency department with complains of generalized joint pains, loose stools and fatigue. ROS was negative for fever, rash, abdominal pain, nausea and vomiting. Clinical exam was unremarkable. Labs were notable for ALT 1098, AST 646 without hyperbilirubinemia. Patient received symptomatic treatment and was discharged to follow up with HIV clinic. Upon Clinic follow up, biktarvy was discontinued because of concern of possible hepatoxicity from drug; although very rare and patient was started on odefsey. Repeat labs showed worsening of transaminases with mild direct hyperbilirubinemia and normal ALKP, suggestive of hepatocellular injury. Patient was called back and admitted to medical service for close monitoring and further evaluation. IRIS mediated Vs acute viral hepatitis Vs drug induce liver injury were suspected. Patient denied alcohol and illicit drug use. Initially, N-acetylcysteine was given with no improvement in transaminases. Further work up came positive for HBsAg, HBV viral load 2,95,304, HBcAb IgM, HBeAg and negative for HBcAb IgG, anti-HCV, IgM (HAV, HEV and HDV), ethanol and toxicology screen. Despite continuation of odefsey, ALT/AST were trending up. Gastroenterology service was consulted; recommended steroid therapy 1-2mg/kg for 2 weeks and then tapper. Patient was started on prednisone. Transaminases started trending down. Liver biopsy was performed that revealed moderate to severe acute hepatitis, compatible with immune reconstitution syndrome. Patient completed the steroid taper with significant improvement in transaminases and HAART was continued with subsequent reduction in HBV/HIV viral loads.

Discussion:

Present case is a nice illustration of acute HBV flare that was unmasked by IRIS when HAART was initiated in a HIV/HBV co-infected patient. Typical onset is 2-8 weeks after HARRT initiation and usually manifest as acute hepatitis. IRIS is self-limiting and steroids are indicated for severe disease as observed in present case. HAART and HBV treatment should be continued.

Marutha Arulthasan MD

Barbara Alvarez, MD; Rosanna Li, Pharm; Margaret Kuhn-Basti, MD; Monica Ghitan, MD; Edward K. Chapnick, MD; Yushia Shia Lin, MD

Maimonides Medical Center

MULTIPLE PULMONARY NODULES IN A PATIENT WITH MULTIPLE SCLEROSIS

INTRODUCTION

Fingolimod (Gilenya), the first effective disease- modifying oral agent, was approved for the treatment of relapsing multiple sclerosis (MS) in 2010. It is a sphingosine-1-phosphate receptor modulator, which sequesters lymphocytes in lymph nodes, preventing them from contributing to an autoimmune reaction. Although peripheral lymphopenia was reported in clinical trials, the incidence of infections related to lymphopenia was unknown.

CASE DESCRIPTION

A 51-year-old female was admitted for dry cough with bilateral pulmonary nodules. She was diagnosed with stage IIIA/ Grade 2 endometrial cancer in June 2012 for which she underwent total abdominal hysterectomy and bilateral salpingo-oophorectomy, omentectomy with para-aortic lymph node dissection and completed chemotherapy in November 2012. Since then, she underwent yearly CT scans of the chest, abdomen, and pelvis, which were all normal except until 2020, when pulmonary nodules were seen. Percutaneous needle biopsy of a left lung lesion was done in July 2021. Pathology showed small fragments of lung parenchyma, with no evidence of malignancy. A repeat chest CT in Oct 2021 showed interval increase in size of the bilateral pulmonary nodules with cavitation. Subsequent PET scan showed multiple hypermetabolic pulmonary nodules, some of which were cavitary, raising the possibility of concurrent infection. She was admitted for further work up. The patient denied fever, weight loss, headache, nausea, or vomiting. Past medical history is significant for relapsing MS which has been stable since 2011. Physical examination was unremarkable. The leukocyte count was 4000/mm3 with 4% (19.8%-47.7%) lymphocytes and the complete metabolic panel was normal. Video-assisted thoracic surgery (VATS) and right upper lung wedge resection were done. Pathology showed multiple nodules filled with yeast forms which exist in small, alveolar spaces with surrounding mucoid-like material. There was no evidence of malignancy. Multiple tissue cultures grew Cryptococcus neoformans var grubii. The serum cryptococcal antigen was 1:320 but cerebrospinal fluid (CSF) studies were normal with a negative CSF cryptococcal antigen. HIV serology was non-reactive. Treatment with fluconazole 800 mg oral daily was started for pulmonary cryptococcosis. The detailed medication history was reviewed, and it was discovered that the patient had been taking fingolimod for relapsing MS for 10 years. The diagnosis of Pulmonary cryptococcosis due to fingolimod therapy was made. After consultation with neurology, fingolimod was discontinued to prevent progression of opportunistic infection.

Discussion

Our case illustrates the potential for opportunistic infections with use of fingolimod and the importance a thorough medication history. Although the incidence of pulmonary and disseminated cryptococcosis in MS patients taking fingolimod is unknown, there is an increased risk of opportunistic infections with longer duration of therapy and at older age. Clinicians should be aware of this entity, as early diagnosis and treatment can improve the outcome of opportunistic infections.

Ganesh Arun DO

Khurram Khalid DO

Laxmi Tejaswi Avula MD

Sang Lee MD

Alicia Shaikh DO

Justin Nistico DO

Arnot Ogden Medical Center

HIV Related Cerebral Toxoplasmosis in Prison: The Importance of Biopsy

An estimated 2 million people in the US have HIV. Approximately one in seven people who have HIV do not know they have it. Early detection of HIV with routine screening is paramount. If an HIV infection is detected, clinicians should begin prompt treatment with antiretroviral therapy along with prophylaxis against opportunistic infections such as toxoplasmosis. The prevalence of Toxoplasmosis is around 11% in the US and 80% in certain European, Latin American, African countries. Toxoplasmosis is the most common CNS infection in HIV infections with approximately 30% of people having a CD4 count of less than 100. Innovation with HIV testing and treatment has decreased the incidence of opportunistic infections. With fewer cases of toxoplasmosis reported in the US, our case represents the severe end of the spectrum for Toxoplasmosis CNS infections.

Our case highlights a 38 year old gentleman without significant past medical history presenting from a correctional facility with confusion and weakness for the last two months. He had low grade fevers that were blamed on COVID-19 due to a positive contact cellmate. His symptoms included frontal headaches, altered sensorium, and generalized weakness. He was admitted to the ICU for MRI brain imaging revealing diffuse ring enhancing lesions concerning metastasis. Eventually he was intubated to protect his airway. Brain biopsy confirmed toxoplasmosis tachyzoites and bradyzoites on immunostaining. HIV testing was not completed at the correctional facility and was the underlying reason for his progressive and severe immunocompromised state. The CD4 count returned at 14 and initial HIV treatment included Abacavir / Dolutegravir / Lamivudine. Toxoplasmosis treatment included Sulfadiazine, Pyrimethamine, and Leucovorin. After 2 weeks of treatment, he unfortunately worsened neurologically on brain imaging with eventual comfort care and terminal extubation.

CNS toxoplasmosis is prevalent in 89 percent of acute toxoplasmosis patients, while pulmonary, ocular, and disseminated infection of toxoplasmosis are represented in the minority of cases. Advanced immunosuppression is the greatest risk factor in developing extracerebral toxoplasmosis. Furthermore, case control studies have demonstrated that inmates are a high risk population given the higher prevalence of toxoplasmosis compared to non-incarcerated individuals. The confounding factor in this case was the COVID-19 pandemic. The initial fevers and fatigue in the prison were ruled as COVID-19 infections instead of various other pathogens. The differential needs to be large in order to bypass brain biopsy. The importance of differential diagnoses and early screening for HIV are critical to limit intense interventions and progression of disease.

Esraa Askar

Ramy Abukwaik MD, Regine Cherazard MD

Department of Medicine, Long Island Jewish Forest Hills, Donald & Barbara Zucker School of Medicine at Hofstra/Northwell, Forest Hills, NY, USA

AORTIC ENDOGRAFT INFECTION SECONDARY TO CAMPYLOBACTER FETUS

Introduction: Early aortic graft infections, which can arise within 4 months of endovascular graft repair, frequently present as high-grade infections. However, late infections can be challenging to detect due to nonspecific symptoms. This case report discusses a late aortic graft infection developing 3 years after an endovascular abdominal aortic aneurysm repair (EVAR).

Case Description: A 75-year-old man who underwent EVAR 3 years prior to presentation reported generalized weakness, cough, and rhinorrhea lasting 4 days. On admission, the patient was febrile (39.3 °C), with a pulse rate of 95 beats/min, respiratory rate of 18 breaths/min, and 93% oxygen saturation on room air. His blood pressure was within reference range, and his physical examination and chest radiography findings were unremarkable. His viral assays and urinalysis were negative. His laboratory evaluation revealed a white blood cell count (WBC) of 12.63 × 109/L (reference range, 3.8â€“10.5 × 109/L). His abdominal computed tomography (CT) scan revealed perianeurysmal stranding. Blood cultures collected on admission grew gram-negative rods within 2 days, and the patient was treated with ceftriaxone.

Campylobacter fetus as the causative agent increased suspicion of aortic graft infection. His antimicrobial management escalated to ertapenem, and the care team consulted the vascular surgery department. A CT angiogram of the abdominal aorta using an intravenous contrast agent revealed a type II endoleak, periaortic stranding, and lymph nodes. A whole-body indium scan showed increased leukocytic accumulation in the periaortic region, indicating infection. The patient was transferred to his primary surgeon for positron emission tomography (PET)-CT examination and further disease management.

Discussion: Aortic endograft infection is a rare complication following EVAR, appearing in <1% of cases but more frequently after emergency or repeat surgical operations due to intraoperative bacterial contamination. Remarkably, this patient experienced an aortic graft infection 3 years after EVAR in Campylobacter fetus bacteremia. The high affinity of a surface receptor for vascular tissueâ€”especially damaged endotheliumâ€”and the production of a local procoagulant promoting thrombus formation have been associated with the vascular tropism of Campylobacter fetus. Vascular graft infections require a timely diagnosis for appropriate surgical and/or antibiotic treatment to reduce mortality. Unnecessary surgical intervention on noninfected grafts is associated with high mortality risk, making the accurate diagnosis of vascular graft infections imperative.

The challenge with a clinically suspected vascular graft infection is obtaining conclusive evidence. While difficult to obtain in clinical practice, positive cultures from percutaneously aspirated perigraft fluid or surgically retrieved material are the gold standard for determining the diagnosis. Furthermore, most clinical signs and symptoms are nonspecific. WBC scintigraphy with single-photon emission computed tomography/CT has high diagnostic accuracy but is time-consuming. Fluorodeoxyglucose-PET/CT examination is preferred for an expeditious diagnosis.

Marc Assaad MD

Rachelle Hamadi, MD

Khalil El Gharib, MD

Ali Kassem, MD

Staten Island University Hospital

Duodenocaval Fistula: A Spontaneous Complication of Chemoradiation Therapy in Stage III Ovarian Cancer.

Introduction Duodenocaval fistula (DCF) is a rare entity that is sparsely described in the literature. Few etiologies have been listed, some of which incriminate chemoradiation therapy as a causative factor; prompt recognition and management of this entity that has high mortality rate.

Case: A 63-year-old woman with a past medical history of stage III ovarian cancer treated with cytoreductive surgery, and 6 cycles of adjuvant carboplatin/ paclitaxel, including bevacizumab, presented to the hospital for fresh blood per rectum. One month before this presentation, the patient was admitted to the intensive care unit for hemorrhagic shock secondary to a three-centimeter necrotic duodenal ulcer treated with cauterization. Her hospital course was complicated by septic shock secondary to candidemia, and E. coli bacteremia. Patient was stable when discharged home, however, after ten days, she was readmitted to the hospital for hematemesis and again, hematochezia and was again in hemorrhagic shock. Initial investigations revealed a hemoglobin level of 3.6 g/dL, for which the patient received a total of six units of packed red blood cells. An abdominal computerized tomography (CT) angiography demonstrated hypodensities and locules of air within the intrahepatic and infra hepatic inferior vena cava (IVC), as well as evidence of communication with the duodenal lumen, and a thrombus within the IVC. Patient was evaluated by the surgical oncology and vascular teams, who deemed the patient inoperable due to her extreme debility. Patient was then referred to hospice care for end-of-life measures.

Discussion: A duodenocaval fistula can be created by a foreign body, penetrating abdominal injury or it can be secondary to perforated peptic ulcer. Also, atraumatic DCF has been described following chemoradiation or radiotherapy alone in retroperitoneal tumors. Bevacizumab, an antiangiogenic agent, has also been implicated as it promotes mucosal ulceration and delays its healing. Clinical presentation varies from simple abdominal pain most commonly gastrointestinal bleed and shock. This entity can be complicated commonly by bacteremia. Our case describes ovarian malignancy, treated by radiation, having led to duodenitis, with subsequent ulcer formation. The coadministration of bevacizumab delayed gastric healing, promoted ulcer perforation favoring fistula formation.

The gold standard diagnostic test remains CT angiography of the abdomen. Most commonly, DCF is treated with laparotomy with or without vagotomy, and less likely with an endoscopic approach.

Our case aims to highlight the side effects of radiation, that can be directly proportional to the dose of radiation given. Many drugs can affect mucosal healing such as steroids, non-steroidal anti-inflammatory drugs (NSAIDs), and particularly antiangiogenic molecules, mainly bevacizumab. Discontinuation of these agents might be beneficial in similar cases, at least until endoscopic healing is proven, for fewer complications to appear.

Htun Aung MD

Bidyut Sarker, MD

Suneet Kumar, MD

Tsering Dolkar, MD

Muhammad Dogar, MD

One Brooklyn Health - Interfaith Medical Center

INCIDENTAL FINDING OF SPONTANEOUS CORONARY ARTERY DISSECTION IN A PATIENT WITH ORAL CONTRACEPTIVE USE

Background: Spontaneous coronary artery dissection (SCAD) is a non-traumatic, non-atherosclerotic, and non-iatrogenic separation of the coronary arterial wall. It is increasingly recognized as an important cause of acute coronary syndrome due to the increased availability of coronary angiography, although its true prevalence remains unknown. Exogenous hormones such as oral contraceptives, postmenopausal therapy, testosterone, corticosteroids, and infertility treatments have been associated with 10.7 to 12.6% of SCAD cases in some case studies. We report an incidental finding of SCAD in a young female patient who was using oral contraceptives.

Case presentation: A 35-year-old female with a history of hypertension for one year presented to the emergency department with heartburn of one-day duration. Her symptom resolved while in the emergency department, and she was discharged home. However, high-sensitivity troponin level came back as 364 ng/L. Thus, she was called back to the hospital. She denied headache, neck pain, chest pain, cough, back pain, abdominal pain, shortness of breath, or lower extremity edema. She had one child who was 21 months old, and she was currently using oral contraceptives and labetalol. On triage, the patient had a body temperature of 98.6 degrees Fahrenheit, blood pressure of 161/94 mmHg, heart rate of 92 beats per minute, respiratory rate of 17 breaths per minute, and oxygen saturation of 100% in room air. Her body mass index was 28.2 kg/m2. Physical examination was negative for jugular venous distension, tachycardia, and lower extremity edema. Most initial laboratory investigations were within normal limits, except for elevated high-sensitivity troponin of 364 ng/L, which trended up to 1678 ng/L and 2866 ng/L; and elevated D-dimer of 754 ng/mL. Urine toxicology was negative. Her electrocardiogram did not show any ST segment or T wave changes. Her chest X-ray showed clear lung fields. Computed tomography angiography of the chest with contrast was negative for pulmonary embolism. She received aspirin, clopidogrel, and atorvastatin loading doses along with enoxaparin therapeutic dose. She underwent a diagnostic left heart catheterization, which showed distal type 2 SCAD of the first obtuse marginal with good distal flow and 1.5 mm vessel. She also had a hyperdynamic left ventricle with an ejection fraction of 75% and end-diastolic pressure of 20 mmHg. Her clinical condition was stable, and she was discharged home with aspirin, clopidogrel, atorvastatin, metoprolol tartrate, and recommended to stop taking oral contraceptives.

Discussion: Due to limited information on the effects of oral contraceptives on SCAD incidence, recurrence, and the absence of safety data available to guide the continuation of oral contraceptives in patients with SCAD, they are generally avoided by most specialists. However, it is also important to tailor recommendations to individual patients until more evidence is available. Further studies are urgently needed.

Alzira Avelino MD

Emily Acker BA-2, Ananthakrishnan Ramani MD-2, Tariq Farooqi MD-1, Ryanna Schleifstein NP-2.
1-Department of Medicine, 2-Division of infectious disease Albany Medical Center, Albany, New York

Albany Medical Center

ERM(41) GENE POSITIVE MYCOBACTERIUM ABSCESSUS SUCCESSFULLY TREATED WITH A COMBINATION OF INTERMEDIATE/INDETERMINATE SENSITIVITY ANTIBIOTICS

Introduction

Mycobacterium abscessus is a nontuberculous mycobacteria rapid grower that is indigenous to soil and water. M. abscessus infections are challenging to treat because the organism is multi-drug resistant with various genotypic and subspecies variations in drug susceptibilities. Cases are rare, usually presenting as pulmonary infections in patients with cystic fibrosis. We present a successfully treated case of multi-drug resistant erm(41)+ M. abscessus osteomyelitis with soft tissue infection in an immunocompetent female.

Case presentation

32-year-old female with history of IV drug use and right distal radial/ulnar fracture after a MVA s/p ORIF presented one month later with worsening right wrist pain, two open wounds, and decreased hand function. CT scan of the right upper extremity revealed a soft tissue abscess communicating with the joint, suspicious for osteomyelitis and osseous erosion.

The patient underwent a wrist incision and drainage (I&D), as well as revision ORIF on day 1 after admission with specimens sent for culture. She was started on empiric broad spectrum antibiotics. The tissue, fluid, and bone cultures all grew Mycobacterium abscessus complex on day 9, prompting initiation of amikacin, imipenem, and azithromycin. Further molecular testing detected an erm(41) gene, conferring inducible resistance to macrolides. Hence, azithromycin was discontinued on day 15 and replaced with linezolid. The susceptibilities of the mycobacterium isolate were later obtained on day 34. It was found to be resistant to multiple agents and sensitive only to amikacin. It had intermediate sensitivity to cefoxitin and linezolid, as well as indeterminant sensitivity to clofazimine, imipenem and tigecycline. In view of this testing, the patient was placed on ervacycline along with amikacin, linezolid, and imipenem for synergy.

Upon repeat I&D on day 35, tissue, abscess, and AFB cultures were all negative. Furthermore, leukocytosis resolved, ESR and CRP normalized, and wrist pain and swelling improved. With FDA approval, Clofazimine was obtained. The patient was discharged on oral clofazimine and omadacycline after 8 weeks of intravenous therapy.

Discussion

There have been only 6 cases of Mycobacterium abscessus at Albany Medical Center this year, with four occurring in cystic fibrosis patients and four erm(41)+ cases. The case presented is unique in that our patient was immunocompetent, the site of infection was bone/tissue, and a highly resistant pathogen was cleared. Isolates with a functional erm(41) are particularly difficult to treat because the gene confers resistance to macrolides. Additionally, there is some evidence to suggest that exposure to macrolides may induce amikacin resistance in these organisms.

Conclusion:
It is imperative to perform molecular testing on cases of Mycobacterium abscessus infection since erm(41)+ isolates are resistant to macrolides, posing a treatment challenge. As seen in our patient, a combination of intermediate/indeterminate agents can effectively treat multi-drug resistant M. abscessus.

Alzira Avelino MD

Alexandra Mcmillan MD1, Alan Sanders MD1, Pooja Chaukiyal, MD2

1-Albany Medical center, Albany, New York

2-New York Oncology Hematology

Albany Medical Center

ISOLATED MUSCULAR MUCORMYCOSIS IN A PATIENT WITH ACUTE T-CELL LEUKEMIA

Introduction

Mucormycosis is a rare fungal infection caused by fungi in the mucormycetes group. This group of fungi is present throughout the environment, especially in the soil, decaying organic matter such as leaves and manure. Spores are usually inhaled and cleared by the gastrointestinal tract in healthy individuals but in the immunocompromised, it can cause sinus, lung and systemic infection. We present a rare case of hematologically spread isolated muscular mucormycosis without skin involvement.

Case presentation

We present a case of a 32-year-old male diagnosed with T-cell Acute lymphoblastic leukemia (T-ALL) with central nervous system (CNS) involvement, who underwent induction chemotherapy with AALL0434 protocol. During induction he developed soft fluctuant subcutaneous nodules on the lower extremities, aspirate cultures confirmed the diagnosis of mucormycosis myositis/myonecrosis. He was treated with amphotericin B and transitioned to oral Isavuconazonium. On subsequent admission for consolidation therapy for his T-ALL, he had developed additional lesions involving the lower extremities, back, abdominal wall, and upper extremities. There were more than 10 lesions identified by CT. The lesions were discrete and encapsulated. He was also noted to have small pulmonary nodules, stable from one admission to the next but no other organ involvement by fungus. Given the progression of the lesions on Isavuconazonium his chemotherapy was delayed, and he underwent vascular interventional radiology (VIR) drainage of deeper lesions and bedside surgical drainage of most superficial lesions.

Discussion

Mucormycosis is a rare, invasive, often fatal infection generally affecting the immunocompromised. In developed countries the fungus tends to affect patients with diabetes or hematological malignancies. Long lasting neutropenia caused by chemotherapy provides an ideal environment for fungemia. Pulmonary involvement is often the most common presentation in patients with acute myeloid leukemia (AML). Mucormycosis infections are known to be extremely angioinvasive leading to tissue infarction and local destruction. There are various clinical presentations depending on the site of infection. There has been previously described cutaneous infection, where the fungus is inoculated traumatically. A primary cutaneous infection presents with indurated erythema-violaceous papules that become necrotic and develop into an eschar spreading to deeper tissues such as muscle. Our patient did not have any superficial cutaneous findings; furthermore his muscle infection seems to be walled off by a capsule forming discrete abscesses contradictory to the angioinvasive nature of the fungus.

Conclusion

Our patient developed a fungal infection while neutropenic from induction therapy, and failed treatment with antifungals. Luckily, his infection remained isolated by a capsule in the muscle layers. The potential severity of mucormycosis delayed treatment for the underlying malignancy and subsequent immunodeficiency. High index of suspicion in an uncommon presentation with earlier biopsy is empiric for successful diagnosis and treatment.

Arjun Basnet MBBS

Thai Donenfeld, MD

Kripa Tiwari, MD

Ifeanyi Nwosu, MD

Benjamin Weindorf, MD

Maimonides Medical Center

ACUTE PERICARDITIS AFTER RECEIVING THE JOHNSON&JOHNSON'S JANSSEN COVID-19 VACCINE

Introduction: Acute pericarditis accounts for 5% of the chest pain presenting to the emergency department unrelated to the myocardial infarction. In developed countries, approximately 80-90% of the cases are idiopathic and often assumed to be caused by a viral infection. The remaining 10-20% of the cases are associated with post-cardiac injury syndromes, connective tissue diseases or malignancy. Typically, cases of acute pericarditis occur after mRNA vaccines. We present a case of acute pericarditis in a young male after vaccination with J&J Janssen COVID-19 which uses replication-incompetent viral vector technology unlike mRNA COVID-19 vaccines.

ã€€

Case: A 36-year-old male vaccinated for COVID-19 with J&J Janssen presented to the hospital with 4 days of retrosternal chest pain that was severe, pleuritic in nature, aggravated with deep inspiration and alleviated by leaning forward. He denied fevers, shortness of breath, or any recent illnesses. The patient was afebrile, and vital signs were within normal limits. Physical exam was unremarkable. Laboratory studies revealed cardiac troponin of 2.20, CRP of 7.53, ESR of 24, and D-dimer of 152. COVID IGG antibody was positive. COVID RT PCR, respiratory viral panel, TB QuantiFERON and ANA was negative. CXR did now show any cardiopulmonary pathology. Electrocardiogram (EKG) showed diffuse ST segment elevation with PR depression and PR elevation in aVR. Echocardiography showed LVEF 61-65%. Cardiac MRI did not show myocardial enhancement suggestive of acute myocarditis. He was admitted for acute pericarditis secondary to his recent vaccination and started on Ibuprofen and Colchicine. His troponin level peaked at 2.47 and serial EKG showed resolution of ST changes with resolution of his symptoms.

Discussion: Diagnosis of acute pericarditis requires at least two of the following signs of symptoms to be present: typical retrosternal chest pain, pericardial friction rub, typical EKG changes and pericardial effusion. Although uncommon, post-vaccination pericarditis and myocarditis have been reported as early as 1957 after the small pox vaccination and is a rare complication of mRNA vaccines. Since the start of the COVID-19 pandemic about 2179 cases of myocarditis/pericarditis reported to Vaccine Adverse Event Reporting System. Although the mechanism for post-vaccination pericarditis is not known, it is proposed that mRNA vaccines might generate high antibody responses in a small subset of young individuals resulting in a reaction similar to multisystem inflammatory syndrome.

Conclusion: Our patient received J&J, a non-mRNA vaccine, and subsequently developed pericarditis. While the mechanism is not known, our case highlights that acute pericarditis/myocarditis should still be considered in young patients with chest pain who have received a non-mRNA vaccine.

Peter Bhandari MD

Isabella Bergagnini, DO; Jonathan Warman, MD; Amory Novoselac, MD; David Robbins, MD

Northwell Health Lenox Hill Hospital

Small Bowel Finding with Not So Small Implications: An Unusual Cause of Melena

Introduction:

While more than half of patients with non-small cell lung carcinoma (NSCLC) present with metastatic disease at the time of diagnosis, extrapulmonary spread to the small bowel is rare. Patients often present with nonspecific symptoms, including abdominal pain, fatigue, and melena. Small bowel metastasis should remain high on the differential in those with a recent history of NSCLC presenting with gastrointestinal bleeding (GIB). Here, we report a rare case of jejunal metastasis from primary NSCLC.

Case Presentation:

A 78-year-old male, former smoker with a medical history significant for hypertension, COPD, coronary artery disease on Clopidogrel, and NSCLC (stage cT1bN0M0) recently diagnosed 4 months prior with subsequent completion of radiation therapy, presented with one month of dark, tarry stools with associated fatigue, dull abdominal pain, and witnessed syncopal episodes. In the Emergency Department (ED), vital signs were stable and physical exam was significant for abdominal distension, periumbilical tenderness, and black stool on digital rectal exam. Laboratory studies revealed a hemoglobin of 6.8 g/dL and iron panel consistent with iron deficiency anemia (IDA), requiring two pRBC transfusions. The following day, an esophagogastroduodenoscopy (EGD) and colonoscopy were performed, revealing nonerosive gastritis, esophageal candidiasis and multiple tubular adenomatous polyps, respectively. He was discharged on fluconazole and supplemental iron, with plan for outpatient video capsule endoscopy (VCE).

Outpatient VCE was concerning for small bowel masses with associated bleeding, at which time he was advised to return to the ED. A push enteroscopy identified a 3cm friable near-circumferential jejunal mass. Immunohistochemical stains revealed positive tumor markers for CK7 and CDX-2, negative for CK20, Napsin A and TTF-1, compatible with poorly differentiated jejunal adenocarcinoma. A re-staging PET scan revealed uptake at the site of the jejunal mass, left renal mass, right hilar and multiple mediastinal lymph nodes. He subsequently underwent a diagnostic laparoscopy, converted to laparotomy with small bowel resection. Pathology of the resected 7cm jejunal mass confirmed metastatic poorly differentiated adenocarcinoma from known primary lung cancer.

Upon discharge, the patient was seen by Oncology and Radiation Oncology where he currently awaits next-generation sequencing testing prior to consideration of chemotherapy and immunotherapy.

Discussion:

Gastrointestinal metastases in the setting of lung cancer has an estimated incidence of 0.2-1.7%, with one study reporting approximately 55% of cases involving the jejunum. Presentation is variable, with the most common complaint being abdominal pain, followed by GIB. However, a subset remain asymptomatic. Initial workup for those with IDA of unclear etiology entails bidirectional endoscopic evaluation. If endoscopy is unrevealing, VCE may help further elucidate next steps. Once identified, definitive therapy involves endoscopic intervention or surgical resection if endoscopic therapy fails. We present this case to raise awareness of this under-recognized cause of GIB and to aid in prompt diagnosis and treatment.

Gayatri Bobba MD

Nicholas Spetsieris, MD; Alexander Belkin, MD; Yordan Jimenez-Perez, MD; Dina Yusupova, MD; Sanjeev Jain, MD; Henri-Robert Delbeau, MD; Zubin Tharayil, MD

Long Island Community Hospital

A Timely Fall: A Rare Case of an Asymptomatic Herniated Oligodendroglioma

Introduction:

Oligodendroglioma (OD) is a rare entity and comprises nearly 5% of all glial tumors. OD are categorized as Grade II (low-grade) or Grade III (anaplastic), with the most common presenting symptom being seizures. Here, we present a rare incidental finding of asymptomatic, herniated low-grade oligodendroglioma.

Case Presentation:

A 46-year-old Hispanic male without significant medical history presented to the Emergency Department (ED) with right leg pain after a mechanical fall secondary to alcohol use. He denied loss of consciousness, nausea, vomiting, dizziness, headache, vision changes, and motor/sensory deficits, both currently and in the past. In the ED, vital signs were stable and physical examination was unremarkable; he was alert and oriented to person, place, and time and no motor, sensory, or visual deficits were noted. Laboratory studies revealed leukocytosis (13.83 x103/uL) and an elevated serum alcohol level (178 mg/dl). A right lower extremity x-ray suggested a distal fibular fracture and a CT brain revealed left frontal edema with involvement of the corpus callosum. A subsequent MRI brain revealed a large (7cm x 8cm x 7cm) heterogeneous mass in the left frontal lobe with irregular enhancement, calcification, and necrotic/cystic regions resulting in a subfalcine herniation with a 9mm right midline shift extending to the corpus callosum and partial effacement of the left ventricle. He was admitted and started on levetiracetam and dexamethasone. The patient subsequently underwent complete resection of the brain mass. Ancillary pathology studies revealed positive GFAP, KI-67 of 2-3%, 1p/19q co-deletion, and isocitrate dehydrogenase (IDH) 1 mutation consistent with oligodendroglioma. A bone scan was negative for osseous metastatic disease. The remainder of the hospital course was uncomplicated; he underwent an ORIF of his right fibular fracture. He was discharged with outpatient neurosurgery and oncology follow-up.

Discussion:

Oligodendroglioma is a central nervous system tumor arising from neuroepithelial cells with IDH type 1 or type 2 mutation and a co-deletion of chromosomes 1p and 19q. OD proliferate slowly and are often asymptomatic, usually discovered in the fifth decade of life. However, a small subset of symptomatic patients present with neurological complaints including nausea, vomiting, headache, focal weakness, and seizures. Neuroimaging demonstrates the tumor; Grade III tumors have increased contrast enhancement compared to Grade II tumors. The gold diagnostic standard involves histopathologic tumor marker testing. Our patient is unique as he had a rare, incidental finding of asymptomatic, herniated low-grade oligodendroglioma. Additionally, although he had histological findings of Grade II OD, he had radiographic findings consistent with aggressive, anaplastic Grade III disease. Once identified, treatment involves surgical resection with combined radiotherapy and chemotherapy.

Conclusion:

Physicians should keep oligodendroglioma in the differential for patients who present with an asymptomatic brain mass.

Barisere Bodo MD

Bodo, Barisere MD; Abdalla, Marwa MBBS, MD, Valerie Cluzet, MD, Ojeda-

Martinez, Hector MD,

Nuvance Health, Vassar Brothers Medical Center

A rare case of ceftriaxone induced agranulocytosis during outpatient parenteral antibiotic therapy

Introduction

Drug-induced agranulocytosis (DIA) is a life-threatening adverse effect of many antimicrobial agents. Ceftriaxone-induced agranulocytosis (CIA) is a rare etiology for DIA (0.6%). The incidence of CIA is associated with higher doses and prolonged treatment duration. Here we present a case of CIA after prolonged outpatient treatment of culture-negative endocarditis.

Case Description

78-year-old female with a past medical history of paroxysmal atrial fibrillation (PAF), chronic kidney disease, anemia and mitral valve regurgitation who presented to the cardiology office for a scheduled transesophageal echocardiogram (TEE) and cardioversion for PAF. TEE showed a mitral valve echodensity suspicious for vegetation. Review of systems was negative. The patient was subsequently admitted to the hospital for infective endocarditis work up. Repeated blood cultures were negative, and the patient was diagnosed with culture-negative endocarditis. She was discharged on ceftriaxone 2g IV for treatment course of 42 days. On day 34 of therapy, she presented to the ED for evaluation of an abnormal lab result. Patient was asymptomatic and physical examination was unremarkable. CBC showed WBC of 1.9/uL and an absolute neutrophil count (ANC) of 0/uL. The patient was diagnosed with CIA and ceftriaxone was discontinued. The patient received granulocyte colony stimulating factor (G-CSF) with a marked improvement in WBC 23/uL and ANC 15/uL at the time of discharge 5 days later. Discussion DIA is a life-threatening adverse effect of ceftriaxone. CIA was only identified in 6 out of 980 patients with DIA in a case series from 1966 to 2006. Clinical trials linked ceftriaxone to neutropenia in 3% of patient who received 2g of ceftriaxone in 4 weeks . A review of cases in 2015 identified 13 published of CIA. The incidence of CIA is associated with higher doses and prolonged treatment duration . The clinical presentation includes fever, mouth sores, and sepsis, but many patients can be asymptomatic. Differential diagnosis includes viral infections and nutritional deficiencies.

The diagnosis is confirmed in the absence of granulocyte precursor in the bone marrow and the return of normal neutrophil count upon stopping the offending agent. Risk factors for mortality include age older than 65 years, renal failure, bacteremia and shock at the time of diagnosis. Management includes withdrawal of the offending agent and treatment of the underlying infection if present. G-CSF is linked to shorter recovery time. The patient had a rapid improvement upon stopping ceftriaxone and treatment with G-CSF. This case highlights the importance of recognizing and monitoring for drug-induced agranulocytosis in the setting of prolonged ceftriaxone therapy.

Hemanth Krishna Boppana MBBS

Mary K. Hinkle, Olga Vasylyeva, Alexandra Yamshchikov

Rochester General Hospital

Cache Valley Encephalitis "A Rare Entity”

Introduction

Cache Valley virus (CVV) is a mosquito-borne orthobunyavirus associated with CNS infections of varying severity from aseptic meningitis to fatal encephalitis. Here, we present a case of encephalitis due to CVV in a 67-year-old male diagnosed via cerebrospinal fluid (CSF) polymerase chain reaction (PCR).

Case Presentation

A 67-year-old male presented with a 3 day history of fatigue, headache and fever. He reported hiking with his two dogs recently and denied any tick or animal bites. On physical examination, he was ill-appearing, febrile with oral temperature of 38.8°C, heart rate of 107 with lower extremity swelling extending to the mid-tibia bilaterally without any neck stiffness, rashes or focal deficits. Laboratory investigations showed platelet count of 133,000, leukocyte count of 8500 with 17% bands and absolute lymphocyte count of 100 and elevated C-reactive protein (CRP). Computerized tomographic imaging of the head, chest, abdomen and pelvis were unrevealing. Empiric antibiotic coverage with vancomycin and piperacillin-tazobactam was initiated. Hospital course was complicated by persistent fever, bilateral lower extremity petechial rash with sparing of the palms and soles and encephalopathy requiring intubation and mechanical ventilation. Extensive workup was negative for West Nile serology, Ehrlichia, Anaplasma, Rickettsia, CMV and EBV IgM, coxiella and HSV1 by PCR. CSF obtained via lumbar puncture showed 10 nucleated cells and 76% polymorphonuclear cells and tested positive for CVV by PCR. Antibiotics were discontinued and supportive care was initiated followed by gradual recovery.

Discussion

CVV is a mosquito-borne illness that has been widespread in North and Central America infecting both domestic and wild animals as well as humans. Antibodies to CVV have been detected in humans in endemic regions but however, development of severe disease in humans is rare. In the United States, 5 cases of CVV have been reported in New York, Wisconsin, Missouri and North Carolina with a sixth case involving travel to North Carolina. The first reported case of CVV in humans dates back to 1995 in North Carolina in a 28-year-old male. Since then, there have been a total of 5 additional reported cases of CVV resulting in chronic to fatal meningoencephalitis. Of the cases in literature with reported outcomes, 3 out of 5 cases resulted in fatal illness. As seen with our patient, other cases in literature have also reported non-specific presenting symptoms with the most common being fever, headaches and presence of a rash. Although rare, it is important to consider CVV as a possible differential in a patient with fever of unknown origin who tests negative for multiple molecular and serologic tests. It is commonly diagnosed through an extensive CSF PCR encephalitis panel with the treatment usually involving supportive care with symptom management.

Edward Carey MD

Li, Terry MD; Papaioannou, Dimitrios, MD; Kwa, Maryann, MD

NYU Langone School of Medicine

THINKING OUTSIDE THE BOX: HEPATOCELLULAR CARCINOMA IN PATIENTS WITHOUT CIRRHOSIS

We present a case of an 82-year-old man with abdominal pain and unintentional weight loss, who was ultimately diagnosed with hepatocellular carcinoma (HCC) without evidence of prior liver disease.

Patient was an 82-year-old male with hypertension and prior stroke who presented with 2 months of weight loss, epigastric pain, and nausea. He was born in Puerto Rico and immigrated to the United States in the 1960s, working as a firefighter. He previously drank alcohol but had not in 30 years. He had no family history of liver disease. Physical exam showed mild mid-epigastric and right upper quadrant tenderness and hepatomegaly.

He underwent computed tomography (CT) scan that showed an 18x11 cm liver mass. Triple phase CT showed delayed gadolinium wash out, suggestive of HCC. The remainder of the liver was non-cirrhotic. Liver function testing showed mildly elevated AST, alkaline phosphatase, and bilirubin as well as low albumin. Follow-up testing was negative for HIV, hepatitis B, and hepatitis C. Tumor markers, including CEA, AFP, and CA 19-9, were negative. Biopsy of the liver mass showed moderately differentiated HCC. Unfortunately, he was not a surgical candidate. He received one dose of bevacizumab but passed shortly after due to complications of his disease.

Primary liver cancer is the second leading cause of oncologic deaths worldwide. It is traditionally thought to be a disease of patients with cirrhosis. However, about 20% of HCC diagnoses are made in patients without cirrhosis,1 and this case highlights this risk. It also highlights the importance of considering primary HCC in patients without cirrhosis rather than assuming metastasis from another source. This patient had a normal AFP, demonstrating that a normal AFP does not rule out HCC2 and why AFP was removed from diagnostic criteria.

Through this patient, we also wish to highlight the differences in HCC with and without cirrhosis. Demographically, HCC in non-cirrhotic patients includes more females, a bimodal age distribution, and a higher risk of exposure to carcinogens. Risk factors for HCC in non-cirrhotic patients include hepatitis B, hepatitis C, alcohol, non-alcoholic steatohepatitis (NASH), and environmental carcinogens.3 HCC in cirrhotic vs non-cirrhotic livers have unique molecular pathologies, with tumors in non-cirrhotic patients having more alterations in cell cycle mediators4 . HCC in non-cirrhotic patients often presents at a more advanced stage. Transplant and surgical resection result in the longest disease-free survival rates, whereas it is notoriously refractory to chemotherapy.3 Other treatments such as immunotherapy and radiation show limited benefit in non-cirrhotic versus cirrhotic HCC.3 Overall mortality is high, with an 18% chance of survival at 5 years.5

HCC should be considered in patients with a liver mass despite absence of cirrhosis. HCC in non-cirrhotic patients has its own unique risk factors, behavior, and pathophysiology.

SANDHYA CAUTHA MD

SORAB GUPTA, MD

VALENTINA MOIRANGTHEM, MD

KEVIN JAIN, MD

AHMAD HANIF, MD

BRONXCARE HEALTH SYSTEM

ERYTHROCYTOSIS IN HOOKAH SMOKERS: A CASE SERIES OF 13 PATIENTS

Introduction:

Over the past decade, hookah smoking has become a popular way of smoking tobacco around the world. In this study, we explore the relationship between hookah smoking and erythrocytosis, which is a frequently encountered problem in Hematology clinics. Cawkwell et al. analyzed the internet trends as a measure of population behavior and showed that New York is experiencing tremendous growth in hookah bars with an overwhelming majority located in New York City. Alarmingly, significant geographical clustering of these bars was noted in locations where large populations of college students reside. As hookah smoking is not considered a traditional form of smoking, patients can often neglect this information when asked about their smoking history. It is essential to elicit a detailed recreational history in the evaluation of unexplained erythrocytosis, especially in a young patient.

Methods:

We did a retrospective chart review of 13 patients with otherwise unexplained erythrocytosis (defined as a hemoglobin level greater than 16.5g/dL in men or 16 g/dL in women) and a history of hookah smoking. We looked at patient characteristics, intensity of hookah smoking, degree of erythrocytosis, and other contributing factors. We quantified hookah smoking intensity to look at the correlation between severity of smoking habit and hemoglobin levels at presentation and calculated correlation using the Pearson correlation test.

Results:

The median age of the study group was 33 years (range, 22-60) and the mean hemoglobin level was 19.16 g/dL. The frequency of hookah smoking between patients ranged from less than once a week to every 4 hours. JAK2 mutation was negative and erythropoietin level was normal to high in all patients. All but four patients were asymptomatic at presentation. None of the patients had previous thrombosis or palpable splenomegaly. One patient had a concurrent cigarette smoking history, one patient had liver cysts (presumed to be erythropoietin-producing), and two patients had obstructive sleep apnea confirmed with a sleep study. These factors, in addition to hookah smoking, could have presumably contributed to erythrocytosis in these patients. There was no correlation found between the intensity of hookah smoking and degree of erythrocytosis (Pearson correlation factor was -0.139).

Conclusion:

Contrary to published evidence, there is a popular belief that smoking tobacco through a hookah pipe is less harmful than cigarette smoking. However, studies showed that smoke from a hookah pipe can be equally dangerous and contains various toxicants that can lead to a myriad of health problems. Our study showed that hookah smoking can cause significant erythrocytosis and should be considered as a possible etiology for otherwise unexplained erythrocytosis.

Harshith Chandrakumar MBBS

Alexey Kalinin, Pratik Mondal, Ganesh Thirunavukkarasu, Anoop Puskoor, Tanuj Gupta

SUNY Downstate Health Sciences University

Thromboembolic myocardial infarction from a left ventricular thrombus in a patient with preexisting non-ischemic dilated cardiomyopathy

Background

Left ventricular (LV) thrombus can develop as a complication of myocardial infarction or in a dilated myocardium leading to a perilous thromboembolic phenomenon.

Case

A 66 year old male with poorly controlled hypertension was admitted for a new onset right sided stroke which began 8 hours prior to presentation. EKG showed ST-T wave changes< 1 mm in inferior leads with left ventricular hypertrophy. Magnetic resonance imaging (MRI) brain showed an ischemic stroke of the left frontal region. Troponin was elevated to 27.15 ng/mL. Given the non-ST elevation myocardial infarction, patient was initiated on heparin drip. An echocardiogram showed two 1 cm masses in the apical LV consistent with a thrombus(as shown in Figure 1), dilated cardiomyopathy and a new reduced ejection fraction of 25%. Coronary angiogram showed 100% occlusion of proximal third of right posterolateral LV branch 100 % stenosis of very distal segment of left anterior descending artery. These lesions were deemed to be thromboembolic from the LV thrombus and medical management was pursued. Patient was discharged on warfarin. He remained asymptomatic and a repeat echocardiogram 3 weeks later showed resolution of the clot.

Discussion

LV thrombi are less commonly associated with non ischemic myocardium. Our patient had a preexisting non ischemic cardiomyopathy likely from chronic hypertension. Myocardial infarction could be atherosclerotic or cardioembolic. Atherosclerosis occurs from plaque disruption. Whereas dilated LV poses a suitable terrain for thrombus formation leading to a cardioembolic phenomenon. This is a very atypical presentation of a thromboembolic phenomenon leading to both coronary artery occlusion and a stroke. Guidelines for LV thrombus prevention and management are rather vague. Per ACC/ESC, anticoagulation is required for a 3-6 month duration.

Sanjana Chetana Shanmukhappa MD

Sarath Lal Mannumbeth Renjithlal MD, Muhammad Ahmed Malik MD, Fahd Muhammad Shaukat MD

Rochester Regional Health/Unity Hospital

Unusual Presentation Of Saccharomyces Fungemia After Probiotics Use In A Critically Ill Patient With C. Difficile Infection "“ A Case Report

Introduction:

Saccharomyces cerevisiae is a benign colonizer of the gastrointestinal tract. Invasive saccharomyces is a rare but well-documented occurrence in patients with critical illnesses who receive probiotics containing Saccharomyces Cerevisiae. In this case study, we bring to light a rare case of saccharomyces fungemia in an intensive care unit patient with persistent C. difficile infection (CDI) who was taking probiotics.

Case report:

A 51-year-old female with a past medical history significant for a previous prolonged hospital stay with pneumonia-causing acute respiratory distress syndrome (ARDS) requiring VV-ECMO and polysubstance abuse was admitted after a mechanical fall resulting in a closed fracture of the left humerus. The hospital course was complicated by acute hypoxic hypercapnic respiratory failure secondary to opioid overuse for pain relief, in the background of obstructive sleep apnea and COPD, requiring intubation. The patient was also started on broad-spectrum antibiotics for aspiration pneumonia. Her hospital course was further complicated by clostridium difficile colitis and was started on PO vancomycin and IV metronidazole. The patient was also on probiotics containing Saccharomyces. Following completion of antibiotics course and resolving C. Diff colitis, the patient spiked a fever of 105.8 F along with altered mental status and nystagmus on the exam. She continued having persistent fevers for 24 hours. She was started on vancomycin, meropenem, and acyclovir for possible meningoencephalitis, which were de-escalated after benign lumbar puncture findings. Electroencephalogram was negative for seizures. Other differentials like serotonin syndrome, malignant hyperthermia, hypothalamic disease, thyroid storm, adrenal crisis were ruled out with appropriate studies. Blood cultures grew Saccharomyces Cerevisiae, which was reported 5 days later. The patient improved with supportive care and stopping the probiotics. She didn’t receive any antifungal therapy. Repeat blood cultures did not grow any organisms. She improved clinically without any sequelae.

Discussion and conclusion:

It has been hypothesized that in patients with CDI, there is an inflammation of the intestinal wall, loss of gut wall integrity, and translocation of gut microbes into systemic circulation leading to bloodstream infections. We believe that a similar mechanism is responsible for S cerevisiae fungemia in CDI patients receiving probiotics. The usage of probiotics in patients who are critically ill has been met with growing skepticism given reports of fatal outcomes as a result of fungemia. Several studies have called for their cautious use in both immunocompetent and immunocompromised individuals. Additionally, age, ICU admissions, comorbidities, presence of central lines have been identified as risk factors for S cerevisiae fungemia. Upon literature review, very few cases of CDI-probiotics-fungemia have been reported and we believe that this case will help further our understanding of probiotics in similar settings.

Kevin Clements DO

Bala Pushparaji MBBS, Sarita Konka MD

Maimonides Medical Center

Vasculitis, the mimic: an unusual presentation of eosinophilic granulomatosis with polyangiitis

Introduction:

Eosinophilic granulomatosis with polyangiitis (EGPA) is a vasculitis that can affect multiple organ systems. Although the lungs, kidneys, and skin are commonly affected systems, others, such as nerves, can be involved. We present a patient with leg pain, numbness, rash, and vision changes who was subsequently diagnosed with EGPA.

Case Presentation:

This is a 46-year-old woman with history of right lower extremity sarcoma who presented to the emergency department after a few days of right lower extremity neuropathic pain with foot swelling and 1 day of unilateral diplopia. Eye exam and computed tomography (CT) of the head were normal, and she left for outpatient workup. Although her diplopia resolved, her leg pain worsened, so she returned for evaluation. Physical exam was significant for a transient petechial rash on the top of her foot and non-pitting foot edema, though no focal neurological deficits were found and no synovitis was appreciated. Labs revealed leukocytosis of 20.2 with an eosinophil count of 57.5%. Further workup of eosinophilia revealed a serum immunoglobulin E (IgE) level of 698, erythrocyte sedimentation rate (ESR) of 54, negative anti-neutrophil cytoplasmic antibody (ANCA), and serum rheumatoid factor (RF) level of 516. Cerebrospinal fluid analysis was not suggestive of meningitis and showed no oligoclonal banding. Magnetic resonance imaging (MRI) of the brain and orbits showed no evidence of multiple sclerosis or other acute pathology. Chest X-ray and CT of the chest showed hilar lymphadenopathy. Rheumatology, neurology, and hematology recommended a sural nerve biopsy to determine if a vasculitic process was present. The pathology report from this biopsy showed necrotizing vasculitis with large numbers of eosinophils and chronic inflammatory cells. Prior to this result returning, the patient was also scheduled for excision of an axillary lymph node, which revealed lymphoid hyperplasia. Given the patient's eosinophilia and biopsy results, she was diagnosed with EGPA. She was started on a high dose prednisone taper and later started on Mepolizumab, an anti-interleukin-5 inhibitor. She has had resolution of swelling and improvement in neuropathic pain. Repeat labs showed normalization of leukocytosis, eosinophilia, and ESR.

Discussion:

It is often taught that patients with EGPA have longstanding prodromal disease of asthma, atopic dermatitis, and rhinitis/nasal polyposis, and in the vasculitic phase can present with pulmonary, renal, and dermatological manifestations. Our patient had no prodromal disease, and her initial complaints were neurologic. Initial concerns were for stroke and multiple sclerosis. Profound eosinophilia led to a rheumatological workup that uncovered her diagnosis. Treatment is usually initiated with glucocorticoids and maintained with glucocorticoid-sparing therapies.

Conclusion:

Although EGPA typically affects the lungs, kidneys, and skin, a patient’s chief complaint may be related to other organ systems. Relying on this classical presentation may lead to misdiagnosis.

Andres Cordova Sanchez MD

Parth Sampat, MBBS, John Dinesh, MD

SUNY Upstate Medical University

The 'X' Factor: A Rare Case of Pseudohyponatremia caused by Lipoprotein X

Introduction:

Pseudohyponatremia is defined as a falsely low serum sodium concentration that is associated with hyperlipidemia or hyperproteinemia. Its diagnosis can prevent overtreatment and poor outcomes.

We present a patient with seizures that were initially attributed to hyponatremia.

Case Presentation:

47-Year-old female presented with nausea and vomiting. PMH includes epilepsy secondary to autoimmune encephalitis, depression, and chronic transaminitis with a cholestatic pattern for which she had undergone extensive workup to rule out ischemia, biliary obstruction, hepatitis, genetic disorders, and pancreatic causes. Her medications included amitriptyline, sertraline, and prednisone.

On admission, she had 3 episodes of witnessed tonic-clonic seizures. Physical examination was unremarkable. Laboratory results showed hyponatremia (121 mmol/L), calculated serum osmolality 249mosm/kg, urine osmolality 343 mosm/kg, urine sodium 109 mmol/L, alkaline phosphatase 1,711 U/L, ALT 85 U/L, AST 53 U/L, total bilirubin 3.3 mg/dL, direct bilirubin 2.3 mg/dL, and blood urea nitrogen 7 mg/dl. CT head was negative for pathology.

The admission diagnosis was acute euvolemic hyponatremia secondary to iatrogenic syndrome of inappropriate antidiuretic hormone secretion. Amitriptyline and sertraline were discontinued. Water restriction, lacosamide, lamotrigine, topiramate, and salt tablets were started.

She had 2 more episodes of tonic-clonic epileptiform movements. However, no seizure-like activity was identified on EEG and psychogenic non-epileptic seizures were diagnosed.

Six days after admission, a liver biopsy showed sclerosing cholangitis. Further workup showed severe hypercholesterolemia with a total cholesterol of 1883 mg/dl, HDL 12 mg/dl, LDL 1367 mg/dl, triglycerides 344 mg/dl, vLDL 80 mg/dl, non-HDL cholesterol 1447 mg/dl, and direct LDL 199 mg/dl. Sodium by direct potentiometry was 139 mmol/L, compared to 123 mmol/L on indirect measurement.

Based on these results, diagnosis of pseudohyponatremia secondary to elevated levels of lipoprotein X(LpX) due to sclerosing cholangitis was made. She was discharged on atorvastatin, ezetimibe and ursodiol.

Discussion:

LpX is an extremely rare cause of pseudohyponatremia. It forms after reflux of bile lipoproteins into the plasma and causes hyperlipidemia. Its presence should be suspected with discrepancies in lipid tests and is confirmed with electrophoresis.

Measured serum osmolality is utilized to diagnose pseudohyponatremia. In contrast to calculated osmolality, measured osmolality considers all the osmoles in the serum besides sodium, urea, and glucose levels. Most laboratories measure sodium via indirect potentiometry, which assumes a normal percentage of osmoles per volume. If a patient has higher osmoles per volume (as in LpX), the test will have a greater dilution resulting in falsely low sodium levels. After confirming a normal serum osmolality, direct potentiometry should be used to obtain a true serum sodium level.

Conclusions: When evaluating hyponatremia in patients with cholestasis, measured serum osmolality and direct potentiometry are of vital importance to avoid misdiagnosis and prevent adverse events.

Vincent Courant

Murilo Silva MD, Bruno Costa MD

mount sinai morningside

A RARE CASE OF MACROPHAGE ACTIVATION SYNDROME IN THE SETTING OF ADULT-ONSET STILL DISEASE TREATED WITH STEROIDS AND IVIG

Vincent Courant MD, Murilo Silva MD, Bruno Costa MD

Icahn School of Medicine at Mount Sinai (Mount Sinai Morningside), New York, NY

A RARE CASE OF MACROPHAGE ACTIVATION SYNDROME IN THE SETTING OF ADULT-ONSET STILL DISEASE TREATED WITH STEROIDS AND IVIG

Abstract:

We would like to report a rare case of MAS in a patient recently diagnosed with AOSD, the goal of this review is to educate physicians about when to suspect MAS in patients with underlying rheumatologic conditions, as a timely diagnosis is crucial to provide early treatment and avoid major complications.

Case description:

A 56 year-old female with past medical history of diabetes and rheumatoid arthritis presents with a 2 weeks history of quotidian high-grade fevers (>39 °C), diffuse joint pain and sore throat. Physical exam was significant for synovitis involving her wrists, knees, MCPs and PIPs bilaterally. Initial lab work revealed an elevated ferritin level > 30,000 ng/mL, and leukocytosis. Patient was diagnosed with Adult-Onset Still's Disease (AOSD) based on Yamagushi's criteria. She was initiated on Anakinra and steroid taper. Her course was complicated by acute liver injury with ALT and ALT uptrending to 1078 and 1618 U/L respectively. Other lab findings were significant for elevated fibrinogen level of 232 mg/dL and triglyceride level of 157 mg/dL. Patient was also found to have peripheral bicytopenia with Hg at 7.2 g/dL and Platelet count at 136 k/uL. Splenomegaly was noted on exams at the time. As a result, our patient met diagnostic criteria for MAS/HLH. She was urgently treated with IVIG and pulse-dose steroids leading to significant clinical and laboratory improvement.

Discussion:

The term Macrophage activation syndrome (MAS) refers to Hemophagocytic lymphohistiocytosis (HLH) in the setting of systemic juvenile idiopathic arthritis and other rheumatologic diseases such as AOSD. HLH is a life-threatening disease remarkable for multi-organ involvement combined with fever, hepatosplenomegaly, rash, lymphadenopathy, cytopenia, elevated serum ferritin and liver enzymes. For HLH, the diagnosis can be made by identifying HLH-associated mutations and other regulatory gene defects or fulfilling at least five of the nine criteria that includes fever, elevated ferritin, peripheral cytopenias, splenomegaly, hypertriglyceridemia, presence of hemophagocytosis in bone marrow, spleen, lymph node, or liver, low or absent NK cell activity and elevated CD25 and CXCL9. The goal in treating MAS is to reduce body-wide inflammation as quickly as possible and prevent organ damage. The standard treatment is high doses of intravenous prednisone for three to five days.

Conclusion:

MAS is a subtype of HLH which includes patients with underlying rheumatologic conditions such as AOSD. It is exceedingly rare; however, physicians should remain aware of this syndrome as it is often considered a medical emergency. Early diagnosis and treatment are crucial to allow for a better prognosis.

Hussain Dalal MD

Arlene Yu, M.D., Crystal Antoine, M.D.

Nuvance Health -- Vassar Brothers Medical center

A Rare Case of Breast MALT lymphoma with Amyloid Deposition in a Patient with Sjogren's Syndrome

Introduction:

Sjogren's syndrome is an autoimmune disease of the exocrine glands mostly involving salivary and lacrimal glands. Patients with Sjogren's syndrome (SS) have a 5-10% lifetime risk of developing non-Hodgkin lymphoma with marginal zone B-cell lymphoma of mucosa-associated lymphoid tissue (MALT) as the most common histologic subtype. Although the association of MALT lymphoma in patients with SS is well-documented in sites like the parotid glands, stomach, and lungs, association with breast MALT lymphoma is exceedingly rare with literature review reporting only a handful of cases. In this case report, we describe an uncommon case of breast MALT lymphoma with amyloid deposition in a patient with a long-standing history of Sjogren's syndrome.

Case Report:

A 70-year-old female with a past medical history of SS with extra glandular manifestations of arthritis and dacryocystitis as well as Stage 1 renal cell carcinoma post left radical nephrectomy was found to have an abnormal screening mammogram. Routine screening mammography showed coarse calcifications in the 12 o'clock position middle third of her left breast. She underwent stereotactic core biopsy and pathology was consistent with marginal zone B cell lymphoma MALT type with light chain restricted plasma cells and amyloid deposits. Serum immunofixation electrophoresis showed trivial elevation of kappa/lambda ratio, polyclonal gammopathy, and no monoclonal (M)-protein spike. PET/CT scan did not show any FDG avidity even in the primary site of the breast. Endoscopy was negative for co-existing gastrointestinal MALT lymphoma. She underwent a successful lumpectomy to remove the localized breast MALT lymphoma.

Discussion:

MALT lymphomas involving the breast are rare (<0.5% of all breast malignancies) owing to the paucity of mucosa-associated lymphoid tissue in the breast. They usually present at a low clinical stage and the disease process is usually amenable to surgery, radiotherapy, or even observation. For our patient, surgical resection was deemed to be the appropriate treatment.

Amyloid deposition is a rare complication of MALT lymphomas. It has been hypothesized that the plasmacytoid cells in the tumor milieu produce immunoglobulin light chains that are eventually deposited as amyloid. There are two discrete syndromes of lymphoma-associated amyloidosis: systemic and peritumoral. Peri-tumoral amyloid deposits were evident in our patient given low or undetectable M-protein and single organ involvement which is generally associated with MALT lymphoma.

Studies are in progress to determine how patients with SS are predisposed to lymphomas. Hence, a high index of suspicion for the development of MALT lymphomas in SS patients is of utmost importance. Our case also highlights the unusual involvement of the breast with MALT lymphoma in a patient with long-standing SS. Furthermore, it showcases the usefulness of screening mammography in early detection of this unusual breast malignancy.

Hussain Dalal MD

Nida Khokhar, M.D, Barisere Bodo, M.D, Chika Akabusi, M.D., Radhika Rachamalla, M.D.

Nuvance Health -- Vassar Brothers Medical center

A rare case of huge extramedullary retroperitoneal plasmacytoma "“ How big is too big?

Introduction: Plasmacytomas are plasma cell dyscrasia in which tumors of plasma cells grow within soft tissue or the bony skeleton. International Myeloma Foundation classifies plasmacytomas into solitary plasmacytomas, extramedullary plasmacytoma (EMP), and multiple plasmacytomas which are either primary or recurrent. EMP as the name implies are solitary tumors of plasma cells that proliferate in locations other than the bone. They are rare as their incidence accounts for 3%-4% of all plasmacytomas. We present a very rare case of EMP presenting as a huge retroperitoneal (RP) mass.

Case report: 66-year-old male with a past medical history of chronic hepatitis B managed with tenofovir presents to gastroenterology clinic with complaints of right lower quadrant (RLQ) pain of 2 months, 10 lbs weight loss, and bright red blood per rectum of 8 months. He underwent screening colonoscopy which was notable for hyperplastic sigmoid polyp. Upper endoscopy was unremarkable. MRI abdomen with and without contrast notable for Large RP mass (19.5 x 13.1 x 14.9 cm) compatible with a neoplasm with obliteration of the IVC and displacement of the abdominal aorta to the left. Staging CTA chest/abdomen/pelvis showed 24 cm mass in the retroperitoneum encasing aorta, right renal artery with mass effect on IVC and right ureter causing mild right hydroureter. CT-guided biopsy of the RP mass revealed kappa restricted plasma cell neoplasm with cells positive for CD138, vimentin, and variable for CD45. Epithelial cytokeratin markers were negative. The patient was referred to the oncology clinic where he underwent a bone marrow biopsy which showed mildly hypercellular marrow with 10% plasma cell infiltrate. Flow cytometry was negative. Cytogenetics negative, myeloma FISH was nondiagnostic however Next-generation molecular studies did not show high-risk mutations. Labs were remarkable for creatinine of 1.78, hemoglobin of 9.9 gms, elevated total protein of 11gms, elevated LDH, Beta 2 microglobulin, fractionated kappa, and kappa/lambda ratio. SPEP noted an M spike of 4.27 g/dl and immunofixation notable for elevated IgG > 5000mg/dl. Urine chemistry showed elevated fractionated kappa as well as elevated kappa/lambda ratio. Final diagnosis of IgG myeloma was made, and the patient was initiated on radiation therapy (XRT).

Discussion: EMP can occur in any part of the body, but most cases of EMP reported are in the head and neck region. Clinical symptoms include pain as well as tumor burden compressing surrounding organs. Although these tumors can present as large masses, EMP presenting as 24cm in the retroperitoneum is rare. Fortunately, EMP’s are extremely radiosensitive and are treated with XRT. Our patient had clinical improvement after 8 fractions of XRT with improvement in pain and normalization of creatinine. Given minimal involvement of bone marrow, antimyeloma therapy was deferred due to marked clinical improvement with radiation.

Makeda Dawkins MD

Abinaya Sridhar, MD

Vincent Prawoko, MD

Chikere Kanu, MD

Westchester Medical Center

Autoimmune Disease Unmasked: Hyperviscosity Syndrome with concurrent acquired VonWillebrand Disease (vWD) as a presentation of Systemic Lupus Erythematosus-Rheumatoid Arthritis Overlap

Introduction

Hyperviscosity syndrome (HVS) is a life-threatening complication most commonly associated with monoclonal gammaglobulinopathies such as Multiple Myeloma (MM) and Waldenstrom Macroglobulinemia. Measurement of serum viscosity establishes the diagnosis. We describe a rare case of HVS and acquired vWD as an initial presentation of Systemic Lupus Erythematosus (SLE)-Rheumatoid Arthritis (RA) Overlap.

Case Presentation

A 43-year-old Hispanic man with no past medical history presented with recurrent gingival bleeding and epistaxis for six months, with six emergency room visits within the last three months. He also reported left-sided headaches and blurry vision. He denied any family history of hematologic or oncologic disorders. Vital signs were within normal limits, and physical exam was only notable for dried blood in the bilateral nares and gingival cavity. Eye exam showed bilateral retinal vein occlusions with intraretinal hemorrhages and vascular engorgement. His initial blood work revealed mild cytopenias; however, multiple attempts of checking his serum chemistry resulted in errors as the serum samples were unable to be appropriately processed. Due to these serum chemistry errors, a peripheral smear was obtained, which revealed Rouleaux formation. Serum viscosity was then measured elevated to 9.62, establishing a diagnosis of HVS. Aggressive fluid resuscitation was initiated.

A continued evaluation revealed IgG hypergammaglobulinemia, elevated anti-double stranded (ds) DNA, low complement levels, and positive antinuclear antibody (ANA), raising suspicion for SLE. He was also found to have elevated Rheumatoid Factor (RF) and positive anti-CCP, raising suspicion for RA. VwF Ag of 19, vwF RCP of 40%, and normal factor 8 level revealed an acquired vWD, with elevated rheumatoid factor (RF) and positive anti-CCP raised suspicion for RA. Bone marrow biopsy was non-revealing. Therapeutic plasma exchange (TPE), pulse dose dexamethasone, and rituximab were started, with the latter discontinued due to delayed serum sickness and replaced with cyclophosphamide. His HVS was attributed to high levels of circulating autoantibodies as a presentation of his underlying SLE/RA overlap and likely the etiology of his acquired vWD.

Discussion

HVS is a hematologic emergency characterized by mucosal bleeding, visual changes, and increased serum viscosity due to elevated circulating immunoglobulins. In some cases, HVS can precipitate aVWD via aggregation of immunoglobulins, interactions between IgM RF and IgG intermediate complexes, and IgG complexes alone. There are three known cases of HVS as an initial presentation of SLE, and this case specifically highlights HVS as a secondary to an underlying SLE-RA overlap. Although IgG elevations are commonly seen in connective tissue disorders, it is unclear if this patient's hypergammaglobulinemia is attributed to SLE alone. Both can be treated with rituximab, cyclophosphamide, and aphaeresis, leading to improved outcomes.

Moiz Ehtesham MBBS

Shabbir, Muhammad Asim

Albany Medical College

An unusual case of Eisenmenger syndrome in an elderly male managed with epoprostenol infusion

Introduction: Eisenmenger syndrome (ES) is rarely described in elderly population due to advancement in treatment of congenital cardiac defects in recent times. Diagnosis of ES in elderly patients poses a treatment challenge as surgical intervention carries significant mortality risk. We describe a case of an elderly male with hypoxia who was found to have ES secondary to a patent foramen ovale (PFO). Our patient showed marked improvement in his hypoxia with epoprostenol therapy.

Case description: An 85-year-old male presented with a shoulder fracture after sustaining a fall. During his hospital stay he was noted to be consistently hypoxic with pulse oximetry reading of 81%. He was placed on 10 liters of nasal canula with minimal improvement in oxygenation. Of note, patient exhibited orthodeoxia â€“ Oxygen saturation decreased to 72% while he was upright. Vitals signs were otherwise stable, and patient denied dyspnea, chest pain or other cardiorespiratory symptoms. CT chest revealed dilated pulmonary artery. A transthoracic echocardiogram showed normal left ventricular ejection fraction with dilated right ventricle (RV) and trace tricuspid regurgitation. However, bubble study showed evidence of a moderate sized PFO with right-to-left shunting. A right heart catheterization revealed the following filling pressures: RV systolic pressure 80mmHg, pulmonary artery pressure (PAP) 85mmHg, wedge pressure 14mmHg and cardiac output of 4.8. Patient was deemed to have developed ES secondary to prolonged left-to-right shunt from his undiagnosed PFO. Due to his age and eisenmenger physiology he was thought to be a high risk candidate for PFO closure. Pulmonology medicine was consulted, and patient was started on epoprostenol infusion to reduce PAP and offload RV. This improved his oxygenation, and he was weaned down to 5L of nasal canula with oxygen saturation goal of >88%. Patient was subsequently discharged on sildenafil and home oxygen. He was scheduled to be followed up in pulmonary artery hypertension clinic for further epoprostenol infusions.

Discussion: Hypoxia in elderly population has a broad differential diagnosis. ES and undiagnosed PFO should be considered potential etiologies of hypoxia in these patients - especially with clinical finding of orthodeoxia. Elevated right sided cardiac pressures should be confirmed with catheterization and epoprostenol infusion may play a considerable role in select patients.

Moiz Ehtesham MBBS

Mahmood, Fatima

Shabbir, Muhammad Asim

Albany Medical College

Use of hybrid Veno-Venous-Pulmonary Artery ECMO in a patient with severe ARDS secondary to COVID-19

Introduction: Extracorporeal membrane oxygenation (ECMO) is a form of cardio-pulmonary life support used for patients with respiratory and/or cardiac failure. Hybrid ECMO is a sophisticated circuit to match the exact hemodynamic demands in patients who are refractory to traditional ECMO settings.

Case description: A 43-year-old male presented with dyspnea for four days. On physical examination, he exhibited increased work of breathing and decreased breath sounds bilaterally. Furthermore, pulse oximetry was 70% on room air, minimally improved to 75% on maximum high flow nasal canula. He was found to be COVID-19 positive and demonstrated diffuse bilateral lung consolidation on CT chest consistent with severe acute respiratory distress syndrome (ARDS). Patient was subsequently intubated but continued to show poor oxygenation with P/F ratio of 71 (Normal: >400). He was transferred to our hospital for ECMO evaluation in the setting of respiratory failure refractory to maximal ventilator therapy. Veno-Venous (VV) ECMO was started with cannulations into the right femoral vein (RFV) and right internal jugular vein (RIJV); this resulted in an initial improvement of oxygen partial pressure (pO2) in arterial blood gas samples. However, within a few days, pO2 started to decrease with visual evidence of recirculation of oxygenated blood into the venous drainage line. A transthoracic echocardiography revealed severe pulmonary artery (PA) hypertension with estimated PA pressure of 116mmHg (Normal: 18-25mmHg). This prompted a revision of the ECMO circuit to offload the right ventricle. Revised circuit included a canula in the RFV for venous drainage and oxygenated venous return through two pathways: canula in the RIJV (approximately 1 liter return), and a third canula inserted through the left subclavian vein terminating into the main PA (approximately 4 liters return). Hereon, patient was able to maintain adequate pO2 for the remainder of his hospital stay until he was transferred to a lung transplant center.

Discussion: Our case illustrates the clinical sophistication of hybrid VV-PA ECMO - especially in patients with PA hypertension and impending right-sided heart failure. As respiratory failure secondary to COVID-19 becomes more prevalent, hybrid ECMO circuits may provide a practical solution to protect the right heart in the journey to lung transplant.

Hafsa Faisal MD

Syed Ather Hussain, MD-Rochester General Hospital, Rochester, NY
Saif ur Rehman, MD-Rochester General Hospital, Rochester, NY
Zauriaz Anjum, MD-Rochester General Hospital, Rochester, NY
Charoo Iyer, MD-Rochester General Hospital, Rochester, NY

Rochester General Hospital

Hematuria and Chronic Lymphocytic Leukemia (CLL)-An unusual presentation

Introduction:

Chronic lymphocytic leukemia (CLL) is a mature B cell neoplasm, seen mostly in patients aged 55-74. CLL can rarely infiltrate solid organs. Herein, we report an unusual case of CLL involving the bladder and presenting as hematuria.

Case presentation:

A 71-year-old male with a past medical history of CLL with 13q deletion on venetoclax, autoimmune hemolytic anemia status post splenectomy, pulmonary embolism, right middle cerebral artery stroke, and atrial fibrillation on warfarin, presented to the hospital with persistent gross hematuria. CLL was first diagnosed in 2005 and had been treated with fludarabine, rituximab, bendamustine, ibrutinib, and cyclophosphamide therapy in the past. He was currently on venetoclax. Prior to admission, patient had been evaluated by urology for ongoing hematuria and urinary retention of 2-6 months duration. He had undergone cystoscopy, biopsy and fulguration of the bladder lesion 2 days prior, which revealed 1 to 2 cm area of erythema suspicious for carcinoma in situ versus inflammation.

Bloodwork on admission revealed white count 13.7, hematocrit 41, platelets 247, creatinine 0.8, LDH 207, and unremarkable liver enzymes. The abdominal US revealed a large clot in the bladder. His warfarin was held. Urology was consulted inpatient and recommended continuous irrigation of the bladder via a three-way Foley catheter. His cell counts remained stable so the decision was made to hold off on taking him to the operation theater for clot evacuation and fulguration. Later, his bladder biopsy results returned and revealed chronic lymphocytic leukemia of the bladder.

Discussion:

CLL is generally an indolent malignancy and is often diagnosed on incidental bloodwork. When symptomatic, it often presents with constitutional symptoms, lymphadenopathy, hepatosplenomegaly, or effects of bone marrow failure. Occasionally, CLL can transform into an aggressive malignancy or present with serious infections and immune dysfunction. It can have extra-nodal infiltration in 25-40% of cases, most commonly to skin. Lymphoid neoplasms of the urinary tract and male genital organs are relatively rare, comprising less than 5% of all primary extra-nodal lymphomas. Bladder infiltration is noted only in a few published case reports and patients usually present with hematuria, acute urinary obstruction, repeated urinary tract infections (UTIs), or bladder mass on imaging, often in absence of systemic symptoms.

Dysregulation of a special group of lymphocytes called tumor infiltrating cells (TILs), comprising of activated T cells, natural killer cells, and non-T and non-B lymphocytes, has been implicated in the pathogenesis of CLL infiltrating the bladder but the exact mechanism is not fully understood.

Conclusion: CLL infiltrating the bladder is a very rare diagnosis. Lower urinary tract symptoms in a patient with prior history of CLL should raise suspicion for infiltration of the bladder.

Lakshmi Gopalakrishnan Nair MD

Allison Ramsey, MD

Rochester General Hospital

Stevens- Johnson Syndrome or Mycoplasma pneumoniae- Induced Rash and Mucositis: A Diagnostic Dilemma

Introduction: Stevens- Johnson syndrome (SJS) and Mycoplasma pneumoniae- induced rash and mucositis (MIRM) both cause similar muco-cutaneous eruptions. Differences between the two include that SJS affects all ages, is more common in women, and associated with drug and infections, with a mortality rate of about 10%. MIRM affects younger patients, is more common in males, is associated with Mycoplasma infections, and has a milder course, with a mortality rate of around 3%.

Case Description: A 21 year old male, with no significant past medical history presented with mucosal erosive lesions, conjunctival injection, photophobia, esophagitis, and bullous lesion on left forearm. These symptoms were preceded by dry cough, malaise, and chest congestion. He had taken ibuprofen for headaches prior to symptom onset. An extensive infectious disease work up was undertaken, and the only positive result was strongly positive IgM antibodies to Mycoplasma pneumoniae. He was started on IV Cyclosporine for suspected SJS, and showed marked improvement in his symptoms within 1-2 days. He was discharged, after a 7 day hospital course, with instructions to avoid ibuprofen thereafter. His lesions and the associated symptoms were all noted to have resolved at his outpatient follow up visit 6 months after discharge.

Discussion: Identifying the iteology of the patient's presentation was challenging as he had two plausible explanations. Given ibuprofen usage, and strongly positive IgM antibody against Mycoplasma, SJS and MIRM were both definite possibilities. Features supporting diagnosis of MIRM were milder course of illness, male sex, and predominantly mucosal involvement. Cyclosporine has shown great efficacy in treating SJS in few previously published case reports. While there are few case reports of Cyclosporine being used in treating MIRM in children, this case report is unique in that the patient was an adult and showed excellent response to Cyclosporine.

Resident/Fellow Clinical Vignette

Lakshmi Gopalakrishnan Nair MD

Ahmed Elkhapery MD, Charoo Iyer MD, Zauraiz Anjum MD, Saifur Rehman MD, Allison Ramsey MD

Rochester General Hospital

Recurrent Abdominal Pain Heralding the Onset of a Rare Form of Lymphoma

Introduction

Acquired angioedema is a rare disorder characterized by recurrent swelling in various parts of the body, thought to be due to C1 inhibitor deficiency (qualitative or quantitative). It affects the skin, gastrointestinal tract, and upper airway, and has been associated with various lymphoproliferative (MGUS, non- Hodgkin's lymphoma) and autoimmune disorders. Splenic marginal zone lymphoma is a rare and indolent form of non- Hodgkin's lymphoma with an age standardized incidence rate of 1.76 per 1,000,000 person years. Among patients with acquired angioedema, it comprises 62.5 percent of all lymphoproliferative disorders.

Case description

A 55 year old male with past history of obesity, diabetes mellitus presented with a 3 month history of recurrent episodes of nausea, vomiting, diarrhea, lasting 6-18 hours, recurring every 2- 4 weeks, associated with cramping abdominal pain and 50 pounds of intentional weight loss since the past 4 years. He had mild thrombocytopenia at 148K on presentation. CT abdomen showed pan-colitis, splenomegaly. Colonoscopy revealed scattered areas of erythema and edema, with normal biopsies. CT angiogram was normal. Symptoms improved with antibiotics, and conservative management. He was discharged with referral to Hematology as outpatient. He has had around 20 such episodes over the span of a year, requiring several ED visits and investigations. Peripheral blood flow cytometry suggested a diagnosis of splenic marginal zone lymphoma. Bone marrow biopsy revealed low grade lymphoma. PET scan confirmed isolated spleen involvement. Around a year after the onset of symptoms, he developed one episode of angioedema of his lips, raising concern for acquired angioedema. He had low C1q complement level, C1 esterase inhibitor level and function, confirmative of acquired angioedema. He was started on abortive therapy with Icatibant. Patient continued to have recurrent abdominal episodes that were distressing and disruptive, but aborted by Icatibant. He was then started on weekly Rituximab for 4 weeks, with no further episodes after the first dose.

Discussion

In the presented case, there was a lag of 1 and 1.5 years in the diagnosis and treatment of acquired angioedema respectively. This lag resulted in significant distress to the patient, in addition to several thousands of dollars in health care expenses from several ED/urgent care visits, multiple CT scans and colonoscopies. The rarity of splenic marginal zone lymphoma, and acquired angioedema, in addition to the less frequent involvement of gastrointestinal tract may have delayed the diagnosis. In cases of recurrent unexplained episodes of nausea, vomiting, diarrhea, abdominal pain with non-specific CT findings, angioedema should be a differential diagnosis to consider.

While abortive therapy was helpful in treating individual episodes, the patient had excellent response after a single dose of Rituximab, emphasizing the significance of treating the underlying disorder in these patients.

Rachelle Hamadi MD

Margaret Drickamer MD

Staten Island University Hospital

Aging in two languages-a case of a bilingual man who developed preferential use of his primary language.

Background: Learning and using a second language is shown to have an impact on the structure and function of the brain. This includes regions involved in cognitive control, particularly the frontoparietal area, as well as the connections between them. Independent of education, there appears to be a cognitive advantage in bilingual individuals. Alzheimer's disease (AD) can affect the language center early in the disease course, namely verbal and naming fluency, but language symptoms may vary widely.

We present the case of a 73-Year-old bilingual male (English and Arabic) who presented to the clinic with progressive cognitive dysfunction. His language testing showed a gradual loss of expressive and receptive abilities in English. No testing was done in Arabic. The patient came to the United States of America at the age of 29. He was fluent in English, which was the main language he used in his work as a hairdresser. Five years ago, he showed the first sign of cognitive impairment which was anomia in English. Confrontational naming in English was impaired, he could not point to a tie, cuff, buckle, or other common items in the room, he was able to maintain his naming ability in Arabic. Over time the patient had great difficulty understanding even common nouns in English, and gradually he was no longer able to understand any English words. At the time of presentation in the geriatric clinic, he had lost some of his linguistic abilities in Arabic but could hold a simple conversation. Work up was negative except for his MRI that showed: Extensive cerebral atrophy and chronic small vessel ischemic changes with encephalomalacia involving the left MCA territory, significant asymmetry (Left atrophy > Right).

Conclusion: In bilingual individuals, regression to a primary language may be associated with development of cognitive decline. As clinicians, we need to be aware of this in our daily practice

Dr. Negin Hatami MD

Negin Hatami, Carlos Campos. Lorenzo, Brandon P. Coats, Rita Jammal, Mohammad Anwar

Saint John Episcopal Hospital

A Case Presentation of Listeria Meningitis in a Young Immunocompetent Male With Unfavorable Outcomes

Background: Listeria monocytogenes is responsible for 2% of cases of bacterial meningitis among the U.S. population. It normally affects immunocompromised patients, pregnant females, and patients on either extreme of the age. However, there have been an increasing number of reported cases where L. monocytogenes was the cause of meningitis in otherwise healthy and immunocompetent individuals. Listeria meningitis represents significant diagnostic and therapeutic dilemmas.

Case Summary: A 43 year old immunocompetent male with no significant past medical history presented to the hospital with atypical symptoms of headache, fever, and diarrhea. Later on, he developed aphasia, stuttering, and left-sided neglect. Meningitis/encephalitis was suspected, blood cultures and lumbar puncture were performed before commencing the treatment. The patient was started on cefepime, vancomycin, and dexamethasone. The CSF culture did not show the growth of L. monocytogenes however the blood cultures of the patient grew L. monocytogenes 7 days later. According to organism sensitivities, the treatment was switched to ampicillin and gentamicin. Despite the change of treatment, the patient deteriorated rapidly in the Intensive Care Unit (ICU) and was declared brain dead.

Discussion: The classical triad of fever, neck stiffness, and altered sensorium- associated with other forms of bacterial meningitis- are not necessarily present in the cases of Listeria meningitis. The initial cerebrospinal fluid examination might be unhelpful because the CSF analysis does not always give definitive clues for the causative organisms and the sensitivity of CSF analysis diminishes with the empirical use of antibiotics. The final CSF cultures might not show the growth of L. monocytogenes altogether, as in our case. Since L. monocytogenes is not considered a common cause of community-acquired meningitis, the initial antibiotic spectrum does not target it. The empirical antibiotic regimen of ceftriaxone/cefotaxime/cefepime and/or vancomycin is often ineffective for Listeria meningitis as the organism is intrinsically resistant to these antibiotics. Instead, intravenous ampicillin is needed to treat Listeria meningitis, which is usually not started until late in the disease course. Therefore, diagnostic uncertainties coupled with ineffective treatment might lead to poor outcomes for the patient. This fact is of significant concern as Listeria meningitis is a cause of significant morbidity and mortality. However, the prognosis is favorable with the timely commencement of appropriate treatment.

Recommendations: Listeria meningitis is an important yet overlooked cause of bacterial meningitis. The outcomes are often devastating and the treatment is inadequate. Perhaps, there is a need to revisit the guidelines for the management of community-acquired meningitis. We propose that the empirical treatment for community acquired pneumonia should consist of a triple antibiotic regimen containing ceftriaxone/cefotaxime/cefepime, vancomycin/gentamicin, and ampicillin. Ampicillin can later be stopped if there is no conclusive evidence of L. monocytogenes infection.

Nang San Hti Lar Seng MD

Nidhish Tiwari, MD

Robert T. Faillace, MD

Jacobi Medical Center

Diffuse alveolar hemorrhage as an unusual pulmonary manifestation of multisystem inflammatory syndrome in adults (MIS-A)

Multisystem inflammatory syndrome (MIS) is a rare, life-threatening condition that occurs 2-4 weeks after COVID-19 infection. The predominant features of MIS in children (MIS-C) are shock, cardiac dysfunction, GI symptoms, and elevated inflammatory markers. MIS is increasingly recognized in adults (MIS-A) and is often associated with extrapulmonary multiorgan failure. Here, we describe a case of MIS-A masquerading as diffuse alveolar hemorrhage (DAH).

A 33-year-old male from Jamaica with no past medical history presented to the hospital with a 1-day history of hemoptysis, nausea, vomiting, and dyspnea on exertion. He denied orthopnea, paroxysmal nocturnal dyspnea, sore throat, runny nose, diarrhea, urinary symptoms, night sweats, or recent tuberculosis contact. He had received J&J COVID vaccination approximately 4 weeks prior to presentation.

On arrival, his initial vitals were T 98.9 â„‰, HR 76, BP 90/55, and SpO2 99% on room air. Labs were notable for WBC 18.79 (3.9-10.6/nL), serum creatinine 1.5 (0.5-1.5 mg/dL), serum troponin T 0.153 (0.00-0.09 µg/L), Pro-BNP 654.5 (1.0-125.0 pg/mL). Inflammatory markers were elevated: D-dimer 25,985 (â‰¤ 230 ng/mL), CRP 165 (0-5 mg/L), LDH 1559 (100-210 U/L). Chest X-ray (CXR) showed bilateral multiple nodular infiltrates with pulmonary vascular redistribution. He was started on IV fluid for AKI and while receiving IV fluid, the patient became tachycardic to 130s and hypoxic to 58%, requiring CPAP. CT pulmonary angiogram was negative for pulmonary embolism but showed bilateral patchy nodular opacities. Echocardiogram showed LVEF 15% with diffuse LV hypokinesis and dilated LV cavity but preserved RV function. Right heart catheterization showed very low filling pressures and a low cardiac index that was responsive to IV fluid. Shortly, his respiratory and hemodynamic status deteriorated, requiring mechanical ventilation and pressor support. IV antibiotics were escalated to cefepime, vancomycin, and azithromycin.

Due to worsening of CXR and CT chest findings, bronchoscopy was done and findings were consistent with DAH. Comprehensive infectious and vasculitis workups were negative. SAR-CoV-2 PCR was negative but the spike antibody was elevated at 2469 (0.00-0.79 U/mL). The overall clinical evolution and laboratory findings were consistent with MIS-A. He was started on high-dose intravenous methylprednisolone 250 mg every 6 hours which resulted in significant improvements in oxygenation and cardiac function (repeat LVEF 55%). He was successfully extubated. IV methylprednisolone was gradually weaned off. IVIG was not given as he had developed DVT in both upper and lower extremities.

This case highlights DAH as a rare pulmonary manifestation of MIS-A. Radiographic features of DAH could mimic pulmonary infection. However, it is important to recognize DAH as an unusual presentation of MIS-A, which is highly responsive to steroid treatment.

Charoo Iyer MD

Vinaya Iyer, Ahmed Elkhapery, Saifur Rehman, Lakshmi Nair, Zauraiz Anjum, Hafsa Faisal, Zeni Kharel

Rochester General Hospital

When Puzzled, Keep a Stiff Upper Lip: A Rare Case of Stiff-Person Syndrome

Stiff-person syndrome (SPS) is a rare autoimmune neurological disorder consisting of progressive muscle spasms and rigidity due to blockade of glutamic acid decarboxylase (GAD), an enzyme involved in Central Nervous System (CNS) inhibitory pathways. It is associated with other autoimmune conditions, most commonly Type 1 diabetes mellitus.

A 48 year old female with past medical history of hypothyroidism, type 2 diabetes and left 6th cranial nerve (CN) palsy presented with progressively worsening muscle spasms over a period of 2 months. The spasms were constant and involving predominantly the right hemibody. Sometimes it involved both her lower extremities as well. She was referred to a neurologist by her primary care physician for further evaluation. Examination revealed spasm of right hemiface, mild dysarthria with neck rotated towards the right with forward flexion. Bilateral sternocleidomastoid were tense on palpation and she was unable to extend her neck voluntarily. Right upper extremity (RUE) was held in a flexed position with the right hand held in a fist. She was unable to open this fist or extend her right extremity voluntarily. Pain on light touch and pressure noted over RUE. Left upper extremity did not exhibit any spasm and had intact power. Bilateral lower extremities had intact power but did demonstrated some resistance to passive motion (mild spasm). There was grade 1 pitting edema in bilateral lower extremities. Sensation to light touch was grossly intact in all 4 extremities. Cranial nerves were also grossly intact except for aforementioned CN palsy. Ambulation was limited due to pain and spasm. At this point patient had used multiple muscle relaxants (cyclobenzaprine, tizanidine) as well as gabapentin which had provided transient relief but the etiology of her symptoms was still unclear. Differential included multifocal dystonia versus SPS. MRI brain and cervical spine was negative for any structural causes. In the meantime patient got admitted due to right hand cellulitis secondary to nail trauma from her hand being constantly held in a fist. She was treated with antibiotics for the cellulitis. MRI thoracic and lumbar spine, EEG were negative. CT chest, abdomen and pelvis was negative for neoplastic process. Lumbar puncture was done with CSF autoimmune panel negative. Autoimmune workup (ANA, ANCA, anti-SSA &SSB, Rheumatoid factor, CK) resulted negative but ESR & CRP were elevated at 56mmol/hour and 41.6mg/L respectively. Eventually, Anti-GAD lab test returned positive at 2871nmol/L establishing diagnosis of SPS. She was treated with 5 days of Intravenous Immunoglobulins. Gabapentin was stopped due to concern of myoclonus as side effect and baclofen was added.

This case report serves to highlight the typical presentation and work up of a fairly rare condition. Although uncommon, it is important to entertain the possibility of this diagnosis in the right clinical setting.

Gavro Jelic MD

Vishal Reddy Bejugam, MD

Gregory Hoge, MD

North Central Bronx Hospital/ Jacobi Medical Center

Purpuric Rash in an Adult Patient after Apixaban Use

Introduction: Henoch-Schonlein purpura (HSP) is a small vessel leukocytoclastic vasculitis (LCV) associated with the deposition of immunoglobulin A within the vessel walls. The classic presentation is a tetrad of palpable purpura, arthritis, abdominal pain, and nephritis. It is primarily a childhood disease that occurs between the ages of 3 -15, however, 10% occurs in the adult population. Adult-onset is characterized by rare intussusception and an increased risk of developing significant kidney disease. The mild disease resolves spontaneously and symptomatic treatment alone is sufficient. Systemic steroids are recommended for moderate to severe HSP.

Case presentation: A 46-year-old male with a history of psoriasis, unprovoked DVT treated with Apixaban for 1-month, venous insufficiency, and a chronic lower extremity skin ulcer presented to the ED with 4 days of purpura and profound bilateral leg pain that impeded ambulation. The patient had recently undergone foam sclerotherapy for chronic ulceration of the left leg. The purpuric rash appeared first on the thighs and then spread to the calves and hands. The patient denied recent illness, no new changes in medications (except for Apixaban for DVT), and denied recent fever, chills, abdominal pain, hematuria, or hematochezia. Laboratory values showed the following: Hgb 14.2g/dl, WBC 8.6k/cmm, platelet 491k/cmm, Cr 1.2mg/dl (unknown baseline) CRP 47.5Î¼g/mL, LDH 222units/L, fibrinogen 491mg/dl. Interestingly, the patient did not have abdominal pain but his kidney function was slightly impaired. The differential diagnoses of palpable purpura can include a leukocytoclastic, infectious (streptococcus, HepB, and HepC), or autoimmune (ANCA, PAN) vasculitis. The initial workup for an infectious or autoimmune cause of the disease (especially antibodies for ASO, ANO, ANCA, C3) was negative. Serum IgA-425, however, was mildly elevated and punch biopsy was consistent with LCV with IgA deposits and thrombi. The patient was started on a steroid tapper for one month with significant improvement, although without complete resolution (consistent with prior studies). The patient continued with outpatient follow-up with the rheumatology and dermatology services with improvement.

Discussion: Palpable purpuric papules in adults can have a broad etiological differential, including vasculitis from infectious or autoimmune causes. The majority of HSP cases (90%) present in children under age 10. Thus, while rare in adults, characteristic skin manifestations require a high level of suspicion. Diagnosis is usually based upon clinical manifestations of the disease, however, in patients with vague presentations, a biopsy of the affected organ showing predominantly IgA deposition supports the diagnosis of HSP. A moderate and severe form of disease demands steroid therapy that leads to significant cutaneous lesion improvement.

Conclusion: Differential diagnosis in patients with palpable purpuric papules should always include LCV, independent of age at presentation. In this patient with unclear causes of vasculitis, apixaban may be precipitating factor.

Faris Kamal MD

Isha Shrimanker MBBS

Internal Medicine Resident

Cayuga Medical Center, Ithaca, New York

Cayuga Medical Center

ICTAL ASYSTOLE WITH AUTO-IMMUNE ENCEPHALITIS

INTRODUCTION:

Epileptic seizures are well known to cause changes in heart rate. The main cardiac arrhythmia reported with ictal activity is transient sinus tachycardia (1) without permanent cardiac consequences. Rarely, Ictal bradycardia or asystole have been reported. We present here a middle-aged man with ictal asystole found to have auto-immune encephalitis.

CASE PRESENTATION:

This is a 59-year-old male with no reported history of seizures who was brought by Emergency Medical Services for possible seizures. Patient was found by a co-worker on the floor unresponsive, lying on his face, then started shaking. Patient reports a feeling Déjà vu and then no recollection of subsequent events. His physical exam was pertinent for labile heart rate (HR) ranging between 30 to 80 beats per minute and periorbital rash and petechiae. Patient underwent lumbar puncture that showed glucose of 75 mg/dL, total protein of 54 mg/dL (high) and 16 white blood cells/µL in the cerebrospinal fluid. Patient was started on Keppra. MRI of the brain was negative for structural deformities. Solumedrol was added to patient's regimen for suspicion of autoimmune etiology. Patient had another seizure and unwitnessed fall with telemetry showing bradycardia. Depakote was added to regimen and patient was transferred to ICU where he had multiple short seizures with bradycardia (HR 30 to 40 bmp) with two episodes of asystole total during admission, one of which lasting 7 seconds. Patient was started on Dobutamine drip. Patient was transferred for continuous EEG monitoring and diagnosed with Ictal Bradycardia. EEG showed single right side temporal seizure with bradycardia (heart rate as low as in the twenties beats per minute). Subsequently, serum and CSF studies came back positive for CASPR2 antibodies confirming autoimmune encephalitis diagnosis. As a result, Rituximab was added to regimen. Patient underwent pacemaker insertion due to the ictal bradycardia/asystole.

DISUCSSION:

Rate of ictal systole has been reported to be as low as 0.15% (2). The rate of progression of ictal asystole to sudden unexpected death in epilepsy (SUDEP) has not yet been determined but cardiac arrests have been reported with seizures (3).

CONCLUSION:

There is not a clear consensus about the management of ictal asystole. In our patient, etiology is believed to be autoimmune and has benefited from Rituximab as a result. Also anti-epileptic drugs and pacemaker insertion have been successful.

(1) https://n.neurology.org/content/58/4/636

(2) https://n.neurology.org/content/69/5/434

(3) https://www.ahajournals.org/doi/10.1161/CIRCEP.113.000544

Ansu Karki MD

Uchit Thapa, MBBS

Harshith Thyagaturu, MBBS

Jimmy Wang, MD

Bassett Medical Center

Trends of complications associated with Pulmonary Artery Catheter insertion in the United States

TRENDS OF COMPLICATIONS ASSOCIATED WITH PULMONARY ARTERY CATHETER INSERTION IN THE UNITED STATES: 2016 to 2019

BACKGROUND: Pulmonary artery catheter (PAC) is used to measure cardiac output, right and left heart pressures in critically ill patients to guide the therapy since the 1970s. As the newer non-invasive diagnostic modalities like echocardiography became more available in the 1990 to 2000s, PAC use declined. Recent literature has suggested that hemodynamic monitoring via PAC use has been associated with improved survival in cardiogenic shock patients. The recent critical care guidelines and expert consensus recommend including ultrasound-guided insertion of these catheters to decrease complications. However, there is no data to evaluate if the rates of complications are changing. Hence to explore this knowledge gap, we used National Inpatient Sample (NIS) database to identify PAC use from 2016 to 2019.

METHODS: We analyzed the 2016-2019 NIS database to identify PAC insertion using the appropriate ICD-10-PCS code. We identified post-procedural pneumothorax, arrhythmias, embolic stroke, infective endocarditis, right bundle branch block (RBBB), and cardiac tamponade amongst the PAC group using appropriate ICD-10-CM codes. Stata 17.0 software was used to perform statistical analyses.

RESULTS: We identified a total of 135,479 PAC insertions across 4 years. There is a small but steady increase in the incidence of arrhythmias (52.2% to 54.2%) and cardiac tamponade (1.1% to 1.4%) from 2016 to 2019 in patients with PAC insertions. In contrast, the proportion of complications such as RBBB, infective endocarditis, embolic stroke, and post-procedural pneumothorax appears to be the same across the studied years. The number and proportion of RBBB from 2016 to 2019 were 660 (2.3%), 719 (2.1%), 955 (2.6%), and 994 (2.5%) respectively. The number and proportion of infective endocarditis from 2016 to 2019 were 369 (1.3%), 504 (1.5%), 585 (1.6%), and 625 (1.6%), respectively. The number and proportion of post-procedural pneumothorax from 2016 to 2019 were 250 (0.8%), 365 (1.1%), 290 (0.7%), and 315 (0.8%), respectively.

CONCLUSION: Our study reports contemporary data for the prevalence of PAC use in the US healthcare system. From 2016 to 2019, PAC use in the US has been increasing. Our analysis showed that the rate of complications was small but a steady increase, especially for arrhythmia and cardiac tamponade. Even though ultrasound is being widely used to guide the insertions of PACs, procedural complications like pneumothorax appear to be stable across 4 years. One of the major limitations of this study is that it's based on an administrative database and is heavily dependent on appropriate coding by the hospitals. But given the financial incentive for the hospitals behind these procedures, it is fair to assume that the coding is appropriate.

Frida Kassim MD

Doreen Mensah M.D.1

1. Department of Medicine, Mount Sinai Morningside and Mount Sinai West, Icahn School of Medicine at Mount Sinai, New York, NY, USA

Mount Sinai West and Mount Sinai Morningside

GROSS HEMATURIA AND A HEART MURMUR: WHAT'S THE CONNECTION?

Background

We present a case of symptomatic anemia secondary to intravascular hemolysis evidenced by unconjugated hyperbilirubinemia, increased LDH, undetectable haptoglobin, and negative Coombs test in a patient with recent cardiac valve surgery. Gross hematuria may be the first symptom that patients become aware of and should prompt additional workup by the clinician.

Case

A 70-year-old female with hypertension and surgical bioprosthetic aortic valve replacement for severe stenosis of bicuspid aortic valve as well as mitral valve annuloplasty five months ago presents complaining of intermittent gross hematuria for the last two months. This was accompanied by some urgency and burning on urination. Upon further questioning, she endorsed worsening exertional dyspnea and having to stop after three blocks. She was not on anticoagulants or antiplatelet agents and denied other sources of bleeding. On exam, she appeared pale, had a 4/6 holosystolic murmur loudest at the apex, and had mild bilateral lower extremity swelling. Blood work revealed a hemoglobin of 6.1 g/dL, MCV of 83 fL, undetectable haptoglobin, LDH of 1956 U/L, total bilirubin of 3.1 mg/dL, indirect bilirubin of 2.3 mg/dL, reticulocyte count of 7.4%, Coombs was negative, iron studies and B12 within normal limits. The blood smear revealed normochromic normocytic red blood cells, marked polychromasia and schistocytes. These labs were consistent with Coombs negative hemolytic anemia. Urinalysis was positive for large blood but no red blood cells, consistent with hemoglobinuria. Urine culture was negative. The echocardiogram showed severe mitral regurgitation and a normal aortic valve with an ejection fraction of 65%. She received six transfusions, folic acid, iron supplementation and erythropoietin injections. Due to the ongoing need for blood transfusions and continued hematuria, she was evaluated by cardiothoracic surgery and was taken for urgent mitral valve replacement. Following the surgery, her urine finally cleared and she no longer required transfusions. Her dyspnea and lower extremity edema improved with short duration low-dose diuresis.

Discussion

Anemia that develops after valve replacement or repair should raise suspicion of a causal relationship between the cardiac prosthesis and hemolysis. Hematuria can be the first presenting symptom of this process and should be investigated further. History taking and physical exam remain the cornerstones of making the diagnosis.

Hemolytic anemia is a well-recognized complication of aortic or mitral valve replacement, which results from erythrocyte fragmentation by the prostatic valve. In contrast, hemolytic anemia following mitral valve repair is uncommon and not well-described. Several mechanisms have been proposed for this, including dehisced annuloplasty ring producing regurgitant jets, protruding suture material that circulating erythrocytes collide with, and non-endothelialization of foreign material such as sutures or rings.

Supportive measures other than blood transfusions include folic acid, iron and erythropoietin to help optimize erythropoiesis. Beta-blockers are also used to reduce shear forces.

Sualeha Khalid MD

Sualeha Khalid MBBS1, Emily Acker BA2, Mihir Raval MD3, Ananthakrishnan Ramani MD2

Albany Medical Center 1Department of Medicine, 2Division of Infectious Diseases, 3New York Oncology and Hematology

Albany Medical Center

MAXILLARY SINUSITIS DUE TO SCEDOSPORIUM APIOSPERMUM IN A PATIENT WITH AML SUCCESSFULLY TREATED WITH SURGERY AND VORICONAZOLE

Introduction

Scedosporium apiospermum, a non-aspergillus filamentous fungus, is a rare pathogen that has been increasingly identified as the cause of death in immunocompromised patients. Owing mainly to the pathogen's multi-drug resistance nature, it creates a significant treatment challenge and hence is associated with high mortality rates of up to 90%. Here, we present a case of invasive S. apiospermum maxillary sinusitis in an immunocompromised male with acute myeloid leukemia, successfully treated with surgery and voriconazole.

Case

77-year-old male with acute myeloid leukemia (AML) with t (8;21) and FLT3 ITD mutation presented for salvage chemotherapy due to relapsed AML. The patient was originally diagnosed with AML 2 years before this presentation and achieved complete remission after treatment and his remission lasted for 22 months with continued treatment before relapse was noted.

After admission, patient was started on chemotherapy and on day 8 of his admission developed neutropenic fever of 103F with blood cultures growing ESBL E. coli. He was started on meropenem with no growth on repeat cultures. However, he continued to have fevers and on day 13 complained of sinus congestion and facial pain. He underwent a CT scan with findings consistent with chronic sinusitis. At this time patient was started on Isavuconazonium sulfate prophylactically but eventually developed worsening left sided facial pain and on exam was found to have left maxillary swelling and facial cellulitis. CT maxillo-facial was done on day 19 which was concerning for invasive maxillary sinusitis. He underwent functional endoscopic sinus surgery on day 21. The left maxillary sinus culture grew a filamentous fungus. With suspicion for aspergillus, Isavuconazonium was continued and micafungin added for dual antifungal therapy. However, on day 27 he had no improvement and continued to have fevers, prompting discontinuation of dual therapy and initiation of voriconazole. It was initially started as IV therapy and quickly transitioned to oral route. He was noted to have marked improvement in facial swelling, tenderness, and fevers resolved on 9 days of voriconazole. The organism was later identified as Scedosporium apiospermum on day 41 with sensitivities to Amphotericin B, Itraconazole, Posaconazole, and Voriconazole. He responded well to continued therapy with voriconazole.

Discussion

Scedosporium apiospermum may cause severe, often disseminated infections in immunocompromised patients. It is, however, difficult to diagnose and treat. The differentiating factors between Scedosporium and other fungi are often not present on histological samples posing a significant diagnostic challenge. It also confers resistance to many antifungal medications- voriconazole is considered the first line treatment due to its fungicidal property against Scedosporium. However, adjunctive treatment with surgical debridement, when possible, should also be pursued to increase the chances of successful treatment as in our patient.

Suhali Kundu MD

Sanwal Mehta, Mo Mai, Nyein Chann Wai Lynn, Yizhak Kupfer

Maimonides Medical Center

COVID-19 Pneumonia Reactivating Tuberculosis

Introduction:

SARS-CoV-2 (COVID-19) is a new pathogen that has greatly affected world populations. This virus has been added to the family of respiratory pathogens that spread quickly and aggressively through the host organism. Within the family of respiratory pathogens with a global impact, Tuberculosis (TB) continues to be the leading cause of death from a single infectious organism. Since April 2020, the SARS-CoV-2 virus has caused daily worldwide deaths numbers matching and surpassing TB. We present a case of reactivation of latent TB in the setting of COVID-19 pneumonia.

Case:

A 74-year-old Han Chinese female who emigrated from Vietnam with a past medical history of hypertension, diabetes mellitus and gout. She presented to the Emergency Department in December 2020 with cough and shortness of breath for one day. She was febrile and hypoxemic with an oxygen saturation of 88% on room air. She had a positive COVID PCR and IgG as well as raised inflammatory markers consistent with clinically acute COVID-19 pneumonia. She was placed on high dose corticosteroids, Remdesivir, and anticoagulation for the treatment. She continued to show worsening respiratory status, requiring escalation of oxygen therapy from nasal cannula to high flow nasal cannula (HFNC). She had two cardiac arrests fourteen days after admission due to hypoxic respiratory failure while on HFNC requiring intubation. CT scan of the chest showed a new cavitary lesion in the right upper lobe, concerning for malignancy or tuberculosis. Multiple follow up MTB PCR and AFB smears were positive; she was placed on rifampin, isoniazid, pyrazinamide, and ethambutol (RIPE) for treatment. She was extubated five days after intubation and placed on HFNC. She was weaned off oxygen prior to discharge and continued on RIPE therapy for nine months.

Discussion:

This case highlights that reactivation of TB has occurred with COVID-19 infection and to draw attention to the importance of possibly testing patients with COVID-19 infection who have risk factors for TB including patients coming from TB endemic regions. The immune dysregulation and additional immunosuppressive medications used to mitigate the clinical course of COVID-19 pneumonia may lead to TB reactivation or worsen the clinical outcome if co-infection occurs. If patients with COVID-19 are following an unusual respiratory course and have risk factors for TB, consideration should be given to the possibility of TB reactivation.

Tiffany Lu

Kevin Clements, KC Janga

Maimonides Medical Center

A Rare Presentation of a Common Disease: Syphilis Induced Nephrotic Syndrome

Introduction:

Syphilis has been widely studied throughout history, with the first well-recorded outbreak documented as early as 1495. It continues to be a nationally notifiable disease within the United States, however, its ubiquity has declined since the introduction of effective therapy in the 1940s. As of 2021, the CDC estimates a prevalence of 156,000 cases in patients aged 14 years and older. The rarity of cases compared to other sexually transmitted infections, as well as its stages and numerous clinical manifestations can obscure its diagnosis and lead to delayed treatment. Syphilis is classified into primary, secondary, and tertiary stages, with each stage having unique, identifying manifestations in various organ systems. We report a case of a 51-year-old male who presented to our primary care office with weight gain and arthralgia. He was ultimately diagnosed with nephrotic syndrome as a complication of secondary syphilis.

Case Report:

51-year-old male with no significant past medical history or medication use presented to our primary care office for evaluation of a 2-month history of weight gain and lower extremity edema extending up to the waist. Associated symptoms included neck and tongue swelling and joint pain. Workup for cardiac, rheumatologic and infectious etiologies were negative except for positive treponemal antibodies, and a reactive rapid plasma reagin (RPR) 1:128 (ref <1:1). Further investigation revealed he regularly engaged in same sex intercourse with inconsistent barrier protection use. The patient was also found to have hypertension, and the following lab abnormalities: LDL 187 mg/dl (ref 40-100mg/dl), total protein/Cr ratio 6.59 (ref negative), total urine protein 1043 mg/dl (ref 6.0-10.0 mg/dl). Renal ultrasound demonstrated bilateral echogenic kidneys. He was promptly started on a 3-dose course of intramuscular Penicillin G benzathine and partner education was provided. Within 1 month of therapy initiation, the patient had resolution of his lower extremity edema and normalization of laboratory values as follows; LDL 73 mg/dl, total urine protein/Cr ratio 0.51, total urine protein 49 mg/dl.

Discussion:

Oftentimes, the physical manifestations of early-stage syphilis go unnoticed, allowing for disease progression. Secondary syphilis has been associated with proteinuria and in untreated cases can advance to chronic kidney injury. Appropriate treatment results in improvement of nephrotic syndrome, as was seen in our patient. Although secondary syphilis is more commonly associated with membranous glomerulonephritis, the rapid resolution of this patient's symptoms upon completion of therapy may be more consistent with minimal change disease. Definitively diagnosing the type of nephropathy would require a renal biopsy, which was not done due to his clinical improvement. This case illustrates the feasibility of effectively treating syphilis-induced nephropathy in an outpatient setting and underscores the importance of maintaining syphilis as a working diagnosis to prevent delays in therapy.

Sanjay Maheshwari MBBS

Pranay Siriya, Syed Mohammad Mazhar Uddin, Bala Pushparaji, Arafat Ali Farooqui, Nikhil Cordeiro, Shaurya Sharma.

Maimonides Medical Center

Right Atrial Myxoma causing syncope: A rarity missed on Transthoracic Echocardiogram.

Introduction: Primary intra-cardiac tumors are quite rare, comprising a mere 5% of all cardiac tumors, with myxomas being the most common pathologic type. Right atrial myxomas (RAM) account for 15% to 20% of all cardiac myxomas, are primarily found attached to the interatrial septum, and are mostly asymptomatic. Syncope due to RAM is rarely seen in patients without structural heart disease.

Case presentation: A 73-year-old woman with a history of hypertension, hyperlipidemia, type II diabetes mellitus, and hiatal hernia presented to our hospital after two syncopal events when using a commode in the span of a week. In both instances, the patient had an unwitnessed fall and was down for approximately two minutes before regaining consciousness. She did not endorse diaphoresis, lightheadedness, vision changes, chest pain, dyspnea, auditory or visual aura preceding either syncopal event; she also denied urinary or bowel incontinence or tongue-biting. However, she did report developing palpitations and chest pain after regaining consciousness. Chest pain was described as right-sided, dull, non-radiating, and 3/10 intensity with no aggravating or relieving factors. Her vitals on admission were stable, with unrevealing orthostatic blood pressures. Labs were non-contributary, and the CT head showed no intracranial pathology. The ECG showed normal sinus rhythm and telemetry did not reveal any arrhythmias. A chest CT was performed for hiatal hernia, which revealed a hyperdense mass consistent with a foreign body or catheter in the right atrium that was not well visualized on the transthoracic echocardiogram (TTE). A transesophageal echocardiogram (TEE) was subsequently performed and revealed a 2.5 cm hyperechoic mobile mass in the right atrium, attached to fossa ovalis, without evidence of flow obstructionâ€”likely an atrial myxoma. Cardiothoracic surgery was consulted, but given the relatively asymptomatic nature of the condition and the patient's advanced age, a wait and watch approach was preferred. The patient remained hemodynamically stable during her hospital stay with no further episodes of syncopal attacks, with the resolution of chest pain, and was discharged with outpatient follow-up.

Discussion: Although commonly asymptomatic, RAM can present with right heart failure secondary to right ventricular outflow tract obstruction, syncopal events caused by temporary obstruction of the tricuspid valve, or embolization to the pulmonary artery on detachment or fragmentation. TEE is the best imaging modality for the detection of an atrial mass, with surgical excision being the treatment of choice for symptomatic patients. It is important to distinguish a myxoma from a thrombus due to differences in intervention â€“ anticoagulation or surgery. CT and echocardiography help differentiate the two by location and density of the lesion.

Conclusion: Right atrial myxomas are rare, and syncope is an uncommon but possible presenting symptom. Right-sided cardiac tumors are often missed on TTE, thus making TEE a superior choice.

Fatima Mahmood MBBS

Moiz Ehtesham, M.D., Ruben A. Peredo-Wende, M.D.

Albany Medical Center

Role of Novel Autoantibodies in Diagnosis of Atypical Manifestations of Sjögren's Syndrome: A Case Series

Background:

American College of Rheumatology/European League against Rheumatism (ACR/EULAR) classification criteria for primary Sjögren's Syndrome (SS) 2016 is a milestone in identifying patients with SS, however, the disease often remains undiagnosed due to atypical presentations and negative serology. Novel autoantibodies against SS, including anti-salivary protein (anti-SP1), anti-carbonic anhydrase-VI (anti-CA6) and anti-parotid secretory protein (anti-PSP), are a promising serology-set to help identify the disease in the absence of anti-SSA/Ro antibodies, especially in the early stage of disease.

Methodology:

We performed a retrospective analysis involving six patients with negative anti-SSA/Ra and anti-SSB/La levels, diagnosis of SS was established in the patients based on presence of anti-SP1, anti-CA6 or anti-PSP levels. Patients were evaluated based on symptoms upon initial presentation, previous serology testing, imaging, treatments, and response to SS targeted therapy.

Results:

We identified six patients from Rheumatology clinic at a tertiary care hospital, 1) 74-years-old female referred for management of interstitial lung disease, arthralgia, elevated ANA and Rheumatoid factor, refractory to rheumatoid arthritis (RA) treatment. Work-up was positive for anti-CA6 antibodies and symptoms improved with initiation of mycophenolate mofetil; 2) 74-years-old female presented with giant-cell arteritis (GCA) involving aortic arch, elevated ESR, CRP, sicca symptoms and weakly positive anti-CCP levels. Positive anti-SP1 supported diagnosis of SS, symptoms improved with concurrent GCA and SS therapy 3) 64-years-old male seen with hilar adenopathy, parotid gland swelling, fatigue and myalgia, with repeated negative biopsy findings for sarcoidosis, diagnosed with SS based on positive anti-CA6 and anti-PSP antibodies, further confirmed with lip biopsy. Treatment of SS led to improvement of symptoms; 4) 30-years-old female with endometriosis referred for aortic bifurcation vasculitis, recurrent oral ulcers and arthralgia, diagnosed with SS based on positive anti-SP1 levels; 5) 60-years-old female with granulomatous interstitial nephritis, chronic lymphocytic leukemia and fatigue, diagnosed with SS in the presence of anti-CA6 IgM levels, 6) 39-years-old female with amyopathic dermatomyositis referred for persistent myalgia and joint stiffness. Workup showed positive anti-SP1 IgM and symptoms improved with SS treatment.

Conclusion:

Novel autoantibodies against SS have been studied through animal models and also used to evaluate patients presenting with predominantly dry eyes in the absence of anti-SSA and anti-SSB levels. Overall, literature suggests that these markers are more accurate signals of SS compared to traditional markers.

We have summarized six cases involving patients presenting with atypical extra-glandular manifestation of SS. Presence of novel autoantibodies helped to confirm the challenging diagnosis and initiation of targeted SS treatment led to prevention of morbidity and mortality in all the patients.
We recommend further large-scale trials to implement routine use of these markers in diagnosis and management of SS.

Muhammad Ahmed Malik MD

Nicole Hunter MD, Suman Biswas MD, Sarath Lal Mannumbeth Renjithlal MD, Saifur Rehman MD, Zauraiz Anjum MD, Mohammad Jawish MD

Rochester Regional Health/Unity Hospital

A Case Of Legionnaires' Disease Manifesting As Heat Exhaustion

Introduction:

Legionnaires' disease ranges from mild to severe pneumonia. Legionella species are usually acquired from contaminated water sources and soil, mainly in summer and early fall. Common clinical features that raise the suspicion for Legionnaires' disease are gastrointestinal manifestations, hyponatremia, and transaminitis. We present a case of Legionnaires' disease manifesting in a patient with heat exhaustion.

Case:

A 69-year-old with a history of bipolar disorder and hypertension presented to the emergency department in July with a 1-week history of malaise, fatigue, diarrhea, and dehydration. He was a farmer by profession and usually experienced these symptoms while working outside during the summertime each year. This time, he also attributed his symptoms to dehydration and heat exhaustion. Admission labs were significant for hypokalemia, hyponatremia, mild transaminitis, and elevated creatinine. He was started on aggressive IV hydration and electrolyte repletion. After a few hours, the patient became febrile and reported mild shortness of breath. Chest x-ray demonstrated possible right perihilar opacity. Due to a combination of possible pneumonia, hyponatremia, and transaminitis on admission labs, Legionella urine antigen was ordered and surprisingly came back positive. He was initially treated with broad-spectrum antibiotic therapy which was deescalated to levofloxacin after positive Legionella results. Within 48 hours the patient's diarrhea subsided and transaminitis resolved. He was cleared by physical therapy and discharged on a 10-day course of levofloxacin. He remained well post-discharge.

Discussion:

Legionella infections commonly occur as outbreaks in the summer and fall seasons. The symptoms of Legionnaires' disease are very non-specific ranging from pneumonia to severe gastrointestinal and electrolyte abnormalities. It should also be considered in patients with pneumonia who are not responding to standard beta-lactam monotherapy. Early diagnosis with PCR or urine Legionella antigen and treatment with macrolides or fluoroquinolones is associated with improved outcomes and decreased mortality. In this case, timely diagnosis and treatment lead to symptoms resolution within 48 hours.

Marina Matta MD

Vaish Sekar, MD, David Yaich, DO.

NYU Langone Hospital Long Island

POLYARTHRITIS AND PANCREATIC PANNICULTITIS ASSOCIATED WITH PANCREATIC ACINAR CELL CARCINOMA RECURRENCE

â€œPancreatitis-Panniculitis-Polyarthritis-syndromeâ€ or PPP-syndrome is an extremely rare syndrome reported in the literature in association with acute and chronic pancreatitis as well as pancreatic carcinoma, more commonly acinar cell carcinoma (ACC).

We present the case of a 55-year-old man diagnosed with stage IIB acinar cell carcinoma of the pancreas in 1/2020, and underwent distal pancreatectomy, splenectomy, and partial colectomy in addition to adjuvant chemotherapy. He developed type II DM post-surgery, declined further chemotherapy or radiotherapy, and was lost to follow up for a year.

He was admitted to our hospital in 11/2021 with acute onset pain and erythema initially involving left index finger and progressed to involve right fifth digit with no history of trauma. Physical examination revealed erythema and tense swelling of proximal left second phalanx, proximal fifth phalanx as well as multiple small red tender nodules over anterior shin. Laboratory analysis showed normal leukocyte count, elevated ESR (99 mm/h), CRP (91 mg/dL) and HBA1C 13.3%. MRI of both hands revealed diffuse marrow edema with subtle periostitis suggestive of acute osteomyelitis, hence he was started on antibiotics. His lower extremity nodules thought to be erythema nodosum in the setting of infection. The clinical presentation was not certainly attributed to an infectious etiology as our patient was afebrile, with normal leukocyte count and negative blood cultures, however, he showed clinical improvement on antibiotics and was discharged on a prolonged course of ceftriaxone for osteomyelitis in the setting of poorly controlled DM.

Following his discharge, fingers swelling significantly improved and lower extremity nodules have almost resolved, however he started to experience pain and swelling of the D.I.P. of left 4th toe. He was then readmitted with disabling pain in his right knee. Physical examination revealed swelling, erythema of the right knee and a tender subcutaneous nodule on the right shin. Laboratory analysis was significant for ESR (>130mm/hr), CRP (155mg/dL) and leukocytosis 16.700 cells/µL with 14% eosinophils. Arthrocentesis of right knee was performed, and septic arthritis was ruled out and he was started on steroids. MRI of right knee revealed moderate effusion. Clinical presentation including polyarthritis, panniculitis, and history of pancreatic acinar cell carcinoma was highly suggestive of PPP syndrome, hence imaging from prior admission reviewed and findings were consistent with medullary fat necrosis (associated with pancreatic panniculitis) rather than osteomyelitis. Lipase was >6000U/L which is known to be associated with progression of ACC. CT imaging of the abdomen revealed multiple heterogeneous tumoral foci in liver, abdominal and pelvic metastatic disease. Recurrence of pancreatic ACC was confirmed by biopsy.

This case illustrates that recognition of this rare syndrome can help physicians diagnose pancreatic disorders especially pancreatic carcinoma in a timely fashion which can be challenging in the absence of abdominal symptoms.

Marina Matta MD

David Yaich, DO, Jonathan Weltz, DO, Jonathan Shulman, DO

NYU Langone Hospital Long Island

MACROPHAGE ACTIVATION SYNDROME IN AN ADULT PATIENT WITH FAMILIAL MEDITERRANEAN FEVER

HLH (Hemophagocytic Lympho-histiocytosis) is a rare and life-threatening syndrome caused by excessive immune activation and massive cytokine release, triggered by genetic or acquired over activation of macrophages, T cells and NK cells leading to multi-organ failure and death. MAS (Macrophage Activation Syndrome) is a subset of HLH associated with rheumatologic conditions.

We present the case of a 47 year-old man with past medical history of psoriasis, hypertension, presumed Familial Mediterranean Fever (his two siblings' diagnosis confirmed by genetic testing), admitted to our hospital with 3 weeks of high-grade fever, weight loss, myalgia, mild lower abdominal discomfort, and dysuria. He was diagnosed with urinary tract infection and started on short course of antibiotics prior to admission, however symptoms recurred after initial improvement. He was febrile and tachycardic. Clinical examination revealed macular rash on chest, abdomen and back. Laboratory analysis revealed leukopenia WBCs 1.6 cells/µL, Normocytic Anemia Hemoglobin 12.6mg/dL, Thrombocytopenia platelets 6600, Haptoglobin 274 mg/dL, LDH 876, Ferritin 21.383, Creatinine 3.85, Transaminitis AST 431U/L, ALT 413 U/L, ALP 246, Total Bilirubin 1.6mg/dL, Direct bilirubin 1.3mg/dL, Lactate 1.3, ESR 11mm/hr, CRP 111 mg/dL, TGs 194, Ferritin 21.383, D dimer > 53.000 and no schistocytes on peripheral blood smear. CTAP remarkable for GB wall thickening and pericholecystic fluid, splenomegaly, mesenteric and retroperitoneal LAD. Differential included sepsis, malignancy, DRESS, adult-onset Still's disease, MAHA. MAS was considered due to severely elevated acute phase reactants and presumed history of FMF. Patient met 4/8 of HLH 2004 diagnostic criteria and he was started empirically on Decadron 10mg/m2 per HLH protocol. Bone marrow biopsy demonstrated normocellular bone marrow and focal hemophagocytosis, however this finding is not specific for MAS. An extensive workup excluded malignancies, systemic infections including EBV, CMV, HIV, Hepatitis, COVID and immunodeficiencies. Fever subsided, acute phase reactants significantly decreased, cell counts, and renal function improved on Decadron. Patient was also started on Colchicine. Low Natural Killer cell activity and elevated IL 2 receptor (soluble CD25) 27293 resulted few days later, confirming the diagnosis of MAS. Patient was discharged after a week on steroid taper and colchicine. MAS is favored by the pro-inflammatory cytokine milieu characterizing auto-inflammatory diseases and has been reported in patients with history of auto-inflammatory diseases and only in very few cases of children with FMF. Given that primary HLH is extremely rare in adults, and extensive workup excluded malignancies, systemic infections and immunodeficiencies, MAS in our patient was attributed to underlying FMF which led to prompt treatment with steroids. MAS is a challenging diagnosis in adults as it can mimic sepsis, liver disease, autoimmune conditions, leukemia, lymphoma, MAHA and systemic vasculitis. Increased awareness of HLH/MAS signs and symptoms is crucial among physicians for early diagnosis and treatment.

Resident/Fellow Clinical Vignette

Jocelyn McCullough DO

Manal Ahmad

Idy Tam

Reid Portnoy

Joseph Ng

Zachary Kuschner

Alan Kaell

Mather Hospital

POSSIBLE POSTERIOR REVERSIBLE ENCEPHALOPATHY SYNDROME(PRES) 24 HOURS FOLLOWING MODERNA M-RNA BOOSTER VACCINATION: HYPERTENSION VS VAERS?

A 76-year-old female presented to our ED with acute onset confusion, unsteady gait and blurry vision within 24 hours after receiving the m-RNA Moderna booster vaccine. Medical history: notable for uncomplicated hypertension on metoprolol, alcohol use disorder without complications, and recent shingles limited to dermatome L1, resolving on prompt famvir. She was awake, oriented intermittently x 3, with periods of confusion, blurry vision and intermittent unsteady gait and normal speech. Neuro exam: negative without any focal motor sensory or cerebellar deficits, normal gait, EOMs full, with normal fundi and corrective acuity. BP=192/80 mmHg bilaterally. Labs: Ethyl alcohol level <10mg/dL, calcium 13.5mg/dL [nl< 10.3mg/dL], Vitamin D 25-OH 200ng/mL [uln<50ng/ml]. PTH and Parathyroid related peptide-normal. Hypertension was managed with home dose of metoprolol succinate 150mg/day and hypercalcemia improved with IV fluids. On Day 3 the patient was found lying in bed unresponsive to sternal rub with motor twitching of left arm, seizure-like activity. Transfer to ICU for BP =185/104mmHg, T = 100.8 F, airway protection and treatment with diazepam. Empirical antibiotics with vancomycin, ampicillin, and acyclovir for presumed central nervous system (CNS) bacterial and viral encephalitis were initiated. EEG demonstrated seizure foci in bilateral posterior quadrants. Lumbar puncture showed normal opening pressure, with a normal cell count of 1/ mm3 and glucose of 70mg/dL[nl< 80mg/dL] but elevated total protein = 95.9 mg/dl [nl < 60mg/dL], CSF fluid viral PCR/culture was negative for: HSV1/2, WNV and CMV. CT with contrast of chest, abdomen and pelvis was negative for neoplasm. MRI imaging on day # 3 showed T2/FLAIR hyperintensities in the parieto-occipital lobes and pulvinar of the thalami suggestive of posterior reversible encephalopathy syndrome (PRES).

PRES syndrome is both a clinical and radiological diagnosis with neurological changes coupled with MRI FLAIR hyperintensities in the parietal, occipital and frontal bilateral areas. This condition has been associated with uncontrolled hypertension, endothelial injury and side effect from certain drugs. Her hypertension was aggressively managed with amlodipine, enalapril, and IV metoprolol to decrease cerebral perfusion pressure, while avoiding IV nitroglycerin, known to risk lowering CNS perfusion. Repeat MRI imaging on day #14 demonstrated resolution of the hyperintensities without episodic blurry vision, confusion and our patient's mentation improved. At her 7 weeks follow up from the rehab center, calcium remained normal but our patient continued to haveâ€¯residual deconditioning and could only follow 2 step commands.

We emphasize the importance of timely diagnosis with MRI imaging and preventing delay in management with adequate anti-hypertensives to prevent irreversible neurological damage from PRES syndrome. We also encourage reporting similar findings to VAERS as we are unable to exclude a reaction to her m-RNA vaccine booster.

Matthew McMaster DO

Avisha Shah, M.D.

Amanda Rupert, M.D.

Leanne Forman, M.D.

Westchester Medical Center

Recurring chest pain may not have a recurring cause: a cautionary tale against anchoring bias

Chest pain is a common but concerning complaint that requires a broad differential diagnosis. Despite its prevalence, the etiology of chest pain can be difficult to determine. Particularly in patients with recurrent chest pain, a broad differential diagnosis must be seriously evaluated each time it occurs. The purpose of reporting this case is to discuss a patient who frequently had epigastric abdominal and lower chest pain caused by pancreatitis, to emphasize the importance of thorough evaluation and management of all patients with chest pain. The patient was a 51-year-old male with acutely decompensated cirrhosis secondary to primary sclerosing cholangitis. His MELD on admission was 43 and he was undergoing evaluation of candidacy for an orthotopic liver transplantation (OLT). His acute issues included renal impairment requiring intermittent hemodialysis three times per week, presumed to be due to hepatorenal syndrome type I. He was admitted with epigastric abdominal pain and elevated lipase levels that were believed to be from his ERCP, one week prior to admission. The patient's ERCP was his sixth in the past year, all related to his PSC and recurrent cholangitis. His OLT workup included a left-heart catheterization which showed severe bifurcation disease at his mid-LAD that would require intervention with two stents or a coronary artery bypass graft. Nine days after admission, the patient began complaining of acute-onset, substernal, constant, achy chest pain and â€œchest swelling.â€ His first electrocardiogram (EKG) showed sinus bradycardia with ventricular bigeminy. Troponins were negative. A repeat lipase was elevated, the patient's diet (Which had just been advanced) was discontinued, ceftriaxone was started, and the patient was presumed to be having another flare of pancreatitis with potential concurrent cholangitis. Despite these interventions, the patient continued to have chest pain. Subsequent EKGs showed atrial fibrillation and atrial flutter, for which the patient was given metoprolol. Hours later, he had a transthoracic echocardiogram which showed a 1-liter pericardial effusion. This patient had no pericardial effusion or widened mediastinum on chest X-ray taken less than 3 days prior. Despite not having any signs of cardiac tamponade, electrical alternans, or murmur, the patient had an acute pericardial effusion and his symptoms promptly resolved after pericardial drain placement. The fluid was grossly hemorrhagic, fluid studies were negative for bacterial growth, and the patient was negative for tuberculosis. The effusion may have been secondary to the cardiac catheterization, an unknown infectious etiology, an unknown malignancy, the patient's baseline uremia, or purely idiopathic. This case illustrates the importance of keeping a broad differential for chest pain. Even for patients with likely explanations for their chest pain, atypical or less common causes of chest pain are not uncommon and must always be considered to provide the best patient care.

Radhika Mehta MBBS

Radhika Mehta, Merima Ramovic-Zobic, Mijung Lee

SUNY Upstate Medical Center

A "smoldering"□ presentation of acute TTP in a relatively asymptomatic patient

Introduction: Immune-mediated Thrombotic thrombocytopenic purpura (iTTP) is a rapidly fatal thrombotic microangiopathy caused by severely reduced activity of the von Willebrand factor-cleaving protease ADAMTS13, leading to development of small-vessel platelet-rich thrombi, thrombocytopenia, and microangiopathic hemolytic anemia (MAHA), the hallmarks of TTP. Typically, neurologic, gastrointestinal, renal and cardiac system involvements are observed in conjunction with or after coagulation abnormalities. We share an atypical presentation of acute TTP with a relatively asymptomatic clinical course.

Clinical presentation: A 40-year-old well-developed man with a BMI of 25.81 kg/m2 was referred to our hematology clinic by his endocrinologist for thrombocytopenia. Initially, patient sought medical care for inability to father a child. Infertility workup revealed an elevated TSH, hemoglobin of 11.9 g/dL and platelets of 78000/ uL with a normal differential. He was diagnosed with Hashimoto's thyroiditis and started on levothyroxine. A year later, patient endorsed easy bruising and frequent gum bleeding. Prior to this, he was relatively healthy and with an unremarkable family history. On physical exam his BP was 136/89 mmHg, sclera was anicteric, oral mucosa with pink gums and good dentition. Skin exam was negative for ecchymosis or petechiae.

Investigation: CBC showed WBC 6800/ uL, hemoglobin of 10.1 g/dL, RBC 3.36 million/ uL, platelets 55000/ uL, RDW 14.8%, MCV 90.8 fL, reticulocyte count 239000/ uL, LDH 427 U/L and normal differential. CMP was normal except for elevated creatinine of 1.38 mg/dL. Peripheral smear showed reduced number of platelets without aggregation or large platelets and presence of helmet cells and echinocytes. Hemolytic anemia workup revealed a negative Coomb's test, normal fibrinogen and d-dimer and normal INR/PT/PTT levels. Further testing revealed severely reduced ADAMTS13 activity of less than 5%. The ADAMTS13 inhibitor titer assay confirmed the presence of an inhibitor with a titer of 0.9 (RI: <0.4).

Diagnosis: A diagnosis of acute iTTP was made. However, given his relatively asymptomatic clinical course, atypical in acute TTP, his clinical presentation fit a â€œsmoldering-typeâ€□ TTP.

Treatment: Treatment with FFP increased his platelets to 189000/ uL. Repeat ADAMTS13 activity was 14% and ADAMTS13 inhibitor was negative. Seven days later, his platelet count reduced to 62000/ uL, ADAMTS13 activity was under 2% while ADAMTS13 inhibitor increased over 55-fold to 50. Decision to treat with Rituximab monotherapy resulted in remission of his â€œsmolderingâ€□ TTP 3 years out.

Conclusion: Prompt recognition and treatment for iTTP are critical to prevent the irreversible manifestations of this rare and quickly fatal hematologic disorder. Untreated iTTP is typically a rapid-onset disease with mortality exceeding 90% within days in the absence of appropriate treatment. It is imperative to have a high index of clinical suspicion to detect iTTP cases with prompt plasma exchange to reduce the morbidity and mortality associated with this fatal disease.

Resident/Fellow Clinical Vignette

Omolegho Momoh MD

Patrick Benjamin, MD, Olamide Oyenubi MD, Nneoma Ekechukwu MD

Montefiore New Rochelle

THE UNEXPECTED CONSEQUENCES OF FLYING: EMPHYSEMATOUS SPLENIC ABSCESS AND NEW-ONSET DIABETES IN A SICKLE CELL TRAIT PATIENT AFTER LONG-DISTANCE AIR TRAVEL

Introduction: Emphysematous infection of the spleen is a rare condition, and trauma of the spleen is almost always the antecedent event. To our knowledge, there are three case reports detailing emphysematous spleen without a prior history of trauma, and those cases are exclusively limited to severely obese patients with a history of uncontrolled diabetes. Similarly, the literature details cases of patients with sickle cell trait (HbSC) who experience splenic infarct in the setting of high-altitude travel. Here we present a case of an overweight patient with HbSC and undiagnosed diabetes found to have emphysematous splenic abscess two weeks after air travel.

Case report: A 61-year-old Jamaican woman with sickle cell trait and left eye blindness presented to the emergency department with a one-day history of altered mental status associated with abdominal pain, vomiting, polydipsia, and polyuria. The patient came from Jamaica two weeks before admission and was in her usual health on arrival. On initial presentation, she was febrile and tachycardic; the physical exam revealed abdominal distention. Initial workup showed marked leukocytosis and microcytic anemia. The serum glucose (BG>1,000 mg/dL), creatinine, creatine kinase, and total bilirubin were severely elevated. CT of the chest, abdomen, and pelvis was obtained and incidentally showed splenomegaly with extensive splenic emphysema and mixed attenuation throughout the splenic parenchyma. There was also left lower infiltrate and pleural effusion consistent with pneumonia. She was treated in the intensive care unit for Hyperosmolar Hyperglycemic State (HHS), pneumonia, and emphysematous splenic abscess. She underwent splenic and distal pancreas resection after resolution of her HHS and a four-day course of broad-spectrum antibiotics. Histology of splenic biopsy showed abscess with prominent liquefactive necrosis, neutrophilic infiltrates, and prominent nodular granulation tissue surrounding the abscess area. Bacterial and fungal cultures were negative for microorganisms as was immunohistochemistry for lymphoma. She received appropriate vaccinations and was discharged home with outpatient follow-up.

Discussion: Poorly controlled diabetes is associated with infection; however, the focus of infection is rarely the spleen. This patient's uncontrolled diabetes put her at risk for infection leading to an emphysematous splenic abscess. The unique risk factor in our case is the history of a previously asymptomatic sickle trait and recent air travel, which has been linked to splenic infarcts in the literature. Infarcted splenic tissues may have provided a nidus for septic emboli from pneumonia to evolve into an abscess. Unsurprisingly, her cultures were negative because she was on broad-spectrum antibiotics when biopsies were obtained.

Carla Montero MD

Nava Suarez, Corina MD

Bernal Riera, Maria Jose MD

Sanchez, Maria Victoria MD

Jesmajian, Stephen MD

Montefiore New Rochelle Hospital

Is it Crohn's? A case of bloody diarrhea in a young patient

IgA vasculitis (IgAV) is a small vessel vasculitis (SVV) associated with immune complexes deposition, that often involves skin and gastrointestinal tract. GI manifestations go from mucosal inflammation to ulcers, which can lead to perforation and resemble inflammatory bowel disease (IBD). Nonetheless, IBD and vasculitis have been correlated, but literature is limited. The cutaneous vasculititides most associated with IBD are polyarteritis nodosa and unspecific leukocytoclastic vasculitis, with IgAV being a minority of cases. Moreover, when vasculitis and HIV association have been proven, the most common presentations are associated with opportunistic pathogens, hypersensitivity or CNS pathologies. IgAV is rarely associated with only HIV infection. Given that IBD and vasculitis are inflammatory entities, serum markers known to aid diagnose are affected by both diseases, making differentiation between clinical conditions challenging.â€¯

A previously healthy 34 years old male was admitted to a community hospital, for abdominal pain, nausea, vomiting and hematochezia for 3 weeks, with associated chills, purpuric rash on lower extremities (LE) and weight loss.â€¯Vitals were stable on admission, and physical exam was notable for abdominal tenderness and a palpable purpuric rash on LE extremities. It extended from plantar surfaces to knees and lesions were more confluent distally. CT abdomen reported ileitis, suggestive of Crohn’s disease. Biopsies obtained after panendoscopy were unconclusive. HIV resulted positive, rest of infectious work up was negative, including opportunistic pathogens. Stool calprotectin was elevated, and ASCA was negative. Due to a melena relapse, he was started on corticosteroids as part of empirical Crohn’s disease management. Due to the inconclusive GI biopsies, skin biopsy was done, demonstrating leukoclastic vasculitis concerning IgAV.â€¯He was discharged on steroid taper, HAART and mesalamine. Mesalamine was tapered 4 months after with no other flares.â€¯

This patient presented an atypical picture of HIV-related IgAV with severe GI manifestations, based on clinical improvement after HAART and steroid taper. While diagnosing gastrointestinal vasculitis, imaging has more predictive value than biopsy in the acute phase, this did not apply to our case. Also, high calprotectin levels are consistent with any GI inflammatory condition, which makes this marker nonspecific. Considering that most IBD-related vasculitis are diagnosed while IBD is not active, clinicians should keep an open mind when diagnosing inflammatory bowel syndrome in patients with skin manifestation or concomitant HIV infection. Finally, the most common cause of terminal ileitis is IBD, however vasculitis as a differential need to be excluded because the long-term treatment differs. For IgA systemic vasculitis, immunosuppressive therapy with parallel investigation and treatment of triggers, in this case HIV, will lead in most cases to complete resolution. HIV related vasculitis typically resolve after patient starts HAART, while the TNF inhibitors used for Crohn’s long-term management can cause or worsen vasculitis as a side effect.

Suha Na Javeed MD

Mohammed Alzoobaee MD, Mark Jacobs MD, John Durvan MD

Stony Brook University Hospital

Unusual Syncope: Imaging the Right Atrial Myxoma

Introduction

Myxoma is the most common cause of benign neoplasm of the heart and, of these myxomas, right atrial (RA) myxomas account for 15-20%. Common clinical presentations of RA myxoma include fatigue, fever, dyspnea, and, rarely, syncopal episodes.

Case Presentation

A 59-year-old woman with a history of schizophrenia, dementia, hypothyroidism presented to the emergency department after an episode of unwitnessed syncopal episode while showering. She reported a history of similar falls previously, endorsed fatigue as well as generalized weakness after syncopal episodes, and denied any prodromal symptoms. Physical exam was significant for bilateral crackles and diastolic murmur heard best at the left sternal border. Computed tomography (CT) revealed a RA soft tissue mass and an echocardiogram confirmed the mass and a normal ejection fraction.

For further evaluation, cardiac magnetic resonance imaging (cMRI) and CT coronary angiography (CTCA) were considered initially. Due to contraindications to the cMRI, CTCA was pursued to visualize the tissue and rule out other sources of possible emboli. The CTCA showed no evidence of coronary artery disease (CAD), but evidence of a 6.7 cm x 4.7 cm x 4.7 cm hypoattenuating mass with speckled internal calcification in the RA, subtle post-contrast enhancement filling the RA, and protrusion of the mass into the tricuspid valve plane during atrial systole.

It was determined that the transient blockage of blood flow due to the RA mass contributed to the patient's syncopal episodes. Surgery for the excision was subsequently planned. In anticipation of thrombi, patient was anticoagulated with subcutaneous low-molecular-weight heparin (LMWH) injections for prophylactic purposes and prior to the day of the surgery, the last dose of LMWH was given.

Surgery was completed where the patient was placed on extracorporeal membrane oxygenation (ECMO) as cardiopulmonary bypass in anticipation of possible cardiac arrest during induction and heparinization to prevent coagulating events. Afterwards, patient was stabilized in the cardiothoracic intensive care unit and, after an episode of mild cardiogenic shock, weaned off dobutamine and milrinone. Patient was transitioned from a heparin drip to oral apixaban and subsequently discharged.

Discussion

This vignette portrays two main learning points. First, cardiac myxomas can be visualized in the RA and can cause transient blockages of blood flow, thereby resulting in syncopal episodes. Atrial masses must be considered as a differential diagnosis for syncope as it has diverse consequences, ranging from clinically insignificant embolization to embolization of thrombi or tumor fragments into pulmonary vessels, with subsequent pulmonary hypertension or lethal fulminant pulmonary embolism.

Second, different imaging modalities can be used to serve a variety of purposes. cMRI allows for improved tissue characterization. If cMRI is unavailable, CTCA can serve to aid visualization of filling defects as well as rule out sources of emboli.

Resident/Fellow Clinical Vignette

Steffi Nainan MD

Louis Costanzo MD

Bhesh Raj Karki, MD

Tolga Gidener MD

NYC Health+Hosps/Kings County SUNY Downstate Internal Medicine Program

Elderly Onset Celiac Hepatitis in a Patient with a Selective IgA Deficiency

Celiac disease is an autoimmune condition that commonly presents between the third and fifth decades of life; new cases rarely present beyond 55 years of age. It is triggered by gliadin, a peptide found in wheat, barley, and rye. While celiac disease is not commonly linked to liver dysfunction, current literature suggests that this disease can manifest with nonspecific symptoms of hepatitis in older populations. The following case emphasizes the importance of considering the diagnosis of celiac disease in elderly patients presenting with atypical signs and symptoms.

An 82-year-old obese woman with a history of reflux esophagitis seen in esophagogastroduodenoscopy (EGD) 8 years ago presented to our clinic with complaints of multiple episodes of foul-smelling stool for 1 week and associated right upper abdominal pain. She reported a family history of â€œgluten sensitivityâ€ and herself taking a new diet consisting of daily oatmeal, but denied any additional lifestyle changes or complaints. Her physical exam was significant for hepatomegaly with mild right upper quadrant tenderness. Laboratory testing was significant for fecal fat and an elevated alkaline phosphatase. An anti-tissue transglutaminase-IgA (tTG-IgA) antibody test was completed and was negative. A right upper quadrant ultrasound was positive for hepatomegaly, but negative for gallbladder disease. Liver elastography was performed which demonstrated mild steatosis. Given the high level of suspicion for celiac disease, a total IgA level was sent which was low, suggesting that the patient had a selective IgA-deficiency. An anti-tissue-transglutaminase-IgG (tTG- IgG) level was positive and the patient was scheduled for a new EGD with small bowel biopsy; that of which confirmed atrophic mucosa and a variable loss of villi in the 2nd part of the duodenum and intraepithelial lymphocytes. She was advised to begin a gluten-free diet. She had complete resolution of hepatomegaly and liver enzymes within 3 months.

Discussion:

The diagnosis of celiac disease in the elderly population is exceedingly rare; as the global incidence rate above age 55 is approximately 3%. Celiac hepatitis, as seen in our patient, affects approximately 40% of adults under 60 years.. Though the mechanism is not widely understood, intestinal barrier impairment may facilitate the entry of pro-inflammatory mediators leading to liver dysfunction and enlargement. Atypical signs and symptoms of celiac disease including hepatomegaly are more likely to be seen in the older population. The diagnostic approach to celiac disease is based on signs and symptoms and confirmed with a small bowel biopsy. Obtaining both tTG-IgA antibody and total IgA level are important to not miss patients with selective IgA deficiency. A tTG-IgG or deamidated-gliadin-peptide-IgG can aid in making a diagnostic decision if the suspicion remains high. First line management involves a strict adherence to a gluten-restricted diet, which prevents further damage to the small intestine.

Karun Neupane MD

Apoorva Jayarangaiah, MD (Oncology Fellow)

Yan Zhang, MD (Pathologist)

Abishek Kumar, MD (Oncology Attending)

Jacobi Medical Center/Albert Einstein College of Medicine

RETINAL DETACHMENT IN A PATIENT WITH VEXAS SYNDROME

Introduction:

VEXAS (vacuoles, E1 enzyme, X-linked, autoinflammatory, somatic) syndrome is a novel inflammatory syndrome that was first described in December of 2020 in 25 men with adult-onset inflammatory disease and myeloid dysplasia. In these patients, the erythroid and myeloid progenitor cells from bone marrow contain vacuoles, and acquired mutations have been identified in the UBA1 gene located on the X chromosome. Ocular involvement reported so far in these patients includes episcleritis, uveitis, and blepharitis. We report the first case with retinal detachment in VEXAS syndrome.

Case report:

The patient is a male in his early 60s with a history of heart failure with preserved ejection fraction, and chronic obstructive pulmonary disease who was diagnosed with myelodysplastic syndrome with multilineage dysplasia (MDS-MLD) in 2015 when he underwent bone marrow biopsy for the evaluation of thrombocytopenia and anemia. The patient was deemed not to be a transplant candidate given his comorbidities. He did not get chemotherapy for MDS due to financial concerns and social issues and continued with frequent blood transfusions for low hemoglobin and low platelets. Four years later, he developed bilateral (b/l) scleritis with choroidal effusion, serous retinal detachment, and intra-retinal hemorrhage with vision loss in the left eye. He was also found to have hyperpigmented rash including painful and itchy red papules involving his trunk and bilateral extremities. Simultaneously, he also developed swelling, tenderness, and erythema of b/l auricles and was diagnosed with relapsing polychondritis (RP). He was treated with intravenous and oral steroids leading to the resolution of the inflammatory symptoms. His retinal detachment healed with steroid therapy leading to partial improvement in vision. He then received five days of 5-azacitidine (5-aza) 150mg daily for five cycles for the treatment of MDS. Despite being started on azacitidine treatment, the requirements for blood transfusions did not decrease. He presented almost a year later in the oncology clinic for a follow-up.

In the context of the patient's history of RP, male sex (46XY as per the cytogenetic testing from 2016), macrocytic anemia, thrombocytopenia, an underlying disease of VEXAS syndrome was suspected. His bone marrow smears from 2015, 2016 and 2017 were reviewed which showed markedly hypercellular bone marrow with granulocytic proliferation and trilineage dyspoiesis with cytoplasmic vacuoles identified in subsets of myeloid, erythroid precursors and rare lymphocytes. UBA1 gene sequencing demonstrated a single variant (c.122T>C; p.Met41Thr) in the UBA1 gene. He was thus diagnosed as a case of VEXAS syndrome.

Conclusion:

Patients with VEXAS syndrome can develop retinal detachment along with other ocular problems. This finding has a major implication in patient management as it warrants higher vigilance and early intervention for this sight-threatening complication.

Shital Oli MBBS

Sristee Niraula, MBBS, Mohammad Samih, MD, Sameer Acharya, MBBS

Cayuga Medical Center

Post-Methicillin Resistant Staphylococcus Aureus Endocarditis Related Glomerulonephritis In An Adult

Introduction

Acute renal failure in infective endocarditis (IE) could be due to infarction, abscess, drug-induced, or glomerulonephritis. Glomerulonephritis in infective endocarditis is due to immunoglobulins or complement deposition in the glomerular membrane. Post-infectious glomerulonephritis (PIGN) is typically immunoglobulin G (IgG)-mediated, precipitated by the nephritogenic strain of group A beta-hemolytic streptococcus, and mostly seen in children. In adults, post-infectious glomerulonephritis is uncommon, but if it happens, immunoglobulin A (IgA) dominant immune complex deposition is more common and these immune complexes are precipitated by staphylococcus. Here we report a case of a young female with a history of intravenous drug use who presented with infective endocarditis and eventually had acute renal failure secondary to IgA post-staphylococcal glomerulonephritis.

Case description

A 46-year-old female with a history of intravenous drug use presented with generalized body aches and altered mental status. She also had non-blanching erythema with surrounding petechial regions on both lower extremities and was noted to have track marks on her upper extremities with diffuse swelling of bilateral upper and lower extremities. Physical exam was notable for tachycardia and systolic murmur. Lab studies revealed leukocytosis, anemia, lactic acidosis, and elevated C-reactive protein with fairly normal creatinine of 0.98 mg/dl. Blood culture revealed methicillin-resistant Staphylococcus aureus. Transthoracic echocardiogram showed large, mobile tricuspid valve vegetation measuring at least 3.4 cm x 2.2 cm with the bulk of the vegetation attached to the anterior leaflet. She was started on intravenous vancomycin and underwent tricuspid valve replacement with a bioprosthetic valve. Her creatinine started to rise slowly so the antibiotic was changed to daptomycin, but she continued to have worsening renal function. Creatinine peaked at 2.70 mg/dl with serology positive for p-ANCA, elevated complement C4 but had normal C3. She underwent a renal biopsy which showed diffuse mesangial proliferative glomerulonephritis with focal endocapillary proliferative features, cellular crescent, and co-dominant deposits of IgA and C3 most consistent with IgA-dominant post-staphylococcus glomerulonephritis. We continued to observe her on antibiotics and her creatinine eventually improved.

Discussion

Post- staphylococcal glomerulonephritis in an adult with IgA complex deposition is not common. Another atypical finding in our patient is normal C3, as C3 is commonly low in post-infectious glomerulonephritis. Immune complex-mediated renal disease, commonly associated with infective endocarditis in the pre-antibiotic era, is now uncommon, especially in patients whose infection is detected and treated early; but our patient developed crescentic glomerulonephritis despite early antibiotic initiation. Given the fact that the patient did not require steroids, immunosuppressants, or renal replacement therapy, and that antibiotic therapy led to improvement and ultimate recovery of the renal function, recognizing early renal failure, prompt renal biopsy, and starting appropriate intervention could halt this disease process.

Resident/Fellow Clinical Vignette

Jay Patel DO

Westchester Medical Center

Acquired Factor VIII deficiency disguised by apixaban

A 83-year-old man with congestive heart failure, atrial fibrillation on apixaban presented to the emergency room after a mechanical fall. Patient was hypoxic requiring 2L supplemental oxygen, chest x-ray showed bilateral pulmonary edema, BNP was 559 and had bibasilar crackles and bilateral lower extremity edema. He was subsequently admitted for heart failure exacerbation.

During his hospitalization, his home apixaban 5mg BID was continued initially. During the second day of his hospitalization, his respiratory status improved to baseline, and he was planned for discharge. The following morning his forearm had a hematoma at the area of a prior peripheral intravenous catheter. Laboratory findings were significant for decrease in hemoglobin from 9.3 to 7.1g in 72 hours and an PTT of 107.0 seconds, with INR of 1.15 and platelet of 313k. Apixaban was subsequently discontinued, and repeat PTT after 24 hours was found to be 103.2. Mixing studies were subsequently sent, however the PTT value did not correct raising the suspicion of the presence of an inhibitor. The patient was transferred to a tertiary care center.

Upon transfer, Factor VIII, IX and X levels were sent, along with Factor VIII inhibitor levels. Factor VIII level was 0.3% (normal 50-150%) and Factor VIII inhibitor level >150 units. The hemoglobin remained stable and the right forearm did not develop compartment syndrome. A diagnosis of acquired factor VIII inhibitor causing hemophilia was made. The patient was subsequently started on dexamethasone and cyclophosphamide, and showed gradual improvement in his PTT and was discharged with outpatient follow up with hematology. He has continued on titrated dose of dexamethasone and cyclophosphamide, and shown progressive improvement in his coagulation studies and resolution of his hematoma.

In patients on a direct factor Xa inhibitor, such as apixaban, the PTT would be expected to be above normal. Apixaban has a half-life of 8-12 hours, thus the PTT should correct to normal range after discontinuation of the apixaban within 24-36 hours. In this patient, the elevated PTT was initially attributed to the use of apixaban. However, as the PTT did not improve after the cessation of apixaban in this patient, a thrombophilia workup was initiated. Hemophilia A typically presents in childhood as a congenital illness caused by a deficiency in Factor VIII. Acquired Factor VIII deficiencies due to inhibitors/autoantibodies occur in about one case per million and require close monitoring due to the possibility for catastrophic bleed. Acquired thrombophilia classically present as soft tissue bleeds as seen in our case. Furthermore, the median age of presentation is 60-67, therefore we often see the involvement of anticoagulants for management of existing comorbidities which may act as a confounder when assessing the patient's elevated coagulation studies.

Leili Pourafkari

Leili Pourafkari, Katie Alsheimer, Saher Aslam, Nader D Nader

Catholic Health System, University at Buffalo

Effect of COVID-19 Pandemic on Sub-specialty Fellowship Application of Internal Medicine Residents

Background: The COVID-19 pandemic has dramatically impacted the lives of internal Medicine (IM) residents and has changed their clinical training experience.

We aimed to examine whether the COVID-19 pandemic affected the IM residents' decision to apply for sub-specialty training.

Methods: This cross-sectional survey study enrolled categorical IM residents graduating in June 2022 in 50 states of the United States. We distributed the link for a Survey-Monkey questionnaire of 30 multiple-choice questions among the residents through email. The participants received no compensation for this anonymous survey. Following descriptive analyses of all responses, we also compared gender, age, and the academic class of the programs through a multivariable logistic regression to identify additional independent factors affecting the decision-making. McNemar tests were performed to examine the decision changes before and after the pandemic.

Results: 285 residents (54.2% male) completed the survey. 87.7% were in the 25-34 age group, and 48.9% were married. 26.7% were from Community programs, whereas 36.9% were university-owned and 35.5% were from university-affiliated programs. Sixty-three residents reported getting COVID-19, with one person requiring hospitalization. In 27.3% of respondents, pandemic impacted the decision to pursue subspecialty fellowship training. 16.8% reported pandemic positively affected their motivation for applying to fellowship, whereas 21.4% reported a negative impact. Among those applying for a fellowship, 21.1% changed their choice due to the pandemic. Of 73 residents planning to pursue positions as hospitalists or primary care practice after the pandemic, 24 residents (32.9%) did not change their career plan due to the pandemic. In comparison, the remaining 49 residents (67.1%) opted out of their original intent of the fellowship application. On the other hand, 45.5% of 44 respondents who intended to practice after their residency decided to apply for fellowship positions after the pandemic.

Conclusion: Findings of this study suggest the COVID-19 pandemic has negatively affected the decision to apply to more competitive fellowships and positively affected the decision to pursue as a general IM practitioner. The COVID-19 pandemic impacted the motivation to pursue fellowship training in IM residents in their last year of training. The tendency to study hematology/oncology, pulmonary/critical care, and gastroenterology significantly decreased, and there was a decreasing trend in applying for cardiology. Overall, the IM graduates were more likely to practice as general IM specialists after the pandemic.

Noor Ul Ain Qureshi MD

Mirghani I. Ali MD

Nuvance Health

A rare case of isolated Neurosarcoidosis mimicking intracranial malignancy.

Background: Neurosarcoidosis is rare with only 15% of sarcoidosis patients developing neurological symptoms. In most cases, neurologic involvement occurs in the context of systemic disease. Neurosarcoidosis as an isolated initial presentation is extremely rare.

Case: We are reporting a case of a 34-year-old African American female with no past medical history, who presented to the emergency department with 2 days of acute neck pain radiating up to the back of her head, associated with severe headache and occasional night sweats. She exhibited a mild left pronator drift on examination. Laboratory evaluation was only significant for low vitamin D levels. A head CT (Computed Tomography) revealed a significant right parietal lobe edema, mass effect and a 12 mm left midline shift. A contrast-enhanced MRI (Magnetic Resonance Imaging) of the brain was performed showing severe vasogenic edema in the right hemisphere with a thick rind of Dural and leptomeningeal enhancement in the right convexity concerning for possible metastatic disease. A contrast-enhanced CT of the chest, abdomen, and pelvis revealed non-specific retroperitoneal, pelvic, bilateral inguinal, and bilateral axillary lymphadenopathy. There was no evidence of mediastinal or hilar lymphadenopathy. Neurosurgery and Oncology were consulted. The patient was started on IV dexamethasone and levetiracetam for management of vasogenic edema and seizure prophylaxis, respectively. Following the administration of intravenous steroids, she reported a significant improvement in her symptoms. She underwent a right frontal craniotomy and stereotactic open biopsy with resection of dura and Dural based lesion. Pathological assessment of the sample revealed a non-necrotizing granulomatous inflammation involving fibroconnective and glial tissue with no evidence of malignancy. Postoperative course was complicated by a new onset left facial droop, left upper extremity weakness and numbness. The patient was discharged to acute rehab on immunosuppressive therapy with oral prednisone. She made excellent progress with restorative inpatient rehabilitation. A follow-up contrast-enhanced MRI of the brain revealed expected postoperative changes with no residual mass effect, and resolution of midline shift.

Discussion: Sarcoidosis is a multisystem disease of unknown etiology characterized by non-caseating epithelioid granulomas. It is more common in African Americans with an incidence of 36 per 100,000 as compared to 11 per 100,000 in Caucasians. Neurological manifestations include cranial mononeuropathy, myelopathy, radiculopathy, mononeuritis multiplex, carpal tunnel, hydrocephalus, and meningitis. It is exceedingly rare to have neurological symptoms without systemic symptoms.

Conclusion: Neurosarcoidosis can present with non-specific neurological symptoms in the absence of systemic involvement. A high index of clinical suspicion in high-risk patients along with a thorough history, physical examination, imaging and pathological confirmation is needed to make the diagnosis.

Bhesh Raj Karki MD

Louis Costanzo MD; Steffi Nainan MD; Tolga Gidener MD

SUNY Downstate Medical Center

Multiple Hepatic Abscesses Caused by Streptococcus anginosus

Introduction: The annual incidence rate of hepatic abscess formation is approximately 2 cases per 100,000 people; and these are characteristically solitary lesions found in immunocompromised patients. Therefore, the development of multiple hepatic abscesses in an immunocompetent patient is relatively uncommon. We present a unique case of a patient with multiple hepatic abscesses who developed sepsis secondary to bacterial translocation from the biliary tree.

Case Presentation: A 73-year-old female presented to the emergency department with 2 days of fever and multiple episodes of non-bloody watery diarrhea associated with abdominal discomfort. On exam, she was febrile, tachycardic, and hypotensive, with right upper quadrant abdominal tenderness. Laboratory findings were significant for a leukocytosis of 17.3 k/uL, transaminitis with ALT 93 U/L, AST 73 U/L, and ALP 160 U/L, a total bilirubin of 0.9 mg/dL, and elevated inflammatory markers. A peripheral blood culture grew Streptococcus anginosus, but the remainder of the workup including further stool studies was negative. A CT of the abdomen pelvis revealed multiple hypoattenuating ill-defined cystic lesions in the liver with the largest measuring 2.9 cm, as well as peripheral enhancement and internal septations; that of which was concerning for abscess formation. Further imaging with MRCP showed multiple hepatic abscesses with communicating intrahepatic biliary ductal dilatation, hyper-enhancement of the gallbladder wall, and a dampened signal filling the gallbladder/biliary tree. The patient underwent treatment with intravenous ceftriaxone and metronidazole and was discharged on levofloxacin and metronidazole. Upon 3 week outpatient follow-up, repeat laboratory testing was negative and her symptoms had resolved. A repeat CTAP demonstrated near complete resolution of all hepatic lesions and she was continued on antibiotic treatment for a total of 6 weeks.

Discussion: The development of multiple hepatic abscesses is uncommon; however, known causative agents include gram-negative bacilli, Streptococcus milleri group, Staphylococcus aureus, fungi, and parasites. The pathophysiology of hepatic abscess formation involves (1) an abdominal focus of infection spreading through portal vein; (2) the direct spread from a biliary source; or (3) hematogenous spread. With respect to the imaging reveal of multiple hepatic abscesses with communicating intrahepatic biliary ductal dilatation, sepsis likely resulted due to bacterial translocation from the biliary tree. It is important to consider that Streptococcus anginosus is part of the normal gastrointestinal flora, but does have the potential for abscess formation due to numerous virulence factors. Some of these include the polysaccharide capsule, pyrogenic exotoxin release, and presence of various hydrolytic enzymes. Management usually includes 4-6 weeks of antibiotic therapy. Further treatment may involve percutaneous or surgical drainage if the abscess is larger than 5cm in size.

Vishal Rana MD

Henry Yip, MD

Michael William, MD

Andrew Weber, MD

Zachary Kuschner, MD

Fiore Mastroianni, MD

Northwell Health at Mather Hospital

Euglycemic Diabetic Ketoacidosis in patients with SARS-CoV-2 infection: A case series

Introduction: Patients infected with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) have greater complications and poorer outcomes when comorbid metabolic conditions such as poorly controlled non-insulin-dependent diabetes mellitus (T2DM), and obesity are present. We describe two such cases of individuals with T2DM being treated with sodium-glucose cotransporter-2 inhibitors (SGLT2i) presenting as inpatients with high anion gap metabolic acidosis and symptomatic SARS-CoV-2 infection.

Case Description: Both patients were females in their 50s with a history of T2DM, and obesity that presented with worsening dyspnea for one week after testing positive for SARS-CoV-2. Neither of them had a prior history of diabetic ketoacidosis (DKA), and each patient was prescribed different SGLT2i's as outpatients. During admission both patients were started on insulin infusions after a glucose level <300mg/dL, and elevated anion gap, urinary ketones, and low arterial pH were revealed. After severe days, the patients were transitioned to non-infusion insulin therapies, and continued to be treated for SARS-CoV-2.

Discussion: EuDKA is a rare, but known complication of SGLT2i use. In patients presenting with SARS-CoV-2 infection, outpatient therapy with a SGLT2i, and a high anion gap metabolic acidosis it is important to consider euDKA as a possible diagnosis due to the inflammatory process that typifies inpatient SARS-CoV-2 sequelae. SGLT2i's increase glucosuria decreasing serum glucose. Insulin secretion is therefore decreased while ketone production is favored. In these patients, it is prudent to consider early initiation of insulin therapy when high clinical suspicion for DKA, or euDKA is present. Prophylactic discontinuation of SGLT2i's should be considered as a standard outpatient practice when a patient is diagnosed with SARS-CoV-2. Further studies determining the incidence of euDKA and possible utility of prophylactic outpatient SGLT2i discontinuation due to maladaptive interactions need to be conducted.

Kirat Randhawa MD

Alexander Rodrigues, MD; Vincent Gomez, MD; Anil Mattoo, MD; Zubin Tharayil, MD; Dean Babich, MD

Long Island Community Hospital

A RARE CASE OF PHLEGMASIA CERULEA DOLENS IN THE UPPER EXTREMITY

A 54-year-old female with a history of Myotonic muscular dystrophy presented to the ED with progressively worsening SOB and generalized weakness for the past month. On examination, she was hypotensive, hypoxic, and lung exam revealed bibasilar rhonchi; of note, all extremities were warm, well-perfused with good pulses, and had no edema. A CT chest demonstrated bilateral pulmonary infiltrates and cardiomegaly. Her clinical status shortly deteriorated and she was intubated. The patient was admitted for hypoxic respiratory failure secondary to pneumonia with septic shock; broad-spectrum antibiotics, fluid resuscitation, and multiple vasopressors were started. The next day, her right arm became severely edematous, cyanotic, cool, and had no palpable pulses. An arterial doppler revealed occlusion of the right radial and ulnar arteries. A heparin infusion was started and an emergent thrombectomy was attempted; however, brachial artery exploration revealed no thrombus was present. On further exploration, the cephalic vein, along with multiple forearm veins, were extensively thrombosed. She underwent two compartment fasciotomy with no significant improvement. Patient's family decided to pursue comfort care measures and patient passed away. Phlegmasia cerulea dolens (PCD) is a rare form of DVT, resulting from extensive thrombotic occlusion of the major and collateral veins of an extremity (more often in the lower extremities). It can lead to impaired arterial circulation with subsequent tissue ischemia or limb gangrene. The exact mechanism is unclear, but may be due to severe edema and arterial compression. Proposed triggers include shock, increased venous outflow resistance, and collapse of arterioles due to increased interstitial pressure. Because PCD is a rare condition, it's incidence is unknown. Malignancy is the most common known risk factor and is present in approximately 20-40% of patients with PCD. Other risk factors include hypercoagulable states, recent surgery, trauma, presence of IVC filter, pregnancy, May-Thurner Syndrome, and the use of multiple vasopressors; up to 10% of cases are considered idiopathic. PCD is marked by severe pain, edema, and cyanosis in the affected extremity. The diagnosis of PCD can be made clinically. Doppler ultrasound can identify occlusion in both the arteries and the veins. The main sonographic finding is the presence of extensive thrombus in the deep and superficial venous system of the affected limb. Contrast venography remains the gold standard for diagnosis. Treatment involves anticoagulation (heparin, LMWH), limb elevation, as well as IV fluid resuscitation. Catheter-directed thrombolytic therapy is the mainstay of therapy; however, patients may also undergo open surgical thrombectomy, depending on the extent of thrombosis. If compartment syndrome is a complication, fasciotomy or limb amputation may be required. Clinicians should keep PCD in their differential for patients who present with possible upper limb ischemia because, although rare, immediate recognition and intervention are critical due to high morbidity and mortality.

Prama Rashmi MD

Billy Zhang, MD1, Asif Harris, MD2, Jigna Patel, MD1

Affiliations: 1: NYU Grossman School of Medicine 2: Woodhull medical Center, NYC Health and Hospitals

Woodhull Medical Center

Not a typical cause of fever: Hemophagocytic Lymphohistiocytosis (HLH)

Introduction

Fever is often considered a protective mechanism, but high-grade fever can be maladaptive and should be addressed with broadened differentials. Hemophagocytic Lymphohistiocytosis is a rare and life-threatening syndrome caused by prolonged and excessive activation of antigen-presenting cells. Much of our early understanding of the diagnosis is based on children where the condition is inherited. However, in adults, often an inciting event brings on this condition. This case report highlights the differential dilemma of fever as the presenting symptom leading to a diagnosis of HLH.

Case Presentation

A 52 years old male with no significant past medical history presented with three days of fever. On presentation, he was febrile to 102 degrees Fahrenheit but otherwise hemodynamically stable. His examination was benign, and laboratory testing was significant for elevated liver function tests, elevated triglycerides, anemia, thrombocytopenia and abnormal coagulation studies. Despite broad-spectrum antibiotics, he continued to be febrile, prompting a more thorough evaluation of infectious etiologies including malaria, dengue and leptospirosis, which were negative. Blood and urine cultures were negative. Rheumatological studies including anti-DNA, anti-Smith, anti-RO, anti-CCP antibodies, myeloperoxidase antibodies and proteinase3 antibodies were negative. Ferritin was checked as a broad marker of inflammation and significantly elevated to 12,183 ng/mL, which prompted a re-evaluation for hepatosplenomegaly and ultrasound that confirmed splenomegaly. His course was complicated by acute hypoxic respiratory failure due to diffuse alveolar hemorrhage requiring intubation. The patient was started on prednisolone and meropenem and showed an appropriate response. CD25 levels were 42,437 pg/mL and EBV: 57,300 IU/mL. His H score was 229, and bone marrow biopsy revealed Large cell CD30(+), EBV (+), Lymphoproliferative disorder. Etoposide and prednisolone were started with recovery, allowing for extubation prior to transfer to a tertiary Lymphoma Center.

Discussion

The diagnosis of HLH requires high scrutiny, given its rarity. It is clear that clinical decline can be rapid and requires close multi systemic attention given the high risk for bleeding, coagulopathy, infection, and cytokine storm. This patient's trigger potentially was a viral illness given the positive bone marrow biopsy leading to immune dysregulation. The late diagnosis can delay treatment and is a poor prognostic indicator. HLH, although being a rare disease, must be considered in a patient with fever, elevated liver enzymes and cytopenia.

Juan Raudales

New York Presbyterian Brooklyn Methodist Hospital

Periodic Dyspnea: Thoracic Endometriosis Syndrome

Thoracic Endometriosis Syndrome (TES) is described as the presence of endometriotic tissue in or around the lungs and pleural space. The most common clinical presentation is Catamenial Pneumothorax, defined as having at least two episodes of recurrent spontaneous pneumothoraces that occurs within 72 hours prior to or after the onset of menstruation. The pathogenesis of this complex condition that affects women of child bearing age continues to be poorly understood likely resulting in an underdiagnosed or misdiagnosed entity.

A 36-year-old woman without significant past medical history reported shortness of breath. Described as a sensation of air bubbling in her chest wall and sharp pain in her right axillary region during the past six months. Symptoms began on the first day of menses and would gradually decrease in severity over a few days. She had alleviation with NSAIDS. She denied menorrhagia and dyspareunia. She denied tobacco, vaping, alcohol, or drug use. Surgical and family history was noncontributory and she worked as a respiratory therapist. She was eventually sent for an outpatient computed tomography (CT) of the chest by her PCP and presented to the emergency department after being found to have a right sided pneumothorax. Imaging also revealed a probable nodule in the right lung apex and early cystic changes in the right lung base. A chest tube was placed with resolution of her pneumothorax and medical management with OCPs was initiated. One month later, she was re-hospitalized with a recurrent right sided pneumothorax and a chest tube was again placed. She was compliant with her OCPS and was on her menstrual cycle during both admissions. She was discharged with a flutter valve attached to her chest tube with planned VATS with right sided pleural exploration, the gold standard for diagnosis of TES. Two weeks later, she underwent surgical intervention for which endometrial deposits were visualized on the posterior pleural lining of the right lung, as well as the diaphragm. Both were intervened upon with cauterization and apical pleurectomy was performed. Fenestrations of the diaphragm were also identified, excised, and sutured. Pleural and diaphragmatic pathology confirmed endometrial tissue with C10 staining.

Several theories have been postulated for the pathophysiology of TES, but the most convincing may be due to retrograde menstruation. This results in an efflux of endometrial cells that implant in the diaphragmatic wall or migrate to the pleural cavity, as is seen in our patient. Catamenial Pneumothorax is the most common manifestation seen in TES. Although rare, it is a potentially life-threating complication, and therefore important to recognize. Treatment of TES involves hormonal suppression or surgical therapy. Our case emphasizes the importance of a timely diagnosis and a multidisciplinary approach to provide proper management to have successful outcomes.

Saifur Rehman MD

Zauraiz Anjum, Muhammad Ahmed Malik, Hafsa Faisal, Charoo Iyer, Lakshmi G Nair, Ayesha Javed.

Rochester General Hospital

A unique case of concurrent Ehler's Danlos and postural orthostatic tachycardia syndrome with orthostatic hypertension responding to regular IV saline infusions

Introduction:

Postural orthostatic tachycardia syndrome (POTS) is an autonomic anomaly that is characterized by orthostatic intolerance. Ehlers Danlos syndrome (EDS) is characterized by hypermobility of joints, and skin hyper-extensibility. Both entities can cause autonomic dysfunction leading to orthostatic hypotension. We present a unique case of concurrent POTS and EDS associated with orthostatic hypertension (rather than hypotension) responding to regular IV normal saline infusions.

Case description:

38 year old female with PMH significant for Lown-Ganong-Levine syndrome, Ehlers-Danlos syndrome, and postural orthostatic tachycardia syndrome presented to the cardiology clinic with difficult to control hypertension in standing position. Her clinical history was unique for postural orthostatic tachycardia syndrome. Clinical findings were notable for very labile blood pressure upon standing with associated findings of development of shortness of breath, lower extremity swelling/edema, headache, and substernal chest pain radiating to the jaw consistent with hypertensive emergency. She was unable to stand for more than 10 minutes without development of the symptoms which caused her significant morbidity. This hypertension was also associated with tachycardia with heart rate ranging into 120s to 130s. Her symptoms had been well controlled as long she had access to alpha methyldopa, however this drug was withdrawn from US market and an alternative had to be found. In an effort to control hypertension, she had been placed on multiple antihypertensive medications including furosemide, hydrochlorothiazide, lisinopril, and clonidine and ivabradine for heart rate control. Despite achieving some success with heart rate control, antihypertensive regimen had no significant impact on the labile blood pressure and multiple medications caused her severe hypotension with dizziness on laying down with systolic blood pressure dropping into 70s.

Even though she presented with exertional symptoms, EKG and laboratory markers were negative for myocardial ischemia. Her EKG was only significant for tachycardia and short PR interval consistent with Lown-Ganong-Levine syndrome. Her troponin, and BNP levels had always been normal. Transthoracic and stress echocardiograms were also unremarkable.

She continued to have troubling symptoms requiring multiple ER visits and hospitalizations and was intermittently given IV fluid boluses in the ED. Her symptoms remained better controlled for at least a few weeks after getting IV fluid infusions that eventually led to home infusions of normal saline based on her symptomatology and she was able to be taken off of her antihypertensive medications and currently remains on lisinopril only.

Conclusion:

Connective tissue and joint hypermobility disorders can frequently be associated with autonomic dysregulation syndromes. Patients with concurrent EDS and POTS can rarely present with orthostatic hypertension. Their orthostatic hypertension can occasionally respond to IV fluids better than antihypertensive medications and they should be assessed for this responsiveness even though it appears counter-intuitive.

Ruby Risal MD

Htun Min Aung, MD

Tahmina Jahir, MD

Kamal Raj Subedi, MD

Danilo Enriquez, MD

Marie Frances Schmidt, MD

One Brooklyn Health - Interfaith Medical Center

A CASE OF IMMUNE THROMBOTIC THROMBOCYTOPENIC PURPURA FOLLOWING MALARIA PROPHYLAXIS WITH PROGUANIL

Background: Immune thrombotic thrombocytopenic purpura is a type of thrombotic microangiopathy caused by autoantibodies to von Willebrand factor-cleaving protease ADAMTS13, leading to severe ADAMTS13 deficiency with its activity level usually <10 percent. The pentad of fever, microangiopathic hemolytic anemia, thrombocytopenia, acute kidney injury, and severe neurologic findings is seen in less than five percent of cases. The occurrence of immune thrombotic thrombocytopenic purpura has been reported with the use of antimalarial therapy such as quinine, mefloquine, and quinidine. We present a case of severe immune thrombotic thrombocytopenic purpura following the use of proguanil for malaria prophylaxis.

Case Presentation: A 23-year-old African-American female patient with no known past medical history was referred from an urgent care center because of low platelet. She was in her usual state of health until three days ago when she noticed generalized weakness, generalized rash, and dark-colored urine. Traveling history was significant for a visit to Nigeria for six months and was recently taking proguanil for 14 days as malaria prophylaxis. Triage vitals were within normal limits. On physical examination, she was noted to have mild jaundice and diffuse petechial rash. Laboratory investigations revealed platelet count of less than 11 x 103/µL, hemoglobin of 9.6 g/dL, mean corpuscular volume of 84 fL, retic count of 2.1%, lactate dehydrogenase of 1208 U/L, indirect bilirubin of 3.1 mg/dL, haptoglobin of <10 mg/dL, consistent with hemolytic anemia; INR of 1.14, creatinine of 1.1 mg/dL, peripheral blood smear showing schistocytes. Smears for malaria parasite, Plasmodium species PCR, parvovirus, Epstein Barr virus, human immunodeficiency virus, hepatitis A virus, hepatitis B virus, and hepatitis C virus were negative. PLASMIC score for thrombotic thrombocytopenic purpura was 7 points. The patient received eight sessions of therapeutic plasma exchange treatment along with glucocorticoids. ADAMTS13 activity from the sample obtained on admission showed less than two percent, along with an antibody level of 19 U/mL, consistent with immune thrombotic thrombocytopenic purpura. Platelet count, lactate dehydrogenase, and ADAMTS13 activity were monitored appropriately during the hospital stay. On discharge, ADAMTS13 activity was still at 60.5 percent. Eight months after the hospital discharge, ADAMTS13 activity returned to 85.8 percent, which was normal. During this follow-up, the patient did not have any relapse of immune thrombotic thrombocytopenic purpura, and we continue to follow up with the patient closely.

Discussion: Immune thrombotic thrombocytopenic purpura is a medical emergency with a high mortality rate if there is a delay in treatment. On the other hand, if appropriate treatment is initiated promptly, the survival rates may be more than 95 percent. Available treatment options include therapeutic plasma exchange, glucocorticoids, rituximab, and caplacizumab.

Omar Saab

Omar Saab 1, M.D. , Sing Yeung 1, D.O. , Justin Wang 1, MD, Marwah Algodi 3, M.D., Ahmed Gemei 2, MD, Jean J. Luo 4 , M.D. , Maurice Hinson 1, M.D., Syed Hussain 2, M.D. 1: Department of Internal Medicine, New York Presbyterian Queens. 2: Department of Gastroenterology , New York Presbyterian Queens, 3: Ibn Al Nafees Hospital. 4: Department of Pathology, New York Presbyterian Queens.

New York Presbyterian Queens Hospital

COVID-19 Vaccination may increase the risk of autoimmune hepatitis in patients with underlying autoimmune disease.

Introduction

It is established that COVID-19 viral infection is associated with many autoimmune processes, especially in predisposed patients, such as autoimmune hepatitis AIH [1,2]. Molecular mimicry is one of the suggested mechanisms behind such phenomena.

Case presentation:

A 55-year-old male with ulcerative colitis on treatment presented to the ED with complaints of a vague, non-cramping, and dull RUQ abdominal pain for around 3 weeks duration. He denied nausea, vomiting, fever, palpitations, or diarrhea. The patient's social history is unremarkable. No recent travel, occupational exposures, herbals, or acetaminophen use. He received 2 doses of Pfizer COVID -19 vaccines, the last dose was March 2021 (around 21 days before admission). His vital signs were normal, physical examination was unremarkable except for jaundice and mild RUQ tenderness. Laboratory results showed: normal complete blood count and basic metabolic panel. Liver Function Tests: AST/ALT 1621/1476 units per liter (U/L) , T. bilirubin 6.0 milligrams per deciliter (mg/dL), direct bilirubin 4.5 (mg/dL), Alkaline phosphatase 167 (U/L) , GGT: 339 (U/L) . Laboratory results were negative for HCV, HBV, HAV, HSV-1, HSV-2, EBV, HIV, Anti-Mitochondrial Ab, Anti-Smooth Muscle Ab, Liver Kidney Microsomal Ab, Protease 3 Ab, Myeloperoxidase Ab, Alpha 1 antitrypsin, Wilson disease, and hemochromatosis. ANA was positive with a 1:1280 titer. SPEP: (IgG: 3400 (mg/dL), IgA: 495 (mg/dL) , IgM: 60 (mg/dL), ESR: 99 mm, CRP: 3.40 (mg/dL), acetaminophen level and urine drug screening tests were negative. Abdominal ultrasound, doppler, and MRI were unremarkable. EUS: diffuse abnormal echotexture in the visualized portion of the liver. No significant ductal pathology. A liver biopsy confirmed autoimmune hepatitis with a background of steatohepatitis (image 1,2). Fig 1,2 summarize plasma ALT, AST, and total bilirubin over time, before and after treatment with azathioprine and prednisone 60 mg daily with slow tapering and with a continuation of home dose sulfasalazine.

Discussion

Numerous case reports associate COVID-19 related infection or vaccination with the development of autoimmune processes, including autoimmune hepatitis (AIH) [1,4,5]. Indeed, there seems to be an association between AIH and COVID-19 infection/vaccine, however, no causality has been established yet. The current theory is that the COVID-19 infection or vaccine, via molecular mimicry, is a potential mechanism to contribute to the development of an autoimmune process. The increasing number of case reports associating autoimmune processes with COVID-19 related infection and mRNA vaccines might allow for more data analysis to determine risk factors that predispose patients for AIH. Patients with pre-existing autoimmune diseases are likely more vulnerable to develop autoimmunity after exposure to spike-protein-based COVID-19 vaccines. If more data confirm a significant association between autoimmunity in predisposed patients with spike-protein-based COVID-19 vaccines, we may establish new guidelines to use other types of COVID-19 vaccines in this population in the future.

Rafeh Safdar MD

Sualeha Khalid MD, Maithao Le MD, Rebecca O'Malley MD, Wei Wang MD, Syed A. Mehdi MD

Albany Medical Center

An Unusual Case of Prostate Cancer Presenting with Bowel and Bladder Obstruction

Introduction

Prostate cancer is among the most common cancers in men, expected to cause about 268,500 new cases and 34,500 deaths in the United States in 2022. Incidence rises with age, with an estimated 11 percent of men in the US diagnosed over their lifetime. At the time of diagnosis, most prostate cancers are localized and asymptomatic.

Case

A 77-year-old male presented to the emergency room with lower abdominal pressure, inability to urinate, and worsening constipation. He reported that he had not seen a physician for 15 years and took no medications. Associated symptoms included worsening right flank pain occurring intermittently over the past week. Physical examination was notable for suprapubic fullness and markedly enlarged and slightly tender prostate without palpable nodules on rectal examination. His labwork showed microscopic hematuria and prostate-specific antigen (PSA) of 236 mcg/L (age-appropriate normal 0 - 6.5 mcg/L). CT imaging was notable for a 9-10cm pelvic mass displacing the bladder and rectum without clear site of origin. It also demonstrated right sided hydronephrosis. PET/CT demonstrated hypermetabolic activity in the pelvic mass without any regional lymph nodal or distant metastatic spread. He subsequently underwent a diagnostic laparoscopy with lysis of adhesions, core needle biopsy of the pelvis mass, and a diverting colostomy. Procedure findings confirmed malignancy of prostatic origin. Cystoscopy was performed intraoperatively, which was only notable for a large mass pushing on the bladder trigone. A right-sided nephrostomy was placed to relieve the obstruction. Microscopic evaluation of tissue showed immunophenotype profile consistent with prostatic adenocarcinoma. The case was reviewed in two separate multi-disciplinary tumor boards. The tumor was clinically staged T4 due to involvement of adjacent structures, with N0 and M0 disease, compatible with stage IIIB. Due to its size, patient was not deemed an appropriate candidate for resection. Additionally, the tumor was too large to benefit from pre-operative radiation therapy. As a result, he was initiated on upfront androgen deprivation therapy and systemic chemotherapy, with plan for interval re-evaluation to determine possibility of resection.

Discussion

In this case, the patient's symptoms are a consequence of mass effect causing functional constipation and urinary tract obstruction. This is unusual for localized disease, particularly in the absence of lymph nodal or distant spread. When symptomatic, localized prostate cancer most frequently presents with nonspecific urinary symptoms. In contrast, bone pain is the predominant symptom of metastatic disease given prostate cancer's predilection to spread to the bone. In addition to the unusual presentation, this case highlights the importance of evaluating tissue in resolving diagnostic uncertainty. Physicians should be vigilant of the varied ways in which prostate cancer may present and prioritize obtaining biopsy when applicable.

Sejal Shah DO

Peter Bhandari, MD; Amandeep Saini, DO; Nikhil Sharma, MD; Akshai Bhandary, MD

Northwell Health Lenox Hill Hospital

BRASH Syndrome: The Perplexing Pentad

Introduction:

Bradycardia is a relatively common finding in newly hospitalized patients. However, some etiologies of bradycardia are life-threatening and require alternative management. BRASH syndrome is a rare, underdiagnosed phenomenon, characterized by a pentad of Bradycardia, Renal failure, Atrioventricular nodal (AV) blockade, Shock and Hyperkalemia. Common precipitating factors include hypovolemia and medications, leading to renal compromise and shock, starting a self-feeding cycle. Here, we present two rare cases of BRASH Syndrome.

Case 1:

An 88-year-old female with hypertension, type 2 diabetes mellitus, and stage 3 chronic kidney disease (CKD), presented with one day of generalized weakness and two episodes of watery diarrhea. In the Emergency Department, she was bradycardic to 36 beats/min with remaining vitals in normal limits. Physical examination was unremarkable. Initial laboratory investigation revealed hyponatremia of 131 mmol/L, hyperkalemia of 8.3 mmol/L, BUN of 56 mg/dL, and creatinine of 3.5 mg/dL. Electrocardiogram (ECG) revealed junctional bradycardia without acute ischemic changes. The patient was admitted to Telemetry and received intravenous fluids, potassium lowering agents, and calcium gluconate.

During admission, her home Losartan, Carvedilol and Spironolactone were held. Over the next three days, the patient's creatinine improved to 1.84 mg/dL. Bradycardia and hyperkalemia resolved with no further events on telemetry. Patient was discharged on Torsemide, Hydralazine, and Losartan.

Case 2:

A 72-year-old male with hypertension, type 2 diabetes mellitus, coronary artery disease, and stage 3 CKD, presented for a one-week history of lightheadedness and decreased appetite. In the Emergency Department, he was bradycardic to 39 beats/min and hypotensive to 104/70 mmHg. Physical examination was remarkable for cool extremities. Initial laboratory investigation revealed hyperkalemia of 7.7 mmol/L, BUN of 96 mg/dL, and creatinine of 5.86 mg/dL. ECG revealed widened QRS complexes and peaked T waves in the precordial leads. The patient was admitted to the Cardiac Care Unit and received intravenous fluids, potassium lowering agents, and pressors. He ultimately required urgent hemodialysis for altered mental status with worsening renal function.

During admission, his home Metoprolol Succinate and Imdur were held and he was weaned off pressors. Bradycardia, hyperkalemia and kidney function improved with hemodialysis sessions. Patient was discharged on Imdur and Hydralazine.

In both cases, patients were discharged on alternative anti-hypertensives with outpatient follow-up with Cardiology and Nephrology.

Discussion:The pathophysiology for BRASH syndrome involves the synergistic effects of hyperkalemia and AV node blockers, which together cause profound bradycardia and hypoperfusion, ultimately worsening renal failure. The underrecognized mechanism may lead to lethal complications, as the treatment differs from the conventional management algorithm of bradycardia. In these patients, it is imperative to treat the hyperkalemia and hypovolemia to prevent further advancement of the cascade. Furthermore, we argue discontinuation of beta blockers and use of alternative anti-hypertensives, as was executed in both cases.

Myera Shahnawaz MBBS

Subash Nepal, Madhab Lamichhane

SUNY Upstate Medical University

ANOTHER VIRUS TO AVOID: COXSACKIE VIRUS ASSOCIATED SEVERE CARDIOMYOPATHY

Introduction:

Non ischemic cardiomyopathy can result from viral infections. We present a case of dilated cardiomyopathy from Coxsackie virus.

The Case:

A 20-year-old female with past medical history of OSA, morbid obesity was admitted to the hospital with complaints of chest and epigastric pain for the past few months. Physical examination revealed trace pedal edema and bilateral crackles on lung auscultation. Lab work revealed elevated proBNP 2915 pg/ml. ECG did not reveal any ST-segment changes. Troponins, ESR and CRP were not elevated. Chest x-ray revealed cardiomegaly, prominent interstitial markings and cephalization suggestive of acute pulmonary edema. A transthoracic echocardiogram showed LVEF of 30% mild pulmonary hypertension, global hypokinesis, grade 3 diastolic dysfunction. Strain study in the transthoracic echocardiogram revealed global reduction in myocardial strain. Work-up for the reversible cause of heart failure with reduced ejection fraction including titers for Lyme disease, TSH, SPEP, UPEP, ESR, antiphospholipid panel returned unremarkable. Viral serology revealed elevated titers of Coxsackie A IgG antibody (1:1600). A cardiac MRI showed severely dilated LV with LV ejection fraction of 13%, global hypokinesis and a small LV thrombus. Patient was started on apixaban for left ventricular thrombus and furosemide and metoprolol for heart failure. Patient was readmitted 2 months later with atrial flutter and decompensated congestive heart failure. A repeat echocardiogram revealed EF 12%, moderately to severely dilated left ventricle. She was started on furosemide and milrinone infusions. Cardiac catheterization revealed normal coronaries, elevated left ventricular end diastolic pressure and moderate post capillary pulmonary artery hypertension. She was started on Digoxin for atrial flutter with a plan for ablation once left ventricle thrombus resolves. Patient was deemed a poor candidate for LVAD or heart transplant due to morbid obesity.

Discussion:

Coxsackie virus can cause nonischemic cardiomyopathy by a variety of mechanisms including direct cellular toxicity, a pathologic immune response to persistent viremia or via autoimmune injury (1). In one study higher infection rates were noted in young adults as opposed to adolescents or older adults (2). Helper T cells type II have been implicated in myocarditis resulting in dilated cardiomyopathy (3). Atrial flutter complicating Coxsackie myocarditis has been reported in neonates (4). It is possible that Coxsackie virus infection precipitated atrial flutter in this patient. Our case provides unique learning opportunities and shows the importance of a detailed history and evaluation to determine a diagnosis.

Conclusion:

Keeping a broad differential for viral myocarditis in younger adults should encourage a thorough workup and may help determine the underlying cause.

References:

1) https://pubmed.ncbi.nlm.nih.gov/16817756/
2) https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4227425/
3) https://journals.lww.com/co-rheumatology/fulltext/2012/07000/update_on_coxsackievirus_b3_myocarditis.11.aspx4)
https://pubmed.ncbi.nlm.nih.gov/9565516/

Neha Sharma MBBS

Naira Saleem, MBBS

Gerard Casale, MD

Maimonides Medical Center

E-Cigarettes: A Boon or A Bane?

Case presentation

E-cigarettes and vaping use-associated lung injury (EVALI) is a novel respiratory disease. We present a case of a 22-year-old female, with a two-year history of vaping, who presented with one week of difficulty breathing, nausea, and vomiting. Blood tests showed neutrophil-predominant leukocytosis. A respiratory viral panel including Covid-19, and sputum and blood cultures were negative. Imaging showed bilateral ground-glass opacities. Ceftriaxone and Azithromycin were initiated for presumed community-acquired pneumonia, however, symptoms continued to worsen. Prednisone was added on Day 3 of hospitalization, following which the patient had a rapid recovery, with the radiological resolution of the infiltrates. With history and radiologic findings consistent with EVALI and rapid improvement with steroids, and lack of alternative explanation, the patient was diagnosed with EVALI.

Discussion

The incidence of EVALI is on the rise in the USA, keeping pace with the increasing e-cigarette use [1]. As of January 2020, 2602 cases of EVALI had been reported to CDC from all over the USA [2]. The usual components of the vape base are propylene glycol, and nicotine, tetrahydrocannabinol (THC), or other flavoring agents [1]. Laboratory testing of bronchoalveolar lavage fluid samples from patients revealed the presence of vitamin E acetate in all the samples [1, 4]. It is postulated that inhaled vitamin E acetate incorporates into the natural phospholipids of the surfactant, increasing its permeability and decreasing its functionality, resulting in inflammatory changes [1]. However, there are numerous other free radicals generated in the process of vaping, whose role in the pathophysiology of EVALI still evades us and needs further studies.

Conclusion

In conclusion, we want to emphasize that although e-cigarettes were introduced as a de-addiction strategy for nicotine, they are not as benign as initially thought to be and more studies are required to understand the full extent of the side effects posed by their use, along with stricter laws being required to curb the menace of unregulated access to these products.

References

1. L. Winnicka, M. Shenoy. EVALI and the Pulmonary Toxicity of Electronic Cigarettes: A Review. J Gen Intern Med 2020; 35(7):2130â€“5. DOI: 10.1007/s11606-020-05813-2

2. A. Werner, E. Koumans, K. Stephens, et al. Hospitalizations and Deaths Associated with EVALI. N Engl J Med 2020; 382:1589-98. DOI: 10.1056/NEJMoa1915314

3. S. Kligerman, C. Raptis, B. Larson, et al. Radiologic, Pathologic, Clinical, and Physiologic Findings of Electronic Cigarette or Vaping Product Useâ€“associated Lung Injury (EVALI): Evolving Knowledge and Remaining Questions. Radiology 2020; 294:491â€“505ï»¿. https://doi.org/10.1148/radiol.2020192585

4. B. King, C. Jones, G. Baldwin, et al. The EVALI and Youth Vaping Epidemics: Implications for Public Health. N Engl J Med 2020; 382;8. DOI: 10.1056/NEJMp1916171

Resident/Fellow Clinical Vignette

Jenny Solomon MD

Kristina Belostocki MD, Gary Rosenblum DO

NYU Long Island Hospital, Department of Internal Medicine

NOT JUST FOR KIDS: A CASE OF MULTISYSTEM INFLAMMATORY SYNDROME IN A YOUNG ADULT AFTER COVID-19 INFECTION

Background: A previously healthy 30-year-old male with a history of recent COVID-19 infection presented with fevers, vomiting, and markedly elevated inflammatory markers. Echocardiogram revealed new onset systolic heart failure with thrombus in the left ventricle and later the patient developed splenic and renal infarcts. After excluding current active infection, a diagnosis of Multisystem Inflammatory Syndrome in Adults (MIS-A) was made with significant improvements in symptoms and inflammatory markers after initiation of anakinra.

Case presentation: The patient presented with fevers, photophobia, neck stiffness, headaches, malaise, nausea, and non-bloody, nonbilious vomiting. The patient had tested positive for COVID-19 by polymerase chain reaction test four weeks prior, however symptoms at that time were limited to congestion and fatigue. On presentation, the patient met sepsis criteria and was given empiric ceftriaxone and vancomycin. Chest x-ray did not show acute pulmonary disease. Cerebrospinal fluid was initially positive for varicella zoster and patient was started on acyclovir for zoster meningitis, however repeat testing revealed this to be a false positive. Echocardiogram showed decreased ejection fraction of 25% with a 2.7cm x 2.1cm protruding but sessile thrombus in the left ventricle apex and anticoagulation was initiated. CT scans of the abdomen and pelvis showed moderate ascites and anasarca.

Ten days after presentation, persistent abdominal pain prompted repeat CT scans of the abdomen and pelvis, now revealing a new, small splenic infarct and bilateral renal infarcts not seen on initial imaging. The constellation of elevated inflammatory markers (lactate dehydrogenase, erythrocyte sedimentation rate, c-reactive protein, ferritin), left ventricle systolic dysfunction, gastrointestinal symptoms supported a diagnosis of MIS-A. He was treated with high dose intravenous methylprednisolone and intravenous immunoglobulin (IVIG). However, the patient had persistently elevated inflammatory markers and continued diffuse abdominal pain as well as intermittent chest pain. Interleukin-1 (IL-1) is a proinflammatory cytokine involved in the pathogenesis of myocardial inflammation. Anakinra, an IL-1 receptor antagonist, can decrease myocardial inflammation and contractile dysfunction and has been used in several case reports of patients with Multisystem Inflammatory Syndrome in Children (MIS-C) and MIS-A who did not respond to steroids and IVIG. The patient did note symptom improvement after initiation of anakinra and inflammatory markers decreased. Anakinra was tapered and he was transitioned to oral prednisone for discharge with follow up established for further doses of anakinra.

Discussion: MIS-A should be considered in adults with features including elevated inflammatory markers, left ventricle systolic dysfunction, gastrointestinal symptoms, and shock. Early recognition of this syndrome in adults and initiation of therapy in a timely manner can prevent adverse clinical outcomes. As there are no established gold standard treatments for MIS-A and most regimens have been extrapolated from MIS-C treatments, the application of anakinra in MIS-A should be further investigated.

Andy Wang MD

Andy Wang, MD, Westchester Medical Center, Valhalla, NY, Liana Michaud, DO, Westchester Medical Center, Valhalla, NY, Liana Tatarian, DO, Westchester Medical Center, Valhalla, NY

Westchester Medical Center / New York Medical College

A COMPLICATED CASE OF MICROSCOPIC POLYANGIITIS

Background:

Microscopic polyangiitis (MPA) is a type of antineutrophil cytoplasmic antibody (ANCA)-associated vasculitis with many serious complications. It involves necrotizing inflammation of small vessels that result in ischemia and damage to the pulmonary, skin, and renal systems. Timely diagnosis and treatment is crucial for recovery. Various case reports have linked COVID19 infection to systemic inflammatory conditions, especially in children (ex: MIS-C and Kawasaki Disease) and cutaneous vasculitis in adults. This case is a rare presentation of ANCA vasculitis in a patient with recent COVID19 infection.

Case presentation:

64-year-old woman from Albania, unvaccinated against COVID, presented with 2-months of productive cough, fatigue, and myalgia, monthly epistaxis. Three days prior to admission she experienced intermittent hemoptysis with associated fever and headache. In the emergency department, the patient was febrile and tested positive for COVID, with creatinine 3.8 and blood urea nitrogen 44. She was tachypneic and hypoxic. She was anemic requiring blood transfusions. Computed tomography (CT) thorax showed extensive bilateral airspace disease, reactive mediastinal lymphadenopathy, and dense round lesions in the lungs, atypical appearing for COVID pneumonia. Due to worsening hypoxic respiratory failure and COVID positivity, she was started on dexamethasone for COVID and antibiotics for potential superimposed bacterial pneumonia. Tuberculosis workup was also sent, and was negative. Due to the constellation of symptoms of hemoptysis, acute kidney injury, and epistaxis, rheumatology was consulted for autoimmune vasculitis workup. ANCA studies revealed elevated myeloperoxidase (MPO) antibody with suspicion for ANCA-positive vasculitis. She was started on pulse dose steroids. Renal biopsy showed pauci-immune glomerulonephritis with cellular crescent, consistent with microscopic polyangiitis. She was treated with high dose steroids and rituximab infusions. Her respiratory status improved with no further hemoptysis, minimal cough, and adequate saturation off supplemental O2. Kidney function improved and repeat CT showed improved airspace abnormalities and mediastinal lymphadenopathy. She was discharged with outpatient follow-up.

Discussion:

Recognizing the presentation of MPA and its complications is important for early diagnosis and management. MPA can affect the kidney, causing pauci-immune glomerulonephritis and the lungs, causing pulmonary vasculitis and hemoptysis. It can affect the skin, causing nodules and purpura. MPO-ANCA can serve as a useful detection marker, and biopsy of affected organs can confirm the diagnosis. The principal treatment is combined corticosteroids and immunosuppressants.

Conclusion:

MPA can impact multiple organ systems, leading to pauci-immune glomerulonephritis and pulmonary vasculitis with hemoptysis. It is critical to understand the presentation of MPA to ensure timely workup and management of MPA. This case highlights the intersect between MPA and recent COVID-19 infection, which has been associated with other auto-immune inflammatory conditions. There is a paucity of research to the prevalence of vasculitis in COVID19 infected individuals.

Muhammad Waqas MD

Parvesh Paul MD

Montefiore Medical Center, Wakefield Campus

An Unusual Etiology for Rectal Impaction in a Young Adult

Background

Bezoars are a retained mass of ingested indigestible foreign material that may cause obstruction at different locations in the gastrointestinal tract. Bezoars consist of hair (trichobezoar), vegetable matter (phytobezoar), undigested milk concretions (lactobezoar) or medications (pharmacobezoar). We report a case of a young adult who presented with an unusual phytobezoar.

Case

A young adult, with no prior health issues presented to the emergency department with lower abdominal pain, constipation and difficulty urinating since one day. Pain was centered at the suprapubic region, was non-radiating and worsened with attempts at defecation. While engrossed in computer related work for hours, he had consumed a whole bag of shelled sunflower seeds with barely any waterthat day. He reported normal stools a day earlier, followed by loose stools along with abdominal discomfort and severe rectal pain on trying to defecate. Glycerin suppositories and tap water enema were tried without relief. He also had a distended urinary bladder. Foley insertion drained up to 800ml of urine. Rectal examination revealed a hard mass impacted in the rectum. Under sedation, flexible sigmoidoscopy revealed a seed phytobezoar in the rectum and recto-sigmoid colon. Removal was partially accomplished with a Roth net, sterile water lavage and suction catheter. Post procedure, a bowel regimen was initiated, oral fluids encouraged and mineral oil enema given. The regimen helped evacuate the rest of the bezoar through small frequent bowel movements and intermittent disimpaction.

Discussion

Sunflower seeds are a good source of mono and polyunsaturated fat, protein and fiber, and are a boost to heart health. Seed bezoars, one of the phytobezoars, consist of undigested plant or fruit seeds that have a tendency to accumulate in the rectum of patients who may not have any predisposing conditions. Due to their small size, they easily pass through the pylorus and the ileocecal valve, graduallyforming a conglomerate in the colon. On reaching the rectum, the mass gets further dehydrated and hardened, as much water is absorbed in the colon; this eventually predisposes to impaction. The result may be severe constipation or obstipation, abdominal and anorectal discomfort, and urinary retention as a result of extrinsic pressure. Several neural pathways are common to both bladder and colorectal regions. A focused history and digital rectal exam confirm the diagnoses in most cases. Enemas and suppositories barely relieve the impaction; sigmoidoscopy and colonoscopy are usually required to aid disimpaction. Although fiber is recommended as a heart-healthy diet, inadequate ingestion of water predisposes to constipation in these individuals

Learning points

- Sunflower seeds are an unusual cause of phytobezoars that may cause rectal impaction, especially in the setting of poor fluid intake

- Conservative measures often fail to relieve seed phytobezoar impaction; endoscopic interventions may be required

Sonia Yu MD

Jaymie Oentoro, MD

Stony Brook Medicine

PAROXYSMAL NOCTURNAL HEMOGLOBINURIA PRESENTING AS ISCHEMIC STROKE

Introduction

Paroxysmal nocturnal hemoglobinuria (PNH) is an acquired hematopoietic stem cell clonal derangement. It is associated with hemolytic anemia, bone marrow failure, and increased probability of thrombotic events, mainly venous. Arterial thrombosis is a rare complication in PNH. Herein we present a case of a 70-year-old male presenting with an ischemic stroke as his initial manifestation of PNH.

Case Presentation

A 70-year-old male with a history of nephrolithiasis and diverticulosis presented with a right-sided facial drop associated with aphasia, dysarthria, right-sided arm paresthesia, and weakness. En route to Stony Brook University Hospital, the patient received TPA. On arrival, labs were unremarkable aside from a low hemoglobin (12.3 g/dL) and the presence of RBCs on UA (4/HPF). CT angiography revealed an evolving infarct of the left frontal lobe and basal ganglia due to occlusion of the left middle cerebral artery. He underwent cerebral angiography and mechanical intraarterial thrombectomy. The patient developed a fever two hours later and remained persistently febrile to a maximum temperature of 39oC. The patient concurrently developed leukocytosis and gross hematuria (41 RBC/HPF on UA). Empiric antibiotics were started for coverage of sepsis in the setting of possible colitis. Hematuria was attributed to urinary catheter trauma and continuous bladder irrigation commenced. Despite RBC transfusion, the patient's anemia (6.9 g/dL) and thrombocytopenia (42K/Î¼L) did not improve. Stool guaiac was negative, and CT was negative for retroperitoneal bleed. Duplex revealed DVTs in the right leg. No obvious source of cardiac emboli was seen on TTE, and carotid duplexes demonstrated normal and patent flow bilaterally. Anticoagulation was held in the setting of persistent anemia, and an IVC filter was placed. Hematology was consulted in which haptoglobin was low (<8mg/dL) and LDH (2109 IU/L) was elevated, suggesting hemolysis. Indirect Coombs test and heparin-induced thrombocytopenia (HIT) antibody panel were negative. Peripheral blood flow cytometry analysis revealed approximately 80% of granulocytes and monocytes deficient in CD55 and CD59 expression, consistent with PNH. The patient began rivaroxaban to warfarin bridge for lifelong anticoagulation. Prior to IVC filter retrieval, weekly complement inhibitor therapy (Eculizumab) was initiated due to the patient's hypercoagulable state in the setting of PNH. Treatment resulted in gradual resolution of anemia and marked improvement in the patient's neurological status, including his presenting symptom of expressive aphasia.

Discussion

PNH should be considered in the differential diagnosis of stroke patients with hemolysis, as cerebral ischemia may be the only initial presentation. While hemolysis and persistent anemia may be alarming, anticoagulation should begin urgently, considering both long-term anticoagulation and bone marrow transplant. Additionally, eculizumab has a major role in the management of PNH and prevention of thrombosis. Multidisciplinary involvement, especially with collaboration between neurology and hematology, can produce improved outcomes.

Sofia Zahid MD, MPH

John Patresan MD

Sonal Paul MD

Amardeep Kalsi MD

Uqba Khan MD

New York Presbyterian Brooklyn Methodist Hospital

FORGET OCCAM'S RAZOR: THREE PRIMARY MALIGNANCIES

Multiple primary malignancies (MPM) are a rare occurrence, especially when synchronous (occurring within 6 months of the first primary cancer). Common etiologies, risk factors, and genetics all play a role in MPM development. Additionally, these complex cases typically are more difficult to treat. This case report presents three synchronous primary cancers all positive for HER-2.

Patient is a 73 year old female, non-smoker, with past medical history of hypertension, hyperlipidemia, and pre-diabetes who presented for endoscopy and colonoscopy evaluation for non-productive cough, regurgitation, and persistent anemia despite oral iron supplementation in the outpatient setting. EGD revealed a large, oozing mass in the distal esophagus. Patient was sent into the emergency department for further work-up. Family history was significant for a sister with abdominal malignancy and a brother with lung cancer. Physical exam was significant only for pale conjunctiva but no palpable masses or lymphadenopathy. EGD pathology revealed gastroesophageal junction (GEJ) invasive carcinoma (PD-L1). Staging work-up showed a 1.7 cm spiculated lung mass along with small areas of hypodensities in the liver concerning for metastatic disease. Given the unusual pattern of metastasis from esophagus to lung, biopsy of the lung mass was done and showed adenocarcinoma of lung primary (TTF-1, CK7). With two different primary malignancies confirmed, liver biopsy was also pursued, which revealed metastatic adenocarcinoma with poorly differentiated features (CK7, mutant p53).

PET/MRI showed hypermetabolic activity in GEJ, lung, liver, and incidentally in the uterus as well. Due to metastasis, the patient was started on FOLFOX and Herceptin systemic chemotherapy. Surgical resection of the uterus and ovaries revealed high grade serous carcinoma of endometrium, superficially invasive, T1a, N0, M0. Ultimately, all three biopsies (GEJ, lung, and uterus) were HER-2 positive. No adjuvant chemotherapy for uterine cancer was pursued due to the stage IV esophageal cancer. She restarted FOLFOX and Herceptin regimen with progression to second-line treatment with Paclitaxel and Ramucirumab. Unfortunately, her course was complicated by bacteremia, new-onset seizures, and status epilepticus eventually leading to intubation and work-up for paraneoplastic encephalitis. She expired 11 months after her initial oncologic diagnosis.

Triple synchronous MPM occurs in approximately 1.8-3.9% of all primary cancers and more than 75% of this population are older than 50 years. Identifying multiple malignancies has become easier given greater surveillance and genetic testing. However, treatment plans are challenging for synchronous multiple tumors in comparison to single metachronous tumors (two cancers diagnosed more than 6 months apart). There are no guideline-directed therapies and options are very limited. A multi-disciplinary, individualized approach is best and prognosis is determined by malignancy stage. By further developing screening tools for patients with single primary malignancies and identifying risk factors, we hope to advance our approach to treating MPMs.

New York Chapter
American College of Physicians

Resident/Fellow and Medical Student Forum

Resident/Fellow Research

Lillian Chang MD

Melissa Gennarelli, MD, Leanne Forman, MD, Menasche Krupka, MD, Christopher Nabors, MD

WMC Internal Medicine Program

How Well Do Residents Interpret ECG's

Purpose:

To assess the ECG interpretations skills of internal medicine residents at various stages of training.

Background:

A core set of important electrocardiograms (ECG's) have been identified by clerkship directors in internal medicine.1 We sought to determine how well internal medicine residents at two levels of training could interpret findings on this set of ECG's.

Methods

Program leaders identified 17 ECG's demonstrating the key findings.1 These were pilot tested by chief residents and faculty this administered via a SurveyMonkey, 17-item anonymous survey. Three items assessed prior ECG training and interpretation confidence. Participants included 33 interns (preliminary/categorical class of 2020), 17 categorical-interns (class 2024) and 9 third-year residents (class 2022). Descriptive statistics, Chi-square and student t tests were utilized.

Results

Response rates were 97% (2018 interns/class 2020), 81% (class 2024), 47%, (class 2022). The mean correct percentage of all items was 77% (SD18). The mean percentage correct was significantly higher for third years compared to interns - 90% v 74% (p=.015). Among interns, the ECG's with the highest percent correct were: monomorphic ventricular tachycardia (VT)(96%), Sinus Bradycardia (94%) Inferior ST-segment elevation myocardial infarction (STEMI) (92%), and Atrial flutter (90%), Normal Sinus Rhythm 88%; ECG's with the lowest percent correct were: Hyperkalemia (40%), Acute Pericarditis (50%) and Right (60%) and Left Bundle Branch Block (59%). Among third year residents, Inferior STEMI, Complete Heart Block, First Degree Atrioventricular Block , Atrial Fibrillation, PVC's and Ventricular Tachycardia (VT) were identified correctly by all. Acute Pericarditis (67%) and Antero-Lateral STEMI (78%) were incorrectly identified most frequently.

Overall, an incorrect response was selected with a frequency of â‰¥10% on 13 of 17 ECG's for first years and 10/17 for 3rd years. Hyperkalemia was most often mistaken for VT and Acute Pericarditis was most commonly mistaken as Anterolateral STEMI among interns. Third years most frequently confused AL-STEMI, Inferior-STEMI and pericarditis. Forty-seven percent of interns and 89% of third years reported being moderately to extremely well prepared to interpret ECG's. Significantly more trainees (82% v 18%) who felt moderately to very well prepared to interpret ECG's scored in the top quartile on this test (p<.001).

Conclusion

In this study, the ability to accurately identify important ECG patterns varied widely, with senior residents correctly interpreting ECG more often than interns. Confidence in ECG interpretation was associated with high performance. Identification of challenging ECG's through formal testing has permitted our program to use targeted educational interventions to improve ECG reading skills.

Reference:

1. Lundberg EL, Stagnaro-Green A, Zhang Y, LeLacheur S, Jablonover R. Assessment of competency in electrocardiogram interpretation of graduating physician assistant students. J Physician Assist Educ. 2013;24(4):15-18.

Yu-Che Lee MD

Yu-Che Lee, Ko-Yun Chang, Ivan Wudexi, Akash Parashar, Stephen G. Chrzanowski

University at Buffalo/Sisters of Charity Hospital

Association Between Sociodemographic Factors and Cardiovascular Disease Outcomes in New York State

INTRODUCTION: Cardiovascular disease (CVD) is the leading cause of death and contributes to enormous health and economic burdens in the United States. Social Vulnerability Index (SVI) is a web-based tool created by the Centers for Disease Control and Prevention (CDC) to identify a community's sociodemographic vulnerability to disasters. The relationship between county-level sociodemographic factors and CVD outcomes in New York State (NYS) has not been evaluated before. Our aim is to examine the association between county-level sociodemographic factors as assessed by SVI and CVD hospitalization and mortality rates in NYS.

METHODS: We obtained age-adjusted hospitalization and mortality rates for overall CVD and its subtypes (heart diseases, coronary heart disease, heart attack, congestive heart failure, and stroke) between 2016-2018 from the New York State Community Health Indicator Reports provided by the New York State Department of Health. The overall SVI is a percentile rank calculated by summing the score for 4 subindices: Socioeconomic Status, Household Composition & Disability, Minority Status & Language, and Housing Type & Transportation. The percentile rank ranges from 0 to 1, with higher values indicating greater vulnerability. We examined the CDC SVI 2018 data for NYS, which includes American Community Survey data for 2014-2018. The associations between overall CVD and its subtypes outcomes and overall SVI and its 4 subindices were analyzed by negative binomial regression.

RESULTS: From 2016 to 2018, the overall CVD age-adjusted hospitalization rate per 10,000 population was 124.1 (heart diseases: 83.3, coronary heart disease: 25.8, heart attack: 13.7, and stroke: 21.0) and mortality rate per 100,000 was 213.6 (heart diseases: 172.0, coronary heart disease: 132.0, heart attack: 24.2, congestive heart failure: 12.0, and stroke: 24.5). Among 62 counties, Bronx had the highest SVI score (1; the greatest vulnerability) whereas Saratoga had the lowest SVI score (0; the least vulnerability). In our analysis, counties with higher scores of Overall SVI were significantly associated with unfavorable outcomes for CVD (hospitalization, incidence rate ratio [IRR]: 1.205 [95%CI: 1.035-1.402], per 1-unit increase; mortality, 1.201 [1.093-1.320]), heart diseases (hospitalization, 1.197 [1.025-1.399]; mortality, 1.231 [1.109-1.367]), coronary heart disease (hospitalization, 1.281 [1.058-1.551]; mortality, 1.434 [1.213-1.694]), and heart attack (hospitalization, 1.296 [1.046-1.604]; mortality, 1.676 [1.249-2.251]). Regarding the 4 subindices, Socioeconomic Status and Household Composition & Disability were independently associated with CVD mortality (1.137 [1.000-1.292] and 1.201 [1.066-1.354]). Minority Status & Language was independently associated with CVD hospitalization (1.344 [1.130-1.599]). There was no association between Housing Type & Transportation and CVD outcomes.

CONCLUSIONS: County-level sociodemographic disparities as assessed by SVI were significantly associated with CVD outcomes in NYS. These findings could provide evidence for health care providers and public health practitioners developing more effective prevention and tailored interventions for CVD on areas with sociodemographic disadvantage.

Sujan Niraula MD

Anjan Katel: Department of Medicine, Kathmandu University School of Medical Sciences, Dhulikhel, Nepal; anjan.katel3@gmail.com

Madan Aryal: Department of Medicine, Enloe Medical Center, Enloe Regional Cancer Center, Chico CA; Aryal.madan@gmail.com

Arun Neupane: Department of Nursing and Critical Care, Alta Bates Summit Medical Center, Berkeley, CA; Arunneupane1@gmail.com

Akash Pokharel: Senior Consultant Orthopedic surgeon, Gurkha Public Hospital, Ghorahi -15, Dang, Lumbini Province, Nepal; dr.akashpokharel@gmail.com

Vassar Brother Medical Center

Efficacy and Safety of Rivaroxaban in Venous Thromboembolism Compared to Warfarin in Morbidly Obese Patients in real world settings

INTRODUCTION

Rivaroxaban, a factor Xa inhibitor has been approved for the treatment of venous thromboembolism (VTE) in non-obese patients. However, in patients with morbid obesity use of direct oral anticoagulants is controversial with limited data and is not recommended by International Society on Thrombosis and Hemostasis (ISTH). This could be related to alterations in pharmacokinetic parameters. Hence, we sought to perform a systematic review and meta-analysis on efficacy and safety of rivaroxaban in morbidly obese patients in the treatment of VTE.

METHODS

Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement for reporting systematic reviews was used for this systematic review. We searched and identified studies comparing rivaroxaban with warfarin in morbidly obese (BMIâ‰¥ 40 kg/m2 or weight â‰¥120 kg) patients with acute VTE through electronic literature searches of MEDLINE, EMBASE, Scopus, clinicaltrials.gov, and the Cochrane library up to November 2021. Primary efficacy outcome of interest was rate of recurrent VTE (composite of any recurrent deep vein thrombosis or pulmonary embolism in symptomatic patients) and primary safety outcome was major bleeding as per ISTH guidelines or Cunningham algorithm. Outcomes from the individual studies were aggregated with RevMan (version 5.3, Cochrane Collaboration, Oxford, United Kingdom).

RESULTS

Total of 9,602 patients were included from four studies for this meta-analysis. Recurrent VTE events occurred in 556 out of 4786 patients (11.61%) on rivaroxaban and in 583 out of 4816 (12.10%) patients on warfarin (OR: 0.81; 95% CI: 0.46 to 1.42, p= 0.46, I2=81%). Major bleeding occurred in 77 out of 4786 patients (1.60%) on rivaroxaban and 111 out of 4816 (2.30%) patients on warfarin (OR: 0.70; 95% CI: 0.52 to 0.93, p=0.02, I2=0%).

DISCUSSION

In this study, we found a similar incidence of recurrent VTE but decreased risk of major bleeding with rivaroxaban compared to warfarin in morbidly obese patients. Our finding is similar to a study by Buck et al. who showed similar results of rivaroxaban and apixaban in patients with increased body mass (BMIâ‰¥25) without morbid obesity. A pharmacology study showed comparable pharmacology profile of rivaroxaban in different weight groups and thus no need of dose adjustment in obese patients. Our findings align with recommendations for use of rivaroxaban on morbidly obese patients with non-valvular atrial fibrillation as well.

Derman Ozdemir MD

Merve Kulbay MS3, Jacques Bernier PhD

BROOKDALE HOSPITAL MEDICAL CENTER

Novel investigation of DFF40 expression in cancer cells and its role in chemoresistance

Numerous mutations in cancer cell types have been reported to be implicated in chemoresistance and treatment outcome. It is estimated that 28 to 60% of cancer patients do not respond to chemotherapy due to the high genetic variability in each tumour subtypes. The regulation of the apoptotic pathway is one of the most studied mechanisms regarding cancer cell resistance. The DNA fragmentation factor 40 (DFF40) has been gaining interest regarding cancer cell response to chemotherapy and patient outcomes. DFF40 is the endonuclease responsible of the final step of apoptosis where it is integral in the proper cleavage of the DNA to destroy the genome of mutated cells. Glioblastomas and uterine leiomyosarcomas have been shown to have a downregulation in DFF40 expression, conferring a poor patient prognosis and lower overall survival rates. Overexpression of DFF40 in breast cancer cells was shown to enhance cell sensitivity to chemotherapy.

Our team has thus sought to determine the molecular modulations involved in DFF40-deficient cancer cells to apoptosis-induced cell death. We first showed that DFF40 is significantly downregulated in breast and ovarian cancer subtypes, as well as endocervical, lung and pancreas cancers. To better investigate the impact of DFF40 expression abolition on cancer chemo response, we first generated a stable DFF40 deficient Jurkat T cell line by CRISPR-cas9 and exposed these cells to different chemotherapy agents. As expected, DFF40 deficient Jurkat T cells are more resistant to antimetabolites (e.g., methotrexate, cytarabine and 6-mercaptopurine), but surprisingly, show greater sensitivity to topoisomerase II inhibitors (e.g., etoposide). The higher sensitivity could be linked to a downregulation of the antiapoptotic protein Bcl-xL. Cell model profiling at basal state by flow cytometer revealed that DFF40 deficiency confers cancer cells a higher proliferative state, as shown by enhanced Ki-67 transcription factor expression and an upregulation of the AKT pathway. Cell metabolism is altered to favor the Warburg effect; DFF40 deficient T cells have higher levels of glycolysis, oxygen consumption rates (OCR) and reactive oxygen species (ROS) production. Finally, DFF40 deficiency seems to impair DNA repair pathways, by a significant diminution of histone H2AX phosphorylation, a marker of DNA damage.

Overall, our findings suggest that DFF40 is a novel key target in cancer cell resistance that potentially regulates genomic stability. Our upcoming studies focus on the importance of DFF40 in DNA repair pathways (e.g., ATM and ATR repair pathways).

Vishal Rana MD

Michael William, MD

Anjali Kewalramani, MD

Jordan Daloya, MD

Martin Barnes, MD

Tylis Chang, MD

Andrew Miele, MS

Greg Haggerty, PhD

Joseph Ng, MD

Northwell Health at Mather Hospital

SARS-CoV-2 Mask Mandates in New York and Their Effect on the Incidence of Flu

Introduction: Early during the SARS-CoV-2 pandemic, New York State (NYS) instituted mandates and interventions including masking requirements, with the goal of protecting the public from the spread of a largely unknown and poorly understood virus. Utilizing what was learned during a previous SARS pandemic, information and guidelines were extrapolated to enact public policy to protect the population at large. Months into pandemic and the implementation of mask mandates in 2020-2021, it was observed that the cases of influenza in the population were practically non-existent.

We aimed to quantify the reduction in the cases of influenza and correlate results with the execution of masking requirements in public with social distancing. Both measures which have been hypothesized to decrease the exposure of patients to the aerosolization of fomites carrying the SARS-CoV-2 virus, the primary cause of propagation of both SARS-CoV-2 and the influenza virus.

Methods: Influenza data was collected from the Pathology Department of Northwell Health, a 23-hospital system located in New York. Positive influenza results were collected for the 2018-19, 2019-20, and 2020-21 Flu seasons. The incidence and rates of positivity for the influenza virus were extrapolated and compared between each Flu season.

Results: Our study, although correlational in nature, showed a dramatic decrease in influenza rates during the 2020-21 Flu season which corresponded to the strict social distancing and mask requirements instituted in NYS during the pandemic. The positivity rate of Flu A+B during 2020-21 was 0.28% compared to the positivity rate of Flu A+B 12.77% and 12.82% in 2018-19 and 2019-20 respectively. This steep decline correlates with the implementation of public health mandates directed at decreasing the spread of aerosolized particles between members of the population.

Conclusion: Systematic review of literature shows that the use of masks in conjunction with good hygiene can reduce the transmission of influenza resulting in a decrease in illness, hospitalizations, and deaths. Our data shows a significant decrease in the number of positive influenza tests during the same period when SARS-CoV-2 social distancing and mask wearing requirements were in effect.

Atul Sinha

Rajmohan Rammohan MD, Vaishali Mehta MD, Paul Mustacchia MD

Nassau University Medical Center

USEFULNESS OF VOICE ASSISTANTS IN PROVIDING CLINICALLY APPROPRIATE ADVICE REGARDING COLORECTAL CANCER SCREENING

A voice assistant (VA) is a voice enabled artificial intelligence that allows users to communicate with a device in a conversation-like manner. One of the many uses of digital searches is to seek out medical information, begging the question, are voice assistants providing medically accurate answers to such questions? We did this study to determine if VAs provide clinically appropriate advice regarding colorectal cancer screening. Four voice assistants: Apple Siri, Amazon Alexa, Google Assistant, and Microsoft Cortana were tested. Voice recordings were done for 5 commonly asked questions regarding colorectal cancer screening. The authors decided if each of the four VAs provided clinically appropriate advice. We found that clinically appropriate advice was provided 100% by Apple Siri, 60% by Amazon Alexa, 100% by Google Assistant, and 40% of the time by Microsoft Cortana. Both Apple Siri and Google Assistant provided clinically appropriate advice 100% of the time, however, the top results for Google Assistant were advertisements for the services and products of for-profit companies. We understand that the VAs generate income from advertising, however, we believe it is amoral to show these advertisements prior to providing meaningful results in this situation. All of the VAs provided accurate advice about when to start colorectal cancer screening, even including the May 2021 USPSTF recommendation to start colorectal cancer screening at age 45. None of the VAs instructed users to speak to a healthcare provider, which we believe is a vital aspect to any medically related search result. Most of the VAs performed well in our study but we believe there is a need for improvement, especially with how technology is becoming more ingrained in our everyday lives.

Alexis Tchaconas MD

Guillaume Stoffels, MA, MS

Joseph Truglio, MD, MPH

Icahn School of Medicine at Mount Sinai

A multimodal curriculum to improve internal medicine and pediatrics residents' knowledge in the care of young adults with developmental disabilities

Nearly a quarter of the population lives with a disability, of which 10% have an intellectual or developmental disability. There is a dearth of formal curricula that address transitions of care from pediatric to adult providers and the complex medicolegal implications such as guardianship for individuals with developmental disabilities (IDDs). Internal medicine residents do not currently have ACGME-required educational experiences on IDDs and it is not universally taught in medical school. Likewise, pediatric residents do not receive formal training in transitioning care of IDDs to adult providers. Given that the life expectancy of individuals with IDDs is approaching that of the general population, a growing number of them are aging out of pediatric care, tasking pediatricians to transition their care and internists to assume their care with minimal training. Study participants included PGY 1-3 internal medicine, pediatrics and med-peds residents. A pre-workshop questionnaire is used to assess trainees' baseline knowledge of medical and social issues specific to IDDs. The workshop is a 1-hour interactive session with didactics, clinical cases and role playing that use two common developmental disabilities, autism and cerebral palsy, to teach about school services, applying for guardianship and the transition of care from pediatric to adult providers. Immediately after, 2 months after and 6 months after the workshop, trainees' knowledge was reassessed using the same questionnaire. Data were analyzed using SAS statistical software, employing random-intercept logistic regressions to determine whether respondent accuracy changes over study time points. Ninety-one residents in total participated in the workshop. Sixty-six residents responded to the baseline questionnaire, a majority of whom were PGY-2 internal medicine residents (79%) with no prior experience working with IDDs (68%). Among the 13 pediatrics trainees, 38% completed a developmental pediatrics rotation. Among all trainees, there was a significant increase in knowledge from pre- to immediate post-workshop in the areas of transitions of care (5 to 71%, $p<0.0001$), school services (32 to 67%, $p=0.002$) and guardianship (23 to 60%, $p=0.0003$). Pre-workshop to 6-months post-workshop, the significant increase in knowledge of transitions of care persisted (5 to 24%, $p=0.008$). When all knowledge questions were combined into a single score, there were significant increases in knowledge from baseline to immediate post-workshop ($p<0.0001$) and baseline to 6-months post-workshop ($p=0.04$). A multimodal workshop on young adults with developmental disabilities led to significant increases in knowledge among internal medicine and pediatrics residents, both immediately and 6-months after the workshop.

Kathy Tin DO

Hand, Jane MD; Fisher, Lisa MD

Stony Brook University Hospital

Osteoporosis Screening for Male Veterans in a Resident Primary Care Clinic at Northport Veteran Affairs Medical Center

In elderly patients, falls can be disabling and result in complications, including fractures, hematomas, immobility, and venous thromboembolisms with prolonged bedrest. Patients with osteoporosis are at an especially high risk for fractures with falls and its complications. Although women are at a greater risk of developing osteoporosis with increasing age and lose bone mineral density faster than men, men can also develop osteoporosis with aging. The National Osteoporosis Foundation recommends screening for osteoporosis in male patients â‰¥ 70 years old with dual energy x-ray absorptiometry (DEXA) scans. Studies have shown that men who meet age criteria are insufficiently screened for osteoporosis.

The purpose of this study is to determine and improve rates of osteoporosis screening in Northport Veteran Affairs male veterans â‰¥ 70 years old as recommended by the National Osteoporosis Foundation. Retrospective chart review of the resident primary care clinic from September 2019 through December 2019 showed that of the 717 male veterans who met age criteria, only 9.76% were appropriately screened for osteoporosis. Of these veterans, 14.29% were found to have osteoporosis and 58.57% were found to have osteopenia. Patients that were diagnosed with osteoporosis with DEXA scan were offered and initiated on appropriate treatment, including bisphosphonates, which have been shown to reduce fracture risk and improve mortality.

Resident physicians were subsequently educated on screening and treatment of osteoporosis in a primary care setting. Retrospective chart review of the resident primary care clinic after osteoporosis education from March 2021 through June 2021 showed that of the 690 male veterans who met age criteria, 22.17% were appropriately screened for osteoporosis. Of these veterans, 16.99% were found to have osteoporosis and 47.71% were found to have osteopenia. Our finding of high rates of osteopenia in our veterans provides a target population for us to educate on the importance of bone health, falls prevention, and fall consequences. With our intervention, we were able to screen more than twice as many veterans for osteoporosis (9.76% to 22.17%, pre- to post-education, respectively). However, more screening still needs to be done. It is essential to continue resident education to improve rates of osteoporosis screening and treatment in the hopes of preventing fractures and its implications in our male veterans.

New York Chapter
American College of Physicians

Resident/Fellow and Medical Student Forum

Resident/Fellow/Medical Student

Quality-Patient Safety-Advocacy

Einas Batarseh MD

Anthony Khoury, DO, Mazen Jizzini, MD, Elizabeth Onyechi, MD, and Smita Bakhai, MD MPH, FACP

University at Buffalo

Strategies to Address the Barriers to Health Care Disparity in Colorectal Cancer Screening (CRC)

Background:

Colorectal cancer (CRC) is the second leading cause of cancer mortality in the United States of America; however, screening remains suboptimal. Disparities in CRC screening existed before the COVID-19 pandemic and have magnified during the pandemic. African Americans have lower screening rates and higher mortality. We identified a significant gap for CRC screening in Internal Medicine Clinic among under-resourced patients. The aim of this quality improvement (QI) project is to increase CRC Screening in patients ages 50-75 to 40% from the baseline rate of 33% with implementation of stool DNA test (Cologuard) and colonoscopy within 12 months.

Methods:

The multidisciplinary QI-team comprised a lead physician, 66 residents, nurses, social workers, providers, administrative clinic leadership, patients, gastroenterology clinic staff, and an American Cancer Society liaison. We used Plan-Do-Study-Act (PDSA) method. QI-team participated in a weekly meeting and performed root cause analysis. The lack of knowledge about using the Cologuard collection kit, long wait time (more than three months) for scheduling colonoscopy, and patient/provider education were identified as major barriers. Furthermore, the team utilized various QI tools, including stakeholder analysis, process flow map, and driver's diagram.

The outcome measure is the CRC screening rate. The process measures included: 1) Improvement in residents' knowledge of social determinants of health (SDOH) and CRC screening, 2) Cologuard order rates and completion rates, and 3) Colonoscopy order rates and completion rates. Balance measures include patient and physician satisfaction. Major PDSA cycles included: 1) Resident and staff education for Cologuard kit, SDOH and CRC screening, 2) Enhancement of health information technology and creation of templates for average-risk and high-risk patients for CRC screening options, 3) Patient navigator training for patient outreach, 4) Improving colonoscopy referral workflow and 5) Creation of specific messages for CRC screening education in patient's preferred languages. Data analysis is performed using monthly run charts.

Results:

Cologuard completion rates increased during the first five months of this QI-project to 41.3% from the baseline completion rates of 32.5%. The rate of patients who completed the test correctly increased to 71% (27/38) vs. 66% (17/26). The positivity rate for Cologuard was 23.68% (9/38), and there was a steady increase in colonoscopy referrals. Residents' average pre and post-test performance on CRC screening guidelines improved from 74% to 96% and from 84% to 90% for SDOH education.

Conclusion:

Engagement of multidisciplinary QI-team for addressing various SDOH may improve CRC screening rates. Provider education, enhancement of EHR, and clinic workflow were crucial for the success of this QI-project. Future PDSA cycles will include creating videos by residents and clinic staff for patient education in-patient's preferred languages and optimization of electronic patient registry for CRC screening. The patient navigator will continue to track colonoscopy completions.

Kaili Du MD

Sristee Niraula, M.D 1. , Julia Ressler, MPH 1., Jillian Senner, M.D 1..

1. Department of Medicine, Cayuga Medical Center, Ithaca, NY 14850

Improving portal usage in a rural resident-run primary care clinic

Introductions:

Despite wide use of online communications, telephone communication remains the most used method in most primary care clinics in rural or suburban areas. It is challenging to promote portal use in rural settings, as patients face difficulties in accessing and using technologies. We started this quality improvement project with an aim to increase portal usage in our resident-run primary care clinic by 50% from baseline in 2 years.

Methods:

This is a quality improvement project carried out in a community hospital primary care clinic in central New York. The clinic serves a low socioeconomic population with internal medicine residents as providers, seeing about 150-250 patients each month. Stakeholders include all residents and faculty working in this residency clinic, patient service representatives who helped with portal activation, and patients who engaged in portal activation. Outcome measures are percentages of patients that have active patient portals. This was counted monthly among patients who had visits during that month.

Interventions:

1. New workflow: We created a new workflow inviting and helping patients to open a portal during their in person or telemedicine visits.

2. Education: residents, faculty, nurses, and patient service representatives were educated about encouraging patients in using patient portals.

3. Posters: We created posters and pamphlets with an easy-to-access QR code for opening portals.

Results:

The project started in Jan 2020, and ended in Dec 2021. We implemented 3 PDSA cycles of interventions in total, including new clinic workflow, clinic wide education and QR code use. There was a significant increase in portal activation from baseline around 24% to 45% overall. By integrating portal activation into our new workflow, and providing continuous clinic wide education, portal use significantly increased from 24% to 38%. However, due to staff shortage, high staff turnover, increase in telemedicine visits during pandemic, we noticed large fluctuations in adherence with workflow. We realized it was difficult to attain success if our process heavily relied on our clinic staff. Therefore, we introduced easily accessible QR codes in our PDSA cycle 3, and we found a steady and significant rise in patient portal use from 35% to 45%.

Discussion

Our project increased portal activation rate in our primary care residency clinic by 88% despite various challenges during pandemic. We attributed this increase mainly to patient engagement, clinic staff engagement, and continuous education we were dedicated to. In the meantime, we learned the importance of making processes more automated in order to maintain success. This is especially important during the COVID pandemic when most clinics were facing staffing challenges. Future directions will be to use a systemic approach targeting social determinants to help this population utilize patient portals.

Anna Jaysing

Rachel Suss,Department of Population Health, NYU Grossman School of Medicine, New York, NY

Vivian Hsing-Chun Wang, RD,Department of Public Health Policy and Management, School of Global Public Health, New York University, New York, NY

Yousra Yusuf, PhD,Department of Population Health, NYU Grossman School of Medicine, New York, NY

Sarah Cohen, Department of Population Health, NYU Grossman School of Medicine, New York, NY

Kelli Kokame, Department of Population Health, NYU Grossman School of Medicine, New York, NY

Christina Lee, MPH, Department of Population Health, NYU Grossman School of Medicine, New York, NY

Victoria Foster, MPH, Department of Population Health, NYU Grossman School of Medicine, New York, NY

Stella Yi, PhD, Department of Population Health, NYU Grossman School of Medicine, New York, NY

Nicholas Berbari, MD, Office of Students and Diversity & Department of Medicine, NYU Long Island School of Medicine, Mineola, NY

NYU Long Island School of Medicine

MOVING TOWARDS CULTURALLY APPLICABLE DIETARY RECOMMENDATIONS IN OUR AMERICAN MELTING POT

Purpose: The United States is a nation of immigrants, but dietary recommendations remain insular, focusing on nutrient density and the absence of physical illness. An alternative approach is to develop recommendations that account for cultural practices worldwide which may more effectively promote sustained dietary and health improvements in a racially/ethnically diverse population.

Methods: We undertook a thematic analysis of the food-based dietary guidelines, available from the Food and Agriculture Organization of the United Nations (n=94 countries). Included guidelines were from countries in Africa (n=7); Asia and the Pacific (n=18); the Near East (n=5); Europe (n=33); Latin America and the Caribbean (n=29) and North America (n=2). A codebook was developed through an iterative review process and then applied by two authors to elicit themes across the recommendations. Applied themes were then analyzed by region.

Results: The most frequent themes found in the North American guidelines were food positivity, the social aspect of eating, disease prevention and health outcomes, nutrient adequacy, calorie rhetoric, sugar sweetened beverage consumption, and a fruits and vegetables based food pyramid. Least frequent themes in the North American guidelines were frequency (how often) rhetoric, portion rhetoric, vitamin consumption, animal protein and products consumption, fruit consumption, and vegetable consumption â€" all of which were more prevalent in European guidelines. Micronutrient (i.e. iodine) consumption was mentioned most in Africa guidelines; local food consumption was most frequent in Asia and Pacific guidelines; minimizing waste was most found in Near East guidelines; systemic context (i.e. economic cost, mindfulness) was most prevalent in Latin America and the Caribbean guidelines. These overarching societal and environmental considerations were largely absent in North America guidelines. Themes found to be universal across all regions included measuring weight, frequency rhetoric, animal protein and products, and fruits and vegetables. However, it is important to note that many of these universal themes appeared the least in the North American guidelines, further highlighting their insularity.

Conclusion: In the United States, which has often been referred to as â€œa melting pot,â€ identifying regional and universal themes allows for the incorporation of cultural practices, health concerns, and strengthens dietary recommendations. A “bottom-up”, culture-based approach to designing dietary recommendations may be more effective in producing sustained dietary and health improvements for the diverse immigrant populations in the United States.

Jacquelyn Jordan MD, MPH

Smita Bakhai, MD, MPH

Jacobs School of Medicine and Biomedical Sciences, Univeristy at Buffalo

MITIGATING MATERNAL HEALTH RISKS BY IMPROVING COVID-19 VACCINATION RATES

Purpose: We identified a gap in Covid-19 vaccination rate among pregnant and post-partum women enrolled in the Priscilla Project of Buffalo. The aim of this quality improvement (QI) project is to improve the rate of fully vaccinated pregnant and recently pregnant women participating in the Priscilla Project of Buffalo from a baseline of 39.5% to 60% over 6 months.

Methods: The Priscilla Project of Buffalo is a program that works to achieve healthy birth outcomes through empowerment of socially isolated, at risk women by providing doula services, education on prenatal nutrition and baby care, birth plan development, native language services, social outings and support groups. Patient population includes refugees, immigrants and disadvantaged women and multiple ethnicities that speak over 20 languages. A multidisciplinary QI team was created. The QI team utilized PDSA method to improve vaccination rates. QI team developed a fishbone diagram to identify barriers to optimal vaccination rates. Major barriers included knowledge gaps about vaccine safety in pregnancy, fear of complications, language barriers and access to vaccination sites. QI team implemented various QI tools including STEEEP (Safe, Timely, Effective, Efficient, Equitable, Patient Centered) table, stakeholder analysis, process flow map, and driver"s diagram to optimize vaccination rates. The outcome measure was Covid-19 vaccination rate (fully vaccinated with either a one series or two series shot). Process measures comprised of rates of partially vaccinated patients, attendance of community health workers at educational events and scheduled vaccine appointments. Balancing measure is provider, patient and health worker"s satisfaction. Major components of PDSA cycles include:1) education to providers, community health workers and patients, 2) one-on-one motivational interviewing sessions and education at groups support meetings, 3) streamlined scheduling process and 4) creation of educational flyers in patient"s preferred language and distribution to participants in person and through the EMR"s patient portal. Data analysis is performed by weekly run charts.

Results: Current data shows an increase in the rate of fully vaccinated women enrolled in the Priscilla Project of Buffalo from 39.5% to 46.2% over the first 3 months. Process measure of attendance included 77% of community health workers and doulas at educational events. Of the 158 initially unvaccinated participants, 33 have received the first dose vaccination.

Conclusion: Pregnancy and the immediate post-partum period are known risk factors for severe COVID-19 infections. By addressing social determinants of health such as literacy level, language for vaccine education and transportation have resulted in to steady increase in the Covid-19 vaccination rates in pregnant women and in postpartum period. Engagement of high functioning multidisciplinary QI team was crucial in the success of this project.

Tiffany Lu

Mo Mai, Nyein Chann Wai Lynn, Jocelyne Karam

Maimonides Medical Center

A Descriptive Study of Inpatient Insulin Therapy for Hyperglycemia Treatment

Introduction:

The International Diabetes Foundation estimates that 552 million people will be diagnosed with type II diabetes by year 2030. Outpatient diabetes management combines lifestyle modifications and pharmacotherapy. When these patients are admitted to the hospital, their management is transitioned to an insulin-based regimen, allowing for more finely controlled blood sugars in the setting of acute illness. The American Association of Clinical Endocrinology (AACE) and American Diabetes Association (ADA) recommend combination basal-prandial with correctional sliding scale insulin regimens in non-critically ill patients with consistent oral intake. At Maimonides Medical Center (MMC), hyperglycemia guidelines are derived from these same AACE and ADA recommendations while taking into consideration community specific trends observed in our patient population. The use of combination therapy stems from literature showing superior glycemic control and lower total daily insulin requirements. Despite this, a 2007 survey conducted throughout 44 United States hospitals revealed 43% of patients were solely treated with sliding scale insulin in lieu of the basal-prandial regimen. We hypothesized there would also be a lack of adherence within our institution to current insulin guidelines, with inappropriate use of sliding scale monotherapy.

Method:

This was a retrospective descriptive study using data obtained from the charts of patients which met the following parameters: admission to a particular inpatient medicine unit during a 1 year period, 2 or more point of care blood glucose measurements (BGMs) greater than 200mg/dl and consistent oral nutrition during their hospitalization. The data was analyzed to illustrate the degree of adherence to MMC hyperglycemia guidelines. Anonymous multiple choice questionnaires were distributed electronically to the internal medicine residency program to assess barriers to implementation of current guidelines.

Results:

Data revealed 49.3% adherence to institutional guidelines on use of basal-prandial-correction insulin for inpatient hyperglycemia management. Anonymous questionnaires revealed 50% of survey respondents believed that primarily utilizing a sliding scale insulin regimen would be safer than a basal-prandial regimen and 60% of survey respondents had concerns for hypoglycemia when prescribing basal-prandial regimens as compared to sliding scale alone.

Conclusion:

The results of data analysis imply that the lack of guideline adherence may be due in part to misconceptions amongst healthcare providers, including those at our own institution, on the efficacy and safety of basal-prandial regimens. When examining factors that could impact practice, we found residents were statistically more likely to prescribe basal-prandial insulin to patients with higher initial BGM and a higher HbA1c, aligning with the concern for hypoglycemic events. Published literature indicates there is no statistically significant difference rates of hypoglycemia when following a basal-prandial regimen, which has been associated with superior glycemic control and decreased total daily insulin. Thus, steps should be taken to reinforce appropriate insulin prescription in hospitalized patients throughout all institutions.

Arnold Moore III

Gwen Bondi, MS (Bioethics Consultant, Albany, NY); John Huppertz, PhD (Clarkson University, Potsdam, NY)

Albany Medical College

IDENTIFYING BARRIERS TO ADVANCE CARE PLAN COMPLETION AMONG OLDER ADULTS

Study Purpose:

Advance care planning (ACP) is an important tool for preserving patient autonomy and benefits patients, families, and providers. ACP is underutilized throughout the United States, yet the factors contributing to this deficit are poorly understood. The purpose of this study was to develop an understanding of older individuals" attitudes towards advance care planning and to characterize perceived barriers to ACP completion.

Methods:

A sample of 240 United States residents aged 65-years and older were invited to complete a survey assessing their attitudes toward ACP through an online panel. Participants were administered a structured questionnaire comprised of scaled items that were derived from prior qualitative discussions about ACP with groups of seniors. An analysis of Likert scale responses was performed to identify common barriers underlying participants" reluctance to complete advance care plans. The study was approved by the institutional review board at Clarkson University.

Results:

130 (54%) respondents reported having completed an advance care plan, while 110 (46%) had not. Those who completed ACPs feel it is important to avoid burdening their families with difficult decisions and healthcare expenses by stating their preferences, a finding that is consistent with prior research. Among those without advance care plans, 53 (48%) reported they had heard of advance care planning before participating in the study. The most prevalent barriers were uncertainty about healthcare preferences and uncertainty about how to initiate advance care planning. External barriers such as inconvenience, time, and cost did not emerge as important barriers. Free-text responses provided additional context to respondents" answers.

Conclusions:

The relatively low rates of advance care plan completion and awareness among older Americans illustrate a pressing need to expand ACP education. Additionally, participants" responses indicate that a set of internal barriers inhibit older individuals from completing advance care plans. Understanding these barriers can guide patient-centered discussions of advance care planning across multiple clinical settings and inform community efforts to improve ACP access. In particular, helping patients formulate and articulate their healthcare preferences may help increase ACP uptake.

Rafae Nasim

Chioma Anaemejeh, BA

Albany Medical College

A Google Search for Cancer Care in New York State

Seeking out cancer care is a daunting task for patients since the type of care varies depending on the geographic region. Generally, medical centers are either part of larger hospital networks or private medical practices. Patients may seek out the most convenient option in their region using internet search engines such as Google. To better understand the online presence and patterns of listed medical providers, we investigated the Google search engine results in different regions across New York. Using Google Trends data, we identified â€œmouth cancerâ€, â€œtongue cancerâ€, and â€œtonsil cancerâ€ as commonly searched head and neck related cancers. We chose 14 locations across New York to encompass the different regions of the state. For each location, we spoofed the location of the web browser to the region, searching the following input: â€œ<cancer type> and <township>, NYâ€, collected the top ten search results, and classified each result into three main categories: hospital, private practice, or non-provider website. The distance from the most populous zip code in each region and listed providers were collected. Student”s T-test and Chi-square were used for statistical analysis. Across all search results for mouth, tonsil, and tongue cancer in 14 regions, 51% of all results were to private practice clinics (PPCs), 26% to non-provider websites (NPW), and only 23% to major hospital networks. When searching for â€œmouth cancerâ€ The mean number of PPCs per top ten search results was 6.9±0.5, which was significantly higher ($p<0.01$) than average number for larger hospitals and NPWs (1.1±0.2; 2.0±0.4, respectively). This statistical relationship was also consistent with searches for â€œtongue cancer.â€ When searching for â€œtonsil cancer,â€ on average per top ten results, there were significantly ($p<0.01$) more links to larger hospitals (4.1±0.5) and NPWs (4.0±0.4) than that of PPCs (1.9±0.4). Cross-tabulation analysis revealed the type of cancer searched (chi-square: 85.866; $p <0.001$) and the region searched from (chi-square: 28.504; $p <0.01$) are each associated with the type of link yielded, in the top ten results. When excluding distances greater than 300 miles, the mean distance of listed sites from their most populous zip code for mouth, tongue and tonsil cancer were 5.51 miles [95% CI: 1.86-9.15], 6.61 miles [95% CI: 2.21-11.00], and 5.25 miles [95% CI: 2.26-8.24], respectively. Private practice centers have a stronger online presence than hospitals when searching for mouth, tongue, and tonsil cancer, potentially through local advertising. Depending on region or cancer type, searches will yield varying spectrum of providers in the search results. Geographically, most search results tend to list centers that are within an approximate maximum 11-mile driving radius of their most populous center. Overall, we highlighted factors that influence the perceived options for cancer care, giving insight into how patients find their care online.

Aaron Reyes MD

NYU Langone

Delivering Difficult News in the 21st Century: A Virtual Protocol

Background: Virtual care has become a rapidly expanding landscape at many institutions, but most providers receive no formal telemedicine training. A frequent component of clinical care requires the delivery of difficult news to patients and caregivers, and current models for patient-provider communication rely heavily on face-to-face interactions. The SPIKES (Setting, Perception, Invitation, Knowledge sharing, Emotion, Summary/Strategy) protocol is instrumental in easing provider burden by creating a patient-centered framework for delivering difficult news. However, this protocol demands a 21st-century update if it is to continue to help learners and educators strengthen their communication and information delivery skills.

Purpose: This review aims to update an effective strategy, the SPIKES protocol, for delivering difficult news through telemedicine. A literature review of delivering difficult news, previously and more commonly termed breaking bad news, combined with topics on telemedicine, was performed to understand this evolving landscape of virtual communication. Themes from this review were collected and applied to the SPIKES protocol to enhance its utility within telemedicine with an acknowledgment of patient- and provider-focused communication barriers.

Description: Delivering difficult news is qualitatively improved for patients and quantitatively improved for providers when protocols are taught and utilized. Through a review of themes incorporating delivering difficult news and telemedicine, an updated vSPIKES (virtual SPIKES) protocol can be used to enhance virtual communication among patients, caregivers, and providers (Figure 1). Major themes to consider include virtual/video etiquette, proactive and explicit listening, emotional awareness, and tele-planning.

Conclusions: Adapting strategies that incorporate medical advancement and transformative technology is key to providing patient-centered 21st-century care. Delivering difficult news is a key communication skill that providers must master to enhance patient care and ease provider burden. The vSPIKES protocol offers a framework to incorporate updated strategies for delivering difficult news through telemedicine and virtual interactions. Educators can strengthen provider communication by adapting these information delivery strategies into curricula that prepare learners for the evolving landscape of telemedicine.

Laura Rivera Boadla MD

Maria J. Suarez, MD, Mariya Zyablitskaya, MD, Hammad Bhatti, MD, Tomer Hananya, MD, , Manish Thakur, MD, Michael Silver, MS, Monica Ghitan, MD, Edward K. Chapnick. MD and Yu Shia Lin, MD

Maimonides Medical Center

Prevalence of Bacteremia in Hospitalized Patients with Skin and Soft Tissue Infections (SSTI)

Introduction: Skin and soft tissue infections (SSTI) are common in outpatient and inpatient settings. The prevalence of positive blood cultures (BC) ranges from 2% to 21%1. One study reported the prevalence to be as high as 52%, in the setting of device related SSTI.2 Because of the variations in published data, the exact prevalence of bacteremia in hospitalized patients with SSTI is unknown.

Objectives: To determine the prevalence of bacteremia in hospitalized patients with SSTI.

To establish the risk factors for bacteremia, and the outcomes in patients with and without bacteremia.

Methods: Retrospective chart review from January 2017 to December 2018. Patients older than 18 years admitted with SSTI who required BC on admission were included. Patients who met the criteria for systemic inflammatory response syndrome (SIRS)/sepsis or severe SSTI, had an underlying immunodeficiency or who were on chemotherapy, underwent BC collection. Patients with diabetic foot ulcer, device related SSTI, necrotizing fasciitis, osteomyelitis or any concomitant infection that might lead to positive BC were excluded.

Patients were divided into 3 groups: true positive (TP) defined as a true pathogen, false positive (FP) defined as a contaminant, and true negative (TN) defined as no growth in BC. Physician assessment, microorganisms isolated, number of positive bottles and culture sets, and timing of growth were reviewed. Patients" comorbidities, presence of SIRS, laboratory data, duration of antibiotic use, and length of stay (LOS) were compared.

Results: We screened 583 patients and included 541 patients. The mean age was 62 ± 18.4 years, and 60% were male. 47/ 541 (8.6%) had skin abscesses. 57 patients (11%) had positive BC, of whom 32 were TP (6%), and 25 were FP (5%). 89% of patients (484) had TN BC. The organisms isolated are described in Figures 1 and 2. Patients in the FP and TN groups had prior antibiotic use, compared to TP ($P<0.05$). The FP group had a longer LOS and duration of antibiotic use compared to the TN group ($p<0.05$). 76% of FP had repeated BC. Beta-lactam antibiotics were most commonly used, followed by anti-MRSA antibiotics (40%). We did not find risk factors to predict the likelihood of bacteremia. The outcome was not different among the 3 groups.

Conclusion: There was a low incidence of true bacteremia (6%) in hospitalized patients with SSTI. More than 90% of TP were predictable causal microorganisms: Staphylococcus and Streptococcus spp, which are covered by empiric antibiotics. BC may not affect the initial treatment of SSTI. FP BC accounted for 5% in our study; they were associated with an increased LOS, longer antibiotic use, and increased healthcare cost.

Ayesha Ropri MD

Linda Jiang, MS2, Brian Lee, MS3, Shannon Murawski, MD

Albany Medical College

IMPROVING PATIENT CARE TRANSITIONS

Background

Transitions of care for hospitalized patients are often poorly implemented and inconsistent, resulting in decreased patient participation in care, increased length of stay, and higher rates of re-admission. To facilitate timely and safe transitions from the hospital, all members of the inter-disciplinary care team must understand the components of disposition planning, but formal education on this process is often missing from medical student and residency training. As a result, physicians in-training may feel inadequately prepared for this task, and be unaware of disposition concerns until issues arise at the time of discharge.

Purpose

Our goal was to implement formal transitions of care training in addition to a standardized disposition checklist, to be used by interns and students on the inpatient medical team, to improve care coordination and trainee comfort with the disposition planning process.

Methods

We surveyed internal medicine interns and 3rd year medical clerkship students (MS3s) to assess their reported comfort with the disposition planning process. The baseline group of interns (N=16) and MS3s (N=38) had no formal teaching on disposition planning. The intervention interns (N=11) received additional transitions of care training during an orientation conference; in addition, a checklist was made available to intervention interns and MS3s (N=37) to aid in disposition planning. Baseline and post-intervention responses were compared using unpaired t-tests (for ordinal variables) and chi-square analysis (to evaluate understanding of the roles different team members play in disposition planning).

Results

For interns, the intervention group reported increased comfort with the discharge process than the baseline group (p=0.03, 95% CI 0.17-0.89). More interns in the intervention group reported being able to complete all discharge tasks before noon conferences (p=0.02, 95% CI 0.91-0.95). Interns in the intervention group were also more likely to report improved understanding of which care team member is responsible for prescribing durable medical equipment (p=0.02). For medical students, no statistically significant difference was found before and after implementation of the checklist regarding students" comfort with disposition planning (p=0.08, 95% CI -0.87-0.04), facilitation of patient and family member communication (p=0.91, 95% CI -0.46-0.51), understanding of the different team member roles (p=0.15, 95% CI -0.80-0.12), involvement in disposition planning (p=0.91, 95% CI -0.51-0.58), or contribution to patient care (p=0.13, 95% CI -0.68 to 0.09).

Conclusions:

Standardized training in care transitions during residency can improve intern comfort with the disposition planning process, helping facilitate a smoother outpatient transition. Additional medical student orientation regarding transitions of care, and incorporating the checklist into daily team workflow, may help further improve trainee comfort with disposition planning and understanding, particularly for MS3s.

Shabari Shenoy MBBS

Randy Leibowitz, DO, Shanique Wilson, MD, Frank Nelson, MD, Matthew Scott, MD

Icahn School of Medicine at Mount Sinai Morningside and West Hospital

Quality improvement initiative on efficient utilization of stool ova and parasite examination

Background:

Stool ova and parasite (O&P) examination is a routinely ordered test in patients hospitalized with diarrhea. The microscopic exam is labor intensive and has been replaced by alternative tests, such as direct fluorescent antibody tests, enzyme immunoassays, and immunochromatographic lateral flow assays. Prevalence of parasitic infections in hospitalized patients is less than 5%, and most parasitic infections are detected within the first three days of hospitalization.

Identification of risk factors has helped develop best practice guidelines establishing criteria for conducting stool O&P examination. The Infectious Diseases Society of America (IDSA) recommends O&P examination of stool specimens in patients with diarrhea lasting greater than 7 days, especially if they are immunocompromised. In the in-patient setting, these tests should be conducted within the first 3 days of admission.

Purpose:

The purpose of our project was to determine whether short educational sessions could be effective in changing provider behavior regarding the ordering of stool studies for patients hospitalized with diarrhea. The goal of decreasing the use of unnecessary O&P testing would have important implications for resource utilization and value in hospital medicine.

Description:

We queried our institution”s electronic medical record (EMR) system for stool O&P exam ordered on patients admitted with diarrhea over a one year period. Using a Plan-Do-Study-Act (PDSA) model, a retrospective chart review was performed on 20% of the charts; duration of diarrhea, risk factors such as immunocompromised status, history of living or recent travel to endemic areas where parasitic infections are prevalent and whether a polymerase chain reaction test was ordered before stool ova and parasite test was ordered were identified. Interventions consisted of education sessions for residency house staff, physician assistants and attending physicians in internal medicine and emergency medicine departments. Following the intervention period, the EMR was again queried for the number of tests ordered.

A total of 444 tests were ordered over the pre-intervention time period; 89 charts (20%) were reviewed. The average duration of diarrhea was less than 7 days in 52 patients (58.4%). Risk factors were present in 38 patients (42%). Only 2 patients (2.2%) had GI PCR ordered prior to a stool O&P examination. Two months into the interventional period, the number of tests ordered had dropped significantly, with only 4 tests ordered. This value indicates a 94.6% decrease in O&P tests ordered.

Conclusions:

Judicious use of stool ova and parasite examination reduces cost and labor utilization without compromising on provision of high value care to patients. Simple educational interventions are beneficial in changing provider ordering practices in this setting, and can be used to promote high value, cost effective care.

Ramanathan Veerappan MD

Shawn Philip, DO

Josephine Lee, MD

Albany Medical Center

ADDRESSING COVID-19 VACCINE HESITANCY AND MISINFORMATION AMONG INCARCERATED PERSONS

Purpose: To provide information to incarcerated persons about the COVID-19 vaccine, and to assess the effectiveness of the information session.

Methods: Two Internal Medicine residents and an Allergy/Immunology specialist from Albany Medical College conducted a 45-minute virtual information session via online video conferencing to three New York State correctional facilities. The session consisted of a 15-minute presentation of commonly asked questions about the COVID-19 vaccines, followed by 30 minutes of questions and answers between the incarcerated persons and our Allergy/Immunology specialist. Each facility was represented by incarcerated liaison leaders, who were asked to complete brief, anonymous questionnaires before and after the session. These questions asked about various topics related to the vaccineâ€"including incarcerated persons" COVID-19 vaccination status, knowledge of the vaccine, doubts about the vaccine, and trusted sources of information regarding the vaccineâ€"and also assessed the effectiveness of our session. Data from these questionnaires was collected and analyzed.

Results: 17 incarcerated persons representing three correctional facilities completed the questionnaires. Of the 17 participants, 12 had been vaccinated and 5 were unvaccinated. The pre-session questionnaire data for the 12 vaccinated individuals showed that 7 had doubts about the vaccine, and 8 felt they did not have enough information about the vaccine. When asked about their most trusted source of information about the vaccine, 58.8% of the 17 individuals stated loved ones, 52.9% stated media, and 41.2% stated healthcare workers. The post-session questionnaire showed that 82.4% of the 17 surveyed participants (and 60% of the unvaccinated individuals) felt the session did not decrease their doubts about the vaccine, and that 76.5% of all participants (and 80% of unvaccinated individuals) felt that they did not receive enough information from the session to address their doubts about the COVID-19 vaccine.

Discussion: Incarcerated populations are uniquely vulnerable to the health consequences of the COVID-19 pandemic. The COVID-19 case rate for incarcerated persons is 3.3 times higher and the death rate is 2.5 times higher than in the general population. This pilot study suggests the need for continued COVID-19 vaccine information sessions and Q&A in the incarcerated population by healthcare workers. Over 40% of the surveyed participants selected healthcare workers as their most trusted source of information about the COVID-19 vaccine, suggesting that the incarcerated population values the information provided by healthcare workers. Among the surveyed participants, both vaccinated and unvaccinated individuals continued to have doubts about the vaccine before and after the informational session. Even most vaccinated participants felt the session did not provide enough information about the vaccine. This indicates that future information sessions are important to address hesitancy and misinformation regarding boosters, which will likely continue to be needed in the future.