ACP American College of Physicians
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Puerto Rico Chapter

2022
CLINICAL VIGNETTES
&
RESEARCH COMPETITION
ABSTRACT BOOK

October 15TH, 2022
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San Juan, PR

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ORAL PRESENTATIONS ABSTRACTS

OP 1

RS3PE: The Unusual Rheumatologic Manifestation of Hepatocellular Carcinoma

Patricia Rivera; Fabio Squicimari; Stephanie Ortiz-Troche; Nicolle Medina-Cintron
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Remitting seronegative symmetric synovitis with pitting edema (RS3PE) is an elderly-onset rare inflammatory arthritis. It is characterized by sudden symmetrical distal synovitis, pitting edema of the hands and/or feet, absence of rheumatoid factor (RF), and favorable response to corticosteroids. It is considered a paraneoplastic syndrome as it may coexist with or precede hematologic or solid malignancies. The incidence rate is around 0.09%, with an average of 20% associated with malignancies. Herein, we described a patient with hepatocellular carcinoma (HCC) preceded by RS3PE syndrome. A 73-year-old man with a history of hypertension and viral hepatitis C without cirrhosis with virologic cure in 2016 presented with sudden onset bilateral diffuse hand and ankle pitting edema for six months. The primary care physician prescribed a short course of prednisone 20 mg daily with a good response and a referral to the Rheumatology Clinic. Upon discontinuation, the patient noticed a recurrence of symptoms. At the time of evaluation, the patient had been off prednisone for approximately two weeks with relapse. The review of system was only pertinent for chronic watery diarrheas with negative infectious workup. Physical examination revealed normal vital signs, diffuse bilateral dorsal hand glove-like pitting edema without joint tenderness, and mild bilateral ankle pitting edema. Heart, lungs, and abdomen were normal. Laboratories showed chronic normocytic and normochromic anemia, normal leukocytes, and platelet count. Renal profile and liver function tests were unremarkable. Inflammatory markers were obtained while on prednisone therapy and were also normal. RF, anti-cyclic citrullinated peptide antibody, and anti-nuclear antibodies were negative. Bilateral hand radiography was remarkable for diffuse edema of both hands without erosive changes. Right hand MRI with contrast revealed proximal carpal and metacarpal joint effusion with synovial thickening and tenosynovitis of the flexor pollicis longus, extensor carpi ulnaris, and 1st through 4th flexor digitorum with no bone marrow edema. The patient was diagnosed with RS3PE and started on low-dose prednisone. The age-appropriate screening was incomplete, for which Gastroenterology Service was consulted for screening colonoscopy. Two months later, the hand and ankle swelling resolved. An abdominal CT scan with IV contrast to evaluate his chronic diarrheas revealed a heterogeneous hypervascular mass in the right liver lobe anterior segment consistent with HCC. The patient was scheduled for transcatheter arterial chemoembolization. We present one of the few cases reported in literature of RS3PE as the clinical manifestation of an underlying HCC. RS3PE may foreshow an underlying malignancy. The underlying pathophysiology is not entirely understood, but the tumor is hypothesized to trigger inflammation. Treatment includes attending to the underlying cause and low-dose corticosteroids, of which response may be variable. Physicians should recognize this syndrome and, when diagnosed, seek age-appropriate screening for malignancies.

OP 2

Rare Case of Post-COVID Transverse Myelitis

Valerio Perez, Leidy; Soto, Marcon; Torres, Noel; Suarez, Adriana; Ruiz, Javier; Garcia, Dwayne; Ortiz, Lorenzo; Nieves, Juan
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Acute transverse myelitis (TM) is a rare inflammatory disease that typically presents as weakness, sensory alterations, and bowel or bladder dysfunction. Among the causes of TM are idiopathic infections, paraneoplastic syndromes, or autoimmune conditions of CNS. Post-infectious TM can develop secondary to a viral or bacterial infection. SARS-CoV-2 is a recently discovered viral illness, and sequelae due to COVID-19 infection are still being studied. There is scarce literature relating the two conditions, and it is imperative to raise awareness. A 72-year-old man with hypertension and GERD, completely independent in ADL, was brought to the ED with sudden onset of bilateral lower extremity weakness. He reported symptoms started with difficulty climbing stairs that rapidly progressed to inability to ambulate independently and were associated with bilateral thigh soreness. Nine days prior, he developed fever and generalized malaise, and two days later, SARS-CoV-2 PCR and Ag tests were positive. He received azithromycin, loratadine, and dexamethasone as treatment. Upon evaluation, the patient was afebrile and hemodynamically stable. Neurological examination was remarkable for spasticity and hyperreflexia at bilateral lower limbs, clonus, preserved motor strength with adequate sensation to soft touch, and intact vibration and proprioception in all extremities. Cranial nerves were intact. These findings were consistent with an upper motor neuron lesion. On imaging, the Head CT scan was unremarkable. Thoracic/Lumbar Spine MRI was s ignificant for distal thoracic and conus areas with central homogeneous brightness compatible with nonspecific myelitis. Laboratories showed leukocytosis without neutrophilia or bandemia, thrombocytosis, and elevated CRP. HIV and RPR tests were negative. A lumbar puncture for CSF analysis was remarkable for mild monocytic pleocytosis (7 cell/µL), an increased level of total proteins (56 mg/dL), and normal glucose (57 mg/dL). CSF culture and gram stain were negative. CSF cytology yielded few lymphocytes and few monocytes and was negative for malignant cells. Based on these findings, a clinical diagnosis of post-infectious myelitis secondary to COVID-19 was made. The patient was treated with intravenous Methylprednisolone 1g daily for five days. On follow-up, lower extremity weakness resolved completely, and he resumed his daily physical activities.

OP 3

A challenging case of refractory Pulmonary Alveolar Proteinosis.

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Pulmonary Alveolar Proteinosis occurs when the body starts to produce autoantibodies against the growth factor granulocyte/macrophage-colony stimulating factor (GM-CSF). GM-CSF stimulates alveolar macrophages to phagocytize surfactant from alveoli. When this pathology arises, the buildup of lipoproteinaceous surfactant in the distal alveoli spaces develops. This obstruction progressively overwhelms the oxygen diffusion barrier in the alveoli, diminishes oxygen diffusion into the blood and induces dyspnea. If therapy is needed, Whole lung lavage (WLL) is the current standard therapy and diagnostic tool. Interruption of GM-CSF stimulation can also lead to opportunistic infections for example Mycobacterium Avium Complex, Nocardia, Histoplasma, and Aspergillus. Case of a 60-year-old female, with past medical history of Pulmonary alveolar proteinosis, Myelodysplastic syndrome, and Mycobacterium Avium Complex arrives at the Urgency Room due to increased shortness of breath with 6 weeks of evolution. At home, the patient uses oxygen therapy via Nasal Cannula at 6L/min. The patient received a whole bronchoalveolar lavage (WLL) 8 weeks ago for her condition. In the last 6 weeks, she started to develop shortness of breath, dyspnea on exertion, dry cough, palpitations, dizziness, and headache. The patient is compliant with her medication for current conditions. The patient was diagnosed with Pulmonary alveolar proteinosis 7 months ago by WLL with negative GM-CSF autoantibodies (anti-GM-CSF). Arterial Blood Gases were taken and yielded pO2 of 81.6 mmHg with Nasal Cannula at 6L. Upon physical examination, lung auscultation was remarkable for bilateral rhonchi and symmetric expansion. Chest CT Scan presented bilateral central and peripherally opacities with thickened interlobular septa known as “crazy paving”. The patient was admitted with a Venturi mask at 45% and was taken to the operating room for WLL. After the procedure, the patient was observed for 48 hours and oriented to continue with oxygen therapy at home. At follow-up at our pneumology clinics, pathology results from WLL yield an anti-GM-CSF concentration of 239.6 and confirmed Autoimmune Pulmonary alveolar proteinosis. The patient was started on Sargramostim 250mcg subcutaneous daily which is not currently FDA approved for this condition but has presented benefits that are currently being studied. Pulmonary Alveolar Proteinosis is a rare disease that is challenging to recognize and diagnose. Up to 40% of patients will enter remission after just one treatment of WLL. Some patients require lavage every month, 6 months, or 12 months for many years. It will depend on the recurrence and severity of each case. Recent studies suggest Sargramostim, Rituximab, and Plasma apheresis as possible treatments. Further studies are needed to determine the dosing and more important, the safety of these medications in our patients. On occasion, it can cause acute respiratory failure and lung transplantation is necessary.

OP 4

Congenital Hypofibrinogenemia: A Risk Factor for Thrombosis

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Inherited fibrinogen disorders (IFD) arise from numerous genetic mutations in the three fibrinogen genes that lead to low functional and/or low antigenic fibrinogen levels. Primarily, they are considered bleeding disorders, however, they are associated with a higher risk of thrombosis like diseases involving other clotting factors. We present the case of a 22-year-old female with a history of congenital hypofibrinogenemia who presents with a chief complaint of right upper extremity pain, swelling, and arm fatigue for 1 week. Venous doppler ultrasonography showed acute, partially occlusive deep vein thrombosis of the right subclavian, axillary, and basilic vein. Labs revealed a low fibrinogen level of 175 mg/dL. The patient denied the use of anticontraceptive pills or hormone replacement therapy, recent surgery, prolonged immobilization, intravascular devices, smoking, and IV drug use. Work up for hereditary thrombophilia, including Factor V Leiden and factor II mutations, hyperhomocysteinemia, Protein C and Protein S deficiency was negative. Testing for antiphospholipid syndrome was also negative. Malignancy was considered a possible cause of thrombosis for which CT scans of the chest, abdomen, and pelvis were performed and were unremarkable. At this point, the patient provided further information about her diagnosis of congenital hypofibrinogenemia. 375 Arg->Trp mutation, also known as the Fibrinogen Aguadilla mutation, which was named after our patient's hometown in the year 2000, is known to cause hepatic endoplasmic reticulum storage disease. Patients with this mutation often develop liver cirrhosis at a young age and rarely present with severe bleeds. Hereditary hypofibrinogenemia with hepatic storage encompasses 8 total mutations as described in the literature and affects < 2:100,000 people worldwide, Fibrinogen Aguadilla appearing to be the most common. But, unlike other described mutations, it has not yet been linked to causing acute thrombosis. Managing acute thrombosis in patients with IFD can be challenging given the likelihood of exacerbating underlying bleeding risk that on many occasions can be life-threatening. Due to the low prevalence of severe bleeds in patients with the fibrinogen Aguadilla mutation, anticoagulation therapy with apixaban was started and the patient completed a total of 6 months without any bleeding complications. After careful evaluation and discussion of risk versus benefits, secondary prevention with extended anticoagulation was not pursued. Although it should be considered in the setting of scheduled surgeries and future pregnancies. This case illustrates the importance of considering IFD secondary to the Fibrinogen Aguadilla mutation as a risk factor for thrombosis and the safety of using standard anticoagulation guidelines as management in the setting of an acute thrombotic event.

OP 5

Black Tunnel: A Rare Presentation of Gurvits Syndrome

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Acute esophageal necrosis (AEN) is a rare, yet life-threatening manifestation of upper gastrointestinal bleeding in adult patients. Incidence of AEN is 0.01%-0.28% and less than 150 cases have been reported in literature. Etiology is multifactorial including hypoperfusion, sepsis, and gastric outlet obstruction. In regards to risk factors, AEN is more commonly seen in elderly males with conditions such as hypertension, diabetes mellitus, and paraesophageal hernia, amongst others. Patients present with upper gastrointestinal bleeding and abdominal pain. Diagnosis is made with gastroscopy findings of diffuse circumferential black pigmentation in the distal esophagus. Treatment consists of conservative management to maintain hemodynamic stability and manage coexisting comorbidities. Even though management relies on conservative measures, patients can develop continuous bleeding, stricture, and perforation leading to hemodynamic compromise and high mortality rate. For this reason, we aim to discuss and educate the scientific community of a rare cause of upper gastrointestinal bleeding with poor prognosis which warrants early recognition and timely management to improve survival. An 86-year-old-female with a past medical history of anemia and paraesophageal hernia presented to the Emergency Department with nausea and multiple episodes of hematemesis for 24 hours. She had no melena or hematochezia. On examination, the patient was tachycardic (120/min), normotensive (128/86 mmHg) and had bloody mucosa. Laboratory work-up revealed WBC 20.65, hemoglobin 14.3 g/dL and BUN/Cr ratio <30 mg/dL. The Glasgow-Blatchford score: 5 points. On day 2, the patient continued with mild tachycardia (104/min), hemoglobin 11.9 g/dL and BUN/Cr ratio >30 mg/dL. The patient was given supportive management with adequate hydration and a proton pump inhibitor. After stabilization, esophagogastroduodenoscopy was performed which showed significant erythema, mild and distal tears and black lineal mucosa in the esophagus. Moreover, gastric mucosa with patchy antrum erythema, and normal body. Duodenum mucosa was strictly normal. Further on, she transitioned to oral diet, which she tolerated, and was discharged with a proton pump inhibitor and without any further complications. This case illustrates a rare etiology of AEN due to the patient's minimal comorbidities, no alcohol use nor use of erosive medications or bleeders. Even though etiologies are broad, the patient’s increased age, paraesophageal hernia and chronic gastric acid reflux lead to further mucosal injury with insufficient healing which contributed to acute upper gastrointestinal bleeding. The pathogenesis of Gurvits syndrome is due to back flow of gastric content causing esophageal injury, impaired mucosal barrier and hypoperfusion states leading to ischemia more commonly on the distal esophagus. Management consists of treating preexisting comorbidities, hemodynamic stabilization, proton pump inhibitors, total parenteral nutrition, and monitoring for complications, including perforation. This report will serve as evidence for future encounters of upper gastrointestinal bleeding, based on diagnostics and treatment procedures of a condition with increased mortality.

OP 6

Small vessel leukocytoclastic vasculitis and inhaled heroin abuse relationship

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Antibiotics such as beta-lactams, nonsteroidal anti-inflammatory drugs, and diuretics are the most common cause of leukocytoclastic vasculitis. The term leukocytoclasia refers to the release of nuclear debri after neutrophils die and break down during degranulation, resulting in vasculitis of small vessels produced by this inflammatory infiltrate. This is the case of 51-year-old male with known medical history of intranasal heroin inhalation use, mild persistent asthma, arterial hypertension, and hypothyroidism who was admitted to our hospital on June 3rd 2022 for bilateral lower extremity purulent cellulitis and suspected cutaneous vasculitis to receive intravenous fluids and steroidal treatment. These multiple, tender, erythematous, bullous, non-blanching lesions appeared on lower extremities two weeks prior hospitalization and progressed gradually, increasing in size and presenting with serous drainage, and accompanied with pruritus, moderate pain, shivering and nausea. Patient was previously prescribed antibiotics by his primary care physician and hospitalist twice but treatment was never completed due to absence of relieve. His last heroin used via inhalation was on June 1 st and no other risk factor such as insect or animal bites, recent puncture wound or recent exposure to allergens were mentioned. Six days after admission, despite antibiotic multi-resistant drug therapy and steroids, lesions continued to aggravate and skin biopsy was warrant. The probability of Levamisol-induced vasculitis was highly likely. This leukocytoclastic vasculitis of small vessels containing fibrinous necrosis of the vessel wall, erythrocyte extravasation and multiple fibrin thrombi in the superficial and deep dermis can be explained by Levamisole exposure, which has been previously related with inhaled cocaine powder. Despite of the fact that this patient referred inhaling heroine only, most of it has being sold on the streets mixed with cocaine, to experience the “high” of the cocaine with the depressant (heroine or fentanyl) helping to ease the otherwise sharp comedown. Subsequently, the patient continued to improve and his lesions were noted to be decreasing in size, with burst bullas covered with dry crusting on lower extremities bilaterally. Therefore, the decision to change prednisone for methylprednisolone intravenously was given, which helped managed his inflammation and produced significant improvement. The patient was discharged home to continue treatment as outpatient on dermatology clinics. On June 10, 2022 skin punch biopsy taken from right lower leg reported small vessel leukocytoclastic vasculitis confirming the suspected diagnosis.

OP 7

Monkeypox Associated Acute Myopericarditis: A Rare Complication of an Emerging Outbreak

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Monkeypox is a zoonotic viral infection caused by orthopoxvirus. This viral disease, previously found in central and western Africa, has increased in incidence worldwide and poses a risk of becoming an emerging epidemic. Being transmitted by droplets or with direct contact with infected lesions and objects, this infection is mainly characterized by prodromal systemic symptoms and a vesiculopustular, papular, or ulcerative rash. We present a rare acute inflammatory cardiac involvement case secondary to a confirmed Monkeypox infection. A 21-year-old male without previous medical conditions presented to Emergency Department due to severe, pressure-like, intermittent substernal chest pain that started four days prior to the evaluation. This chest pain was not associated with exertional or emotional stressors and was preceded by several days of systemic symptoms of fever, chills, myalgias, nausea, vomiting, and general malaise. He also reported the development of pustules, papules with central umbilication, erythematous plaques, and ulcerative ulcers in several areas of his body. Social history was pertinent for a male that engaged in sexual activities with other males with inconsistent use of condoms. Physical examination was unremarkable except for the previously described skin lesions and a regular tachycardia rhythm. An EKG showed sinus tachycardia with diffuse ST segment elevations, and troponin levels were markedly elevated, which suggested a diagnosis of myopericarditis. The patient was admitted to the Telemetry unit for close observation, cardiovascular evaluation, and treatment with Ibuprofen and Colchicine. The echocardiographic evaluation showed no significant abnormalities or compromise of his systolic function. Swab samples taken on admission were sent to the Health Department of Puerto Rico for analysis. Non-variola Orthopoxvirus Real-time PCR returned positive, confirming the diagnosis of acute Monkeypox infection with an associated myopericarditis. Other laboratory findings were unremarkable and negative, including the sexually transmitted diseases panel. The patient showed a rapid improvement in his symptoms, for which he was discharged home to continue therapy while completing his isolation. The development of acute myopericarditis, which refers to the inflammation of the pericardial sac and the myocardium, is often idiopathic but can also be associated with underlying conditions, including infectious diseases. As Monkeypox emerges as a worldwide concern, recent literature has described the natural history of the condition and the complications that may arise from it. Monkeypox-associated myopericarditis is described as an infrequent complication of this condition as very few cases with cardiac involvement have been reported. Our case promotes the notion that primary care practitioners and internal medicine specialists should have a very high index of clinical suspicion to accurately diagnose and treat these patients while facing this emerging epidemic.

OP 8

An unusual presentation of acquired thrombotic thrombocytopenic purpura in a young patient with COVID-19

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Acquired thrombotic thrombocytopenic purpura (aTTP) is a medical emergency, almost always fatal if treatment is not started on time. With proper treatment, survival rates are over 90 percent. Cases of acquired thrombotic thrombocytopenic purpura have been described in a population greater than 55-year-old, but very few cases after COVID- 19 infection in a population between 20 and 30 years old. We describe a patient case of acquired thrombotic thrombocytopenic purpura during active COVID-19 infection that was diagnosis and treated with plasma exchange and corticosteroids. Our patient, with no past medical history, was diagnosed with COVID-19 infection and admitted due to worsening dyspnea, fever, somnolence, numbness and weakness in left arm, and one episode of left arm involuntary movement. Laboratory test shows an acute renal failure, and profound thrombocytopenia with shistocytes on peripheral smear. The patient was deteriorating clinically over a period of less than 2 hours, the renal failure was worsening, and the decision to start plasma exchange therapy and corticosteroid was correctly taken. Patient remission of acquired thrombotic thrombocytopenic purpura was achieve in 6 days. The association of this episode of acquired thrombotic thrombocytopenic purpura with COVID-19 infection and no other discernible cause, is probable that COVID-19 infection was the most likely the trigger. Thrombotic microangiopathy syndromes (TMA) are a group of disorders characterized clinically by microangiopathic hemolytic anemia, thrombocytopenia and microthrombi causing end organ. Kidney involvement is typical of all TMA, severe acute kidney injury is a prominent feature of all primary TMA, except acquired thrombotic thrombocytopenic purpura in which it is not common. Autopsy studies in patient infected with COVID-19 shows microvascular thrombosis of lung, kidney, and in some cases, thrombocytopenia is seen. ADAMTS13 activity levels do not appear to be severely deficient in patient with COVID-19 who develop acquired thrombotic thrombocytopenic purpura, like our patient. In four of six reported cases reviewed, acquired thrombotic thrombocytopenic purpura was present at the time of the COVID-19 diagnosis or within 10 days of diagnosis, similar to our patient. Four out of six COVID-19 infected patients who developed acquired thrombotic thrombocytopenic purpura had a mild course of infection, unlike our patient, and all patients reported had recovered after treatment. There is a significant increase in acquired thrombotic thrombocytopenic purpura in patients with COVID 19 infection, however, with the correct treatment patient morbidity and mortality may be decreased.

OP 9

Rare case of Hemoptysis as a presenting sign of a Type I Thoracic Aortic Endoleak with Fistula formation into Lung.

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Thoracic Stent-graft placement is considered a safe and minimally invasive intervention for thoracic aortic diseases, an alternative to surgery for the treatment of descending thoracic aortic aneurysms, dissections, fistulas, ulcers or traumatic ruptures. Complications of procedure can include aortic perforation, endoleaks, stent migration or vascular trauma. Endoleaks can be subdivided from Type I to V. Type I presents when a stent graft isn't properly attached to the artery wall. Blood leaks around the top or bottom of the stent graft, these have a higher risk of rupturing than other endoleak types. About 1 in 4 people who have endovascular repair experience an endoleak. Usually, an endoleak doesn't have a particular presenting symptom, yet in this case we present a patient with Type 1 endoleak manifesting with hemoptysis. Our patient, a 58 year old man with a past medical history of unresolving empyema, end stage renal disease, hypertension, and nursing home resident, arrived at the ER with complaints of hemoptysis for two days. Prior to arrival, the patient had been in another institution receiving antibiotics for his empyema without resolution and 5 months prior had thoracic aortic ulcer repair with graft placement. Patient was admitted with a diagnosis of sepsis due to empyema versus chronic hydropneumothorax. Upon admission, CT scan imaging showed a moderate complex left pleural fluid/air collection suggesting an empyema, extensive ground glass nodular opacities predominantly with a tree-in-bud pattern, and left lower lobe pneumonia. Patient was treated with broad spectrum antibiotics first and was consulted to a pulmonary specialist who considered a possible video-assisted thoracoscopic surgery or decortication procedure, despite antibiotics hemoptysis worsened, having more frequent episodes in hospital. CT Angiography was ordered, resulting with the surprising finding that hemoptysis was not truly pulmonary in origin, it was caused by a type I endoleak at the level of the aortic arch and proximal to stent origin connecting via fistula formation into the affected lung and causing a superinfected hematoma. With the newly discovered diagnosis, the case was discussed with a cardiothoracic surgeon and interventional radiologist who determined that unfortunately given patients poor constitution and delicate state of health was not amenable for surgery. The fact that the leak was connecting into his lung was serving as a protective factor, containing the leak , not allowing a massive bleed, surgery would suppose a greater risk of death rather than a benefit. This case emphasizes the importance of evaluating uncommon causes of hemoptysis, keeping in mind long term complications of vascular procedures, in order to arrive at a correct diagnosis. Hemoptysis should prompt further evaluation with chest angiography study as a standard of care in order to investigate underlying causes of bleeding.

OP 10

Vaping my Lungs Away: An Unusual Case of Centrilobular Emphysema

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Emphysema is a condition characterized by enlargement of air spaces accompanied by the destruction of their walls and fibrosis. Subdivided by location: centrilobular and panacinar forms, been centrilobular is most commonly associated with chronic smoking, whereas panacinar is most found with alpha-1 antitrypsin. Shortness of breath, dyspnea on exertion, fatigue and wheezing are some of the associated symptoms. Over the past few years vaping (E-cigarettes) has become a popular trend and is been considered a “safer” alternative to smoking cigarettes, commonly used as a bridge to quit smoking cigarettes. We report a 35 y/o Latin-American female with shortness of breath, dyspnea on exertion, and wheezing. Symptoms progress and worsened after previous Mycoplasma infection and bacterial infection. Past medical history pertinent for allergic rhinitis and asthma in addition to 7 packs per year of cigarette smoking and replaced by frequent e-cigarette use. Denies environmental exposures, marijuana use, illicit drug use, PPD history or significant family lung disease history. Physical examination pertinent for prolonged expiratory phase with bibasilar crackles and bilateral rhonchi. Patient with previous extensive Obstructive lung disease workup and also receiving several doses of systemic steroids. Initial labs with elevated WBC, without eosinophilia or elevation on IgE, adequate hemoglobin levels with unremarkable chemistry panel. Chest X-ray with some interstitial changes. Chest CT scan reveals centrilobular emphysema changes. Alpha 1 antitrypsin level and genetics normal. PFTS essentially normal. 2D-Echo shows LVEF > 55 with no gross wall motion abnormalities, normal diastolic function and trace TV regurgitation. Exercise stress test with no significant findings. Initially, the patient was treated with initially with fluticasone/salmeterol twice daily, Albuterol rescue, Montelukast and antihistamine. E-cigarette is considered the culprit of patient clinical and imaging presentation. Cessation of E-cigarette use was recommended and further follow-up at the clinic patient presented with significant symptomatic improvement. As per literature, the extent of the potential harmful effects of vaping is not fully understood and there is a lack of understanding of how these products induce lung injury and cause symptoms. E-cigarettes liquid contains nicotine and various compounds that vary including glycerine, propylene glycol, formaldehyde, acetaldehyde and various tobacco-specific nitrosamines. Emphysema in young patients is more associated with alpha-1 antitrypsin deficiency. This case remarks the importance to take into consideration new practices such as E-cigarettes causing emphysematous lung changes.

CLINICAL VIGNETTES ABSTRACTS

CV-1

Septic Arthritis of The Pubic Symphysis: A rare infection and a life-changing complication

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Septic arthritis of the pubic symphysis represents approximately less than 1% of all osteomyelitis-related cases. Risk factors include urologic/gynecologic procedures, postpartum, trauma, and active intravenous drug use. Diagnosis is made with clinical findings, imaging, inflammatory markers, and blood cultures to avoid invasive measures. Treatment is typically conservative. The association of drug use, other infections, and complications remain unclear. We describe the case of an adult with no comorbidities who developed septic arthritis of the pubic symphysis and subsequently a stroke. A 42-year-old male with no PMH arrives at the ED with symptoms of fever, hip, and testicular pain on weight bearing despite oral antibiotic courses. He was consulted for imaging with septic arthritis of the pubic symphysis, osteomyelitis of pubic rami, adductor abscesses, and pyomyositis with fluid collection posterior to the pubic symphysis and anterior to the bladder. He had distant relapsing, sporadic use of the intravenous drug, with his last use over 3-4 months prior of cocaine and heroin. The physical exam was remarkable for tachycardia, fever, and tender and erythematous inguinal and testicular areas. Workup included CBC, CMP, STI screen, drug screen, UA, pancultures, ESR, and CRP. It demonstrated leukocytosis, neutrophilia, ESR 18, CRP 10.6, and Hepatitis C Ab positive with RNA at about 7 million. Blood cultures yielded no growth. He was treated with Vancomycin, Cefepime, and Metronidazole. ID and Orthopedic services agreed with management. Over the following weeks, all symptoms improved. One day, he developed right-sided weakness and facial drooping, prompting activation of stroke protocol and alteplase administration. EKG with NSR. TTE and carotid doppler were negative. Brain MRI demonstrated an ischemic stroke involving the left cerebellar hemisphere extending into the basis pontis. Repeat Pelvic MRI redemonstrated findings with the evolution of adductor abscesses into phlegmonous processes. Repeated blood cultures and hypercoagulability workup were unremarkable. He completed antibiotics with follow-up imaging demonstrating resolution of pelvic processes. He was discharged with post-stroke deficits to an inpatient rehabilitation facility. Patients with sepsis and HCV are at an increased risk of ischemic stroke. Septic arthritis of the pubic symphysis is extremely rare, and stroke in young patients with no risk factors other than sporadic IVDA and HCV. We were unable to identify an organism, despite multiple blood cultures. Similarly, no cause for ischemic stroke was identified. Nonetheless, this complication resulted in an unfortunate clinical outcome. More information is needed related to risk factors, diagnosis, management, and complications related to septic arthritis of the pubic symphysis.

CV-2

Never Forget the Pheochromocytoma or Paraganglioma.

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Malignant Pheochromocytoma (PHEO) and paraganglioma (PGL) are extremely rare tumors; accounting for about 2 to 8 people per every million people. Metastatic recurrence from chromaffin cells has been estimated around 0.98 events/100 person-years. Our patient was diagnosed with recurrent chromaffin tumor 23 years after initial resection and 13 years later, upon evaluation for obstructive uropathy, a mass was identified that triggered a new evaluation. This is the case of a 77-year-old male patient with a chromaffin tumor resected in 1986. The tumor was succinate dehydrogenase subunit B (SDHB) gene mutation negative. Twenty-three years later, in 2009, he had a recurrence resected. Surgery was followed by adjuvant external radiation therapy. Twelve years after his recurrence, the patient was incidentally found with a posterior mediastinum mass during evaluation for obstructive uropathy which resulted from benign prostate hyperplasia. The patient presented practically asymptomatic except for orthostatic blood pressure (BP) changes on physical examination. There was no significant elevation of the BP. His physical exam and laboratories were unremarkable except for elevated plasma and urine catecholamines and metabolites. Meta-iodobenzylguanidine (MIBG) demonstrated avid uptake in multiple areas. Gallium 68 Dotatate positron emission tomography scan demonstrated multiple avid lesions not amenable for surgical intervention. His case was discussed at an interdisciplinary tumor board that recommended treatment with I131 iobenguane. This case emphasizes the necessity of lifetime surveillance in patients diagnosed with pheochromocytoma or paraganglioma. The pathological tissue is unable to establish the carcinoma in the presence of a chromaffin tumor. Only the clinical behavior establishes the benign or malignant behavior of these tumors. Pheochromocytoma and paraganglioma are rare tumors; a malignant chromaffin tumor is rarely seen in the already rare chromaffin tumors. Early recognition of the tumor behavior is critical in minimizing a major catastrophe and improving patient outcomes. Structured surveillance protocol should be considered when dealing with paragangliomas and pheochromocytomas.

CV-3

It can be anything!!! An atypical anti-synthetase syndrome presentation in a 34-year-old male- Case report

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The presence of an underlying, undiagnosed, autoimmune disorder with the autoimmune disorder with the sole first manifestation of Interstitial lung disorders (ILD) impacts prognosis, delays diagnosis, and treatment. Case of a 34-year-old male with no other past medical history, diagnosed with ILD one year ago, arrived at the clinic seeking for a second opinion for his condition. His non-productive cough and dyspnea on exertion have worsened since diagnosis and refractory to steroids. No other associated symptoms or risk factors. Chest-CT scan significant for bilateral interstitial ground glass opacities (GGO), widespread basilar predominant cysts and a 5mm right anterior fissural nodule. Work up for ILD initiated. Due to CT findings and the refractory response to steroids, thoracic surgery was consulted for biopsy. A right lung Video Assisted Thoracic Surgery with wedge lung biopsy performed, with a noteworthy finding of nonspecific Interstitial Pneumonia without fibrosis type I. During follow-up visit, respiratory symptoms persisted, but he is now presenting a newly acquired facial violaceous-colored rash, violaceous papules of hands and bilateral lower extremity purpura, no myositis, no muscle weakness. Dermatologist biopsy report findings compatible with Grotton's papule lesions on hands and purpuric lesions with similar findings of leukocytoclastic Vasculitis. Routine labs together with an extensive rheumatologic work up which included, autoimmune markers, connective tissue disorders, Vasculitis, among others. The results were remarkable for elevated inflammatory markers and a positive anti-PL7 antibody, an anti-synthetase antibody (ASA). Patient was started on Prednisone and Mycophenolate Mofetil by Rheumatologist. Follow up Chest CT, 6 months after therapy initiation, showed improvement of GGO associated with significant improvement of skin manifestations and respiratory symptoms. This patient with positive ASA in presence of ILD is suggestive of anti-synthetase syndrome (AS). The anti-PL-7 antibody affects an aminoacycl-transfer RNA synthetase enzyme, important in protein synthesis. Deficiency of this enzyme commonly manifest as myositis, joint impairment and ILD, being the latter the only presentation in this patient for almost two years. When cutaneous lesions manifested, it led to different work-up and management. AS is commonly misdiagnosed as idiopathic ILD or inflammatory myopathy. Diagnostic delay, especially in males, are not uncommon in rare autoimmune diseases, especially in those lacking diagnostic criteria. In patients presenting with rapidly progressive ILD or signs of refractoriness in adequate treatment, ASA screening should be consider. Small studies have shown, that steroids with adjunctive therapy can control and prevent irreversible lung damage, cardiovascular damage, improvement of skin lesions, among others.

CV-4

How an afternoon animal encounter resulted in hemodialysis; a case of severe rhabdomyolysis secondary to multiple bee stings

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Rhabdomyolysis is the process of muscle necrosis leading to the release of intracellular components such as creatine kinase (CK), myoglobin, aldolase, lactate dehydrogenase, aspartate aminotransferase (AST), and electrolytes into the bloodstream. Diagnosis is made based on clinical presentation and laboratory findings. The most common clinical presentation consists of muscle pain, weakness, and dark urine. No specific cut-off values have been established; however, creatinine kinase is typically elevated to five times the upper limit of normal. There are numerous causes of rhabdomyolysis, but the most common are traumatic injury, ischemia, exertion, prolonged immobilization, drugs, and toxins. An 80-year-old male with hypothyroidism and right-sided hemiparesis secondary to a cerebrovascular accident was brought to the emergency department by ambulance after being attacked by multiple bees. Physical examination revealed tachycardia, hypertension, tachypnea, angioedema of the head and neck, generalized weakness, altered mental status, and non-verbal due to pain, discomfort, and acute distress. An Indwelling Foley catheter was placed and drained cola-colored urine with a monitored urinary output of approximately 0.07mL/kg/hr. Laboratories were remarkable for leukocytosis, elevated creatinine with azotemia, elevated liver enzymes with an AST/ALT ratio of 4:1, and elevated CK. Urinalysis shows proteinuria, large blood without identified red blood cells, and many amorphous crystals. Initial management consisted of intravenous hydration, antihistamines, and intravenous steroids to reduce inflammation. CK reached 13,817.60 U/L. The renal function continued to decline with creatinine reaching 7.14 mg/dL with associated azotemia, refractory hyperkalemia, metabolic acidosis, anuria, and findings of uremia which required emergent hemodialysis (HD) 72 hours after admission. The patient received two consecutive HD and was then continued with maintenance HD three times a week. Edema, weakness, and mental status improved. Eighteen days after initiation of HD, the patient's urine output began to increase gradually, and HD was held on day 21. Renal function stabilized at creatinine of 1.20mg/dL with chronic kidney disease stage 2 and average daily urine output of 1.76mL/kg/hr. The patient was discharged home without further need for renal replacement therapy. This case highlights a rare but severe and possibly fatal effect from bee sting envenomation. Bee stings expose the body to toxic compounds which directly cause cell death and immunogenic peptides, which lead to significant inflammation from immune system overactivation. Acute kidney injury (AKI) in bee sting envenomation results from the direct nephrotoxic effect on the renal tubules of the bee venom and myoglobin, as well as hypoperfusion due to hypovolemia which may develop due to poor IV hydration and increased fluid uptake by the injured muscle cells. Studies have found that mortality rates after the development of AKI from massive bee stings can be as high as 22%.

CV-5

Managing SIADH and Hyponatremia: Chronic, and then Acute on Chronic?

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Syndrome of inappropriate antidiuretic hormone secretion (SIADH) presents as an hypotonic euvolemic hyponatremia (<135 mEq/L) mostly secondary to paraneoplastic syndromes [1]. Due to difficulty defining onset, clinicians rely on symptomatic presentation to guide treatment. Symptomatic severe acute hyponatremia (<120 mEq/L) must be treated with a hypertonic saline bolus [2,3]. Chronic hyponatremia is usually asymptomatic relying on fluid restriction and water excretion as the main treatment, unless Na<120 mEq/L where treatment is similar to acute hyponatremia [2]. Those suffering from chronic hyponatremia may have an acute episode known as acute on chronic hyponatremia [3]. Management in these cases are controversial. We present the management of a male patient presenting with acute on chronic hyponatremia and refractory correction. A 57 year old male with a diagnosis of inoperable Neck Squamous Cell Carcinoma arrived at the ED for intractable headaches when evaluation uncovered a hyponatremia of 121. He had previously been admitted for hyponatremia due to SIADH with similar symptoms and discharged with a chronic baseline of 130-131 without fluid restriction. He was treated with fluid restriction due to suspected chronicity. Subsequent BMP showed a Na 117 with worsening headache and fatigue. Due to severity of symptoms, he was treated with 100 mL bolus of 3% saline and furosemide 20 mg BID with no improvement in 24 hrs. He developed a change in character, weakness and more fatigue at which point was managed with fluid restriction, another bolus of saline and furosemide 40 mg BID, resulting in 3 mEq increase. As he developed worsening forgetfulness; he was started on a hypertonic saline drip. He demonstrated symptomatic improvement and a rise of 3 mEq in 24 hrs. Once the drip was held, sodium levels dropped to 121 mEq. A bolus was administered the following day resulting in an increase to 126 mEq and symptomatic improvement. He was started on demeclocycline; and all drips were held. After a week and a half, the decision was made to hold hypertonic saline boluses for symptomatic treatment and determine a hyponatremic baseline for over 48 hrs. He held a baseline of 124 mEq for 72 hours with no symptoms. Determining a baseline with no symptoms ultimately influenced our decision to discharge the patient. He continued medical therapy with demeclocycline to follow up with his radiation oncologist. A recent study demonstrated that a majority of hyponatremic patients were discharged with hyponatremia,similar to our case, further demonstrating our lack of understanding and difficult management of these cases [4]. The management of hyponatremia and guidelines for establishing new baselines must be researched further to treat acute on chronic hyponatremia in patients that are unable to resolve their underlying cause.

CV-6

Paroxysmal Nocturnal Hemoglobinuria clones in aplastic anemia, does it change treatment?

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Aplastic anemia (AA) is an acquired hematopoietic stem cell disorder characterized by severely decreased bone marrow cellularity and pancytopenia. A decrease in stem cells causes AA as a result of autoimmunity, toxins, and infections. Nearly half of patients with acquired AA develop paroxysmal nocturnal hemoglobinuria (PNH). Diagnosis of AA secondary to PNH clones may be delayed because of its nonspecific clinical features, variable clinical presentation, and rarity. Here we present a case of a 28-year-old female who presented with easy bruising, blood when coughing, and fatigue for a month of evolution. Upon examination, skin pallor and ecchymosis were noted over the trunk and extremities. Laboratories showed pancytopenia with severe thrombocytopenia, macrocytic anemia, and lymphocyte predominance on the differential. Bilirubin was mildly elevated with a total level of 1.74, with indirect predominance. LDH level was normal, and haptoglobin was borderline low. Chest and abdominal-pelvic CT scans were negative for malignancy. Further evaluation was pursued with bone marrow aspiration, which was remarkable for hypocellular bone marrow with fat cells, and all cell lines decreased, for which an AA was suspected. Additional laboratory workup was negative for common pathogens responsible for AA, including Cytomegalovirus, Parvovirus, HIV, Ebstein Barr virus, Human T-lymphotropic virus, and Hepatitis panel. Vitamin B12 and Folate levels were within normal limits. On further analysis with flow cytometry, a PNH clone was identified. The patient was transfused with platelets and packed RBCs, with poor response. The patient was started on immunosuppressive treatments without response. She continued to require recurrent hospitalizations for pancytopenia, ultimately receiving allogeneic hematopoietic stem cell transplantation. PNH clones are pathognomonic for immune-mediated bone marrow failure. Patients with AA can develop a clone of PNH cells, which lacks complement-stabilizing CD55 and CD59 proteins. Nevertheless, these patients usually have smaller PNH clones and are rarely symptomatic from PNH. Patients with classical PNH benefit the most from complement inhibitors. In contrast, two-thirds of PNH clones occur in patients whose clinical presentation is that of bone marrow failure with few, if any, PNH-related symptoms, such as our patient. When deciding which treatment fits best, an individualized approach is required, determining the predominant symptoms such as hemolysis, thrombosis, anemia, organ dysfunction, and bleeding. Because of the efficacy of complement inhibition for controlling hemolysis and thrombosis, allogeneic hematopoietic stem cell transplantation is generally reserved for patients with PNH with co-existent severe bone marrow failure. With advances in immunosuppression, bone marrow transplantation, and supportive care, the overall survival of young patients with a reasonable risk profile has reached greater than 80%.

CV-7

Complicating the sodium-water balance: A case of paraneoplastic SIADH.

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The syndrome of inappropriate secretion of antidiuretic hormone (SIADH) is one of the most common causes of euvolemic hyponatremia. Most SIADH cases are reported in association with cancer. Most of these cases have been linked to Small Cell Carcinoma of the lung. Head and Neck cancers are linked only to 1.5% of SIADH cases. Here we present a rare case of SIADH associated with a Squamous Cell Carcinoma (SCC) of the base of the tongue. Case of a 63-year-old male with a medical history of tobacco and alcohol abuse who presented to the emergency department after a referral from his primary care physician due to electrolyte disturbances noticed on a follow-up visit. Review of systems was remarkable for dysphagia, odynophagia, and weight loss of approximately 30 pounds in six months. Physical examination showed a cachectic and dehydrated patient. An erythematous ulcerated mass in the left lateral aspect of the tongue was appreciated, along with tender submandibular and anterior cervical lymphadenopathy. Initial laboratory evaluation showed serum sodium of 115 mEq/L. Hyponatremia was suspected to be secondary to hypovolemia and decreased solute intake. Normal Saline solution (NSS) bolus followed by infusion was stated to correct hypovolemia, raising sodium level to 132 mEq/L over the next three days. His serum sodium dropped acutely to 115 mEq/L on day four. IV fluids were stopped, and a hyponatremia work-up was requested due to high suspicion of SIADH. Plasma osmolality: 246 mOsm/kg, urine osmolality: 510 osmol/L, urine sodium: 126 mEq/L, and serum uric acid was 1.510 mg/dL. TSH and cortisol levels were within normal limits. Since hyponatremia work-up correlated with SIADH, a search for background etiology was started. The head CT scan was negative for intracranial pathology, and Chest X-Ray for active pulmonary disease. A Neck and Maxillofacial CT scan with IV contrast was performed to evaluate the oral lesion anatomically, revealing a heterogeneously enhancing mass of 4.6 x 2.1 x 3.4 cm with internal vasculature within the left lateral floor of the mouth and base of the tongue. A tissue biopsy was performed and showed a well-differentiated squamous cell carcinoma. The possibility of ectopic ADH secretion by the tumoral cell was entertained at this point. The patient was managed with a 3% sodium chloride continuous infusion. Once serum sodium levels stabilized above >120mEq/L, the hypertonic infusion was discontinued, and the patient continued conservative management with water restriction and salt tablets while undergoing further evaluation for surgical planning. This case illustrates the importance of the initial evaluation of hyponatremia and the need for effective data gathering in exploring the possible etiologies of hyponatremia. Worsening hyponatremia after starting NSS infusion should raise suspicion for SIADH, and work-up and management should be started.

CV-8

COVID 19: An atypical, inflammation-driven clinical course

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COVID 19 has managed to infiltrate the fabric of daily life and unto the collective subconscious of society. It is an entity which thrives on its versatile, infective traits coupled with the interconnectivity upon which we commonly rely on to maintain its relevancy and presence in our daily lives. Perennial it seems, it has altered the way we view interpersonal relationships while remaining an unseen threat to everyone in our communities, equally. A 44 y/o female without previous medical history is brought by her husband on 09/06/21 to the ER presenting with worsening fatigue and shortness of breath during the past 7 days. She had a positive COVID molecular test on 08/30/21. Previous ill contacts included her husband, who was also positive approximately 10 days prior without respiratory compromise. Our patient was admittedly unvaccinated by choice. Upon arrival she was found critically ill, with 156% of ideal FIO2 as per blood gases, promptly intubated and placed on mechanical ventilation under pressure settings due to poor lung compliance. Multifocal infiltrates were seen on chest x-ray. There was evidence of multiple organ damage with a widespread inflammatory response with elevated markers including high-sensitivity troponins at 3,156 pg/mL, D-dimer at 34.84 mg/L, CRP 11.6 mg/L alongside transaminitis. She received Remdesivir, Tocilizumab alongside Decadron and therapeutic Enoxaparin while admitted to the ICU ward. Oxygen requirements improved and sedation was discontinued on 09/17/22 with the patient more responsive to stimuli and following commands. Enoxaparin was also stopped on that day due to abundant oral mucosa bleeding and hematuria with decreasing hemoglobin. On 09/18/22 a fix, left-sided upward gaze was noted alongside a more somnolent disposition and generalized weakness in our patient. Head CT scan revealed an acute ischemic infarct affecting the thalamus bilaterally and left cerebellar hemisphere. Results were confirmed by additional imaging including CT angio, head MRV and angiography. Neurology service recommended therapeutic Lovenox once bleeding had stopped, Physiatry consult, methyphenidate to improve alertness level. Thrombolytics were contraindicated due to acute bleeding and widespread stroke area. She was extubated sUniversidad Central del Caribe, Bayamonessfully on 09/21/22 and neurologic status improved although initial prognosis seemed poor due to stroke location and acute presentation. Hypercoagulable state workup was negative, and the patient was transferred to an inpatient rehab facility and recovered her previous neurological baseline. Upon literature review other cases have been documented were the vasculitis-type reaction caused by COVID has been linked to thrombosis. In our case, the location of the stroke lesion and the favorable clinical evolution of our patient make it atypical. This case helps identify the importance of curbing the inflammatory response associated with the virus, the benefits of vaccination and the necessity for ongoing research into improving our understanding of its pathology.

CV-9

Seronegative rheumatic arthritis with concomitant Marginal Zone Lymphoma: could this be a paraneoplastic syndrome?

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Rheumatoid arthritis is estimated to affect approximately 0.24-1% of the population and is twice as common in women compared with men. Paraneoplastic rheumatic disorders generally precede the clinical manifestations of cancer and the clinical course usually parallels that of the primary tumor. In some cases, treatment of the underlying malignancy resolves the paraneoplastic symptoms. We present a case of a 72-year-old man with past medical history of prostate cancer status post brachytherapy on remission who arrived at our clinic wheelchair bound secondary to diffuse symmetric arthralgias, morning stiffness, weakness and unvoluntary weight loss for several weeks. No night sweats, early satiety, fatigue, recent infections or dyspnea were reported. Physical examination was significant for decreased ROM on shoulders, inability to flex the PIP and DIP joints. He had ulnar deviation of the MCP and swelling PIP joints. He also had hip swelling and decreased ROM of his knees and ankles bilaterally. His most recent lab tests showed negative rheumatoid factor (RF), citric citrullinated peptide antibody (CCP-Ab), increased sedimentation rate (ESR), normal uric acid levels and a normal PSA. Initial imaging studies with skeletal survey were suggestive of lytic bone lesions vs metastatic disease. His serum protein electrophoresis revealed a monoclonal spike of 0.2 g/dL raising the concern for a plasma cell dyscrasia. In view of these findings, we proceeded to order a PET/CT scan and a bone marrow biopsy was to evaluate for possible multiple myeloma or prostate cancer recurrence. He was also referred to Rheumatology service which agreed in the diagnosis of a seronegative rheumatoid arthritis. Bone marrow biopsy results revealed the presence of a Marginal Zone Lymphoma (MZL) with 30% malignant cells present. Malignant cells expressed polyclonal light and heavy chain. There was no evidence of plasma cells in the bone marrow and no lytic lesions were seen on PET scan. The case was discussed with Hematology Oncology and Rheumatology service and a possible paraneoplastic seronegative arthritis was suspected. The patient was started in Bendamustine and Rituximab for the treatment of the MZL for 6 cycles and after the first 2 weeks of therapy, the patient felt significant improvement in his arthritic pain and gained strength in the lower extremities. He is now ambulating with assistance without his wheelchair. Recognizing the manifestations of rheumatoid disorders due to occult malignancy presents a challenging, yet important task for clinicians since early recognition of this condition can aid both oncologists and rheumatologists in prompt diagnosis and effective therapeutic interventions that can lead to better outcomes for the patient.

CV-10

Hemophagocytic lymphohistiocytosis following allogeneic hematopoietic stem cell transplantation

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Post hematopoietic stem cell transplant (HSCT) hemophagocytic lymphohistiocytosis (HLH) is a form of secondary HLH. HLH is a life-threatening hyperinflammatory syndrome induced by aberrantly activated macrophages and cytotoxic T cells that can occur in patients with severe infections, malignancy, or autoimmune diseases. It is also a potential complication of allogeneic hematopoietic stem cell transplantation. Case of a 21-year-old man without past medical history diagnosed with an Early T-cell precursor Acute Lymphoblastic leukemia (ETP-ALL) after presenting with dyspnea and chest pain. Physical exam was remarkable for diminished breath sounds and splenomegaly. CBC was remarkable for leukocytosis. A chest CT revealed a mediastinal mass and a pleuropericardial effusion. Initial bone marrow aspiration and biopsy revealed 60% of lymphoblasts, abnormal male karyotype t (10;11) and NRAS “G13V” mutation. The patient received induction therapy, which failed and was changed to the clinical trial regime from Children's Oncology Group AALL0434 and achieved complete remission. Consolidation with myeloablative conditioning followed by a peripheral haploidentical stem cell transplant from his mother was done. Post-transplant cyclophosphamide, tacrolimus and mycophenolate were provided for graft vs. host disease prophylaxis. On day +18 and on day +25 had neutrophil and platelet engraftment, respectively. Bone marrow biopsy from day +30 was consistent with a complete remission in normocellular marrow. Immunosuppression was tapered. Due to worsening pancytopenia, a BMB was repeated on day+55, showing 30% T lymphoblast with NRAS mutation. On day +57, the patient was admitted to ICU due to epigastric pain and shortness of breath. Physical exam was remarkable for JVD, muffled heart sounds, diminished breath sounds, ascites, and hepatosplenomegaly. An echocardiogram revealed a large pericardial effusion. A chest CT scan revealed moderated bilateral pleural effusion. An emergent pericardiocentesis was done, and drained a total of 2.4 liters of exudated fluid. Laboratory evaluation showed normocytic anemia, severe thrombocytopenia, mild coagulopathy, hyperferritinemia, transaminitis, hypertriglyceridemia, and elevated LDH. The pericardial fluid evaluation revealed blast cells and hemophagocytosis. Supportive care and high-dose steroids were provided. Unfortunately, the patient deceased despite supportive care. HSCT is a potentially curative treatment for familiar HLH and secondary HLH. Here we present a case of relapse T-ALL with HLH complicated with graft failure, pleuropericardial effusion and multiorgan failure. Classical criteria for HLH differ from post-HSCT criteria. Post-SCT HLH major criteria include engraftment delay, primary or secondary graft failure and histopathological evidence of hemophagocytosis. Minor criteria for post-HSCT HLH include elevated ferritin, elevated LDH, fever and hepatosplenomegaly. Post-HSCT HLH requires treatment of the secondary cause, steroids, intravenous immunoglobulin, antiviral drugs (for viral-induced), interleukin monoclonal antibodies, and potentially a salvage allogeneic stem cell transplant. HLH should be considered as a potential cause of graft failure after HSCT.

CV-11

Think About Cortisol!: A Case of Severe Insulin Resistance Induced by Autonomous Cortisol Secretion

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Insulin resistance is an impaired biologic response to insulin stimulation of target tissues resulting in impaired glucose disposal, leading to hyperglycemia via increased hepatic gluconeogenesis, due to genetic factors, obesity, or counterregulatory hormones, such as cortisol. Autonomous cortisol secretion (ACS) is seen with adrenocorticotropin hormone (ACTH)-independent cortisol overproduction, from either adrenal incidentalomas or adrenal hyperplasia, usually resulting in mild hypercortisolism with absence of typical clinical features of overt Cushing's syndrome (CS). As a treatment, Mifepristone, a synthetic steroid which at high doses blocks the effects of cortisol at the glucocorticoid receptor, thereby decreasing symptoms associated with cortisol excess, has shown to improve insulin resistance and overall CS. This is the case of a 52 year-old female with past medical history of resistant hypertension and type 2 diabetes mellitus (T2DM), evaluated by endocrinology service due to severe insulin resistance despite several adjustments in anti-hyperglycemic therapy, consisting of SGLT2 inhibitor, metformin, and regular U-500 insulin three times a day. Patient had an insulin requirement over 300 units per day, with therapy adjustments based on blood glucose monitoring through continuous glucose monitoring (CGM) showing persistently uncontrolled disease. Physical examination pertinent for centripetal obesity, cervical fat pad, moon facies, <1cm, light-colored abdominal striae, and facial plethora, with the latter being the only discriminatory feature for CS. Workup for CS was performed with 1mg-overnight dexamethasone suppression test (1mg-ONDST), which was positive, leading to confirmatory testing with late night salivary cortisol, which was negative. Due to high pretest probability of CS, 1mg-ONDST repeated, yielding non-suppression of cortisol. A 48-hour 2mg low dose DST was done next, showing borderline suppression, and a decreased ACTH level of 7 pg/mL suggested adrenal origin, for which adrenal CT scan was done, with negative result for adrenal gland adenoma. Dihydroepiandrosteniodone sulfate level, usually suppressed in adrenal adenomas, was found normal at 117mcg/dL. Treatment with glucocorticoid receptor antagonist Mifepristone was started at 300mg orally once a day, then increased to 600mg in the morning and 300mg in afternoon, leading to sequential decrease in insulin requirements by more than 30%, allowing patient's therapy deintensification to basal bolus insulin therapy with 100 units per day, along with GLP1 receptor agonist. Insulin resistance may be the presenting feature in a patient with CS, hence the importance of recognizing ACS in the setting of severe insulin resistance. This case serves as a great example of how mild ACS can deeply impact glycemic control in T2DM, as well as how treating CS with such a novel drug like Mifepristone immensely improves insulin resistance, glycemic control, and prevents consequent development of associated complications, regardless of etiology. Thorough evaluation and adequate management of insulin resistance should always be done, as to ensure patient receives the best quality care.

CV-12

Subtle presentation of Heart Failure in Triple-Valvular Endocarditis

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Infection endocarditis is a life-threatening infection leading to the destruction of the endocardial tissue and the heart valves. It carries a high mortality rate despite medical advances and surgical innovations. It typically involves one of the heart valves leading to extensive damage causing insufficiency or stenosis, erosion, and scarring of the tissue. Two-valve endocarditis is a less frequent occurrence and a Triple-valve endocarditis is rarely seen. This is a case of 48-year-old male that presented to the ED with the chief complain of a productive cough, dyspnea, and lower extremity edema. Patient referred that symptoms started a year ago but were exacerbated last week after being diagnosed with COVID-19 and Mycoplasma infection. Upon further workup, a TTE demonstrated a ruptured anterior mitral valve leaflet with a moderate regurgitation, a thick septal tricuspid leaflets suggestive of a mass or endocarditis with moderate tricuspid regurgitation and a large anatomy altering echogenic mass of 3.2 cm x 1 cm in the aortic valve leading to severe regurgitation. Acutely ill patients debuting with acute heart failure should receive prompt empiric antibiotic therapy and supportive care. It is vital as well to quickly identify the patients with indications for surgery. In our patient, a triple valve dysfunction leading to heart failure and a large mobile vegetation with a high embolic risk was sufficient for surgical intervention. Cardiothoracic surgery services were consulted on case and the patient was taken to the operating room for emergent surgery the same day. The mitral and aortic valve were replaced, and the tricuspid valve was able to be repair. After a 12-hour long surgery, the patient was transferred to a cardiovascular intensive care unit for recovery and afterwards was discharged home to continue with physical therapy.

CV-13

Esophageal Actinomycosis: A Rare Etiology of Esophagitis in an Immunocompromised Patient.

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Infectious esophagitis is the second most common cause of esophagitis. Among the most common infectious etiologies are Candida, Herpes Simplex Virus, Cytomegalovirus, and HIV. Usual findings in Esophagoduodenoscopy (EGD) include esophageal ulcers and erosions. A definitive diagnosis is made by obtaining biopsies from encountered lesions. Esophageal Actinomyces have been scarcely reported in medical literature and is linked to immunocompromised patients. Therefore, it remains a rare entity of esophagitis. We present the case of a 36-year-old female with a medical history of bronchial asthma who emigrated from the Dominican Republic and presented to the Emergency Department with a chief complaint of dysphagia, odynophagia, epigastric pain, and 40-pound weight loss of one month of evolution. Physical examination was remarkable for cachectic appearance, poor oral hygiene, and no palpable lymphadenopathy. Initial laboratories were remarkable for leukopenia with lymphopenia with an Absolute lymphocyte count of 14 cells/mm3, hypochromic-normocytic anemia, and thrombocytopenia. EGD was performed to evaluate patient symptoms further. It revealed a mid-esophageal 3cm salmon-colored patch lesion with a central nodule, diffuse erythema surrounding the gastroesophageal junction, and multiple friable white patchy exudates in the proximal esophagus. Visual EGD findings were concerning for Candida spp. Esophagitis for which Fluconazole 200mg IV daily was started empirically. Later, tissue biopsy reported microorganisms consistent with Actinomyces spp., for which antimicrobial therapy was changed immediately to Doxycycline 100mg IV Q12H. Immune system compromise needed to be ruled out, for which serologic HIV testing was performed and returned positive. CD4 count 116 cells/mm3 and HIV viral load >100,000 copies/ml. Bictegravir/Entricitabine/Tenofovir Alacenamide antiretroviral regimen was started. Patient symptoms improved, and she sUniversidad Central del Caribe, Bayamonessfully tolerated diet progression. She was discharged home with oral Doxycycline 100mg Q12H for six weeks, HAART therapy, and follow-up at Infectious Disease clinics. Esophageal Actinomycosis is a rare but important cause of esophageal pathology, particularly in immunocompromised patients. This case illustrates the importance of EGD biopsy to confirm the causative agent of esophagitis in an established visual diagnosis setting since targeted antimicrobial therapy can change considerably.

CV-14

Pulmonary Actinomyces on Laryngeal Squamous Cell Carcinoma Related Keratin Mass

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Actinomycosis is a rare disease caused by a group of anaerobic Gram-positive bacteria normally found in the oral cavity, gastrointestinal tract and urogenital tract. Since actinomyces is a commensal organism, it can be hard to discern between normal flora colonization or an infection. The scarcity of this condition is a challenge for its diagnosis and early treatment. A 69 year old male with past medical history for advanced stage squamous cell carcinoma of the larynx is admitted with sepsis secondary to community acquired pneumonia after 2 week history of malaise and shortness of breath. Upon admission chest x-ray with findings for right lower lobe consolidation suggestive of bronchopneumonia as well as sputum culture positive for Klebsiella pneumoniae. Patient initially started on piperacillin and tazobactam for which clinical status improved, but atelectasis still on follow up Chest X-ray. Chest CT was performed with findings for right middle lobe consolidation suggestive of atelectasis, minimal interstitial infiltrates within right lower lobe suggestive of pneumonitis, as well as 1.2cm calcific density within right middle lobe bronchus with adjacent distal mucous plug or endobronchial lesion. Previous CT scans showed the calcified mass in the left lobule and while it grew in size, it shuffled to the right main bronchus creating the atelectasis. A bronchoscopy was performed with findings for a 1.5 x 1.2 x 0.5cm, solid, irregular, gritty grayish-brown, foreign body. Pathological diagnosis reported fragment of bone by histology with bacterial aggregates consistent with actinomyces without evidence of malignancy. Such findings correlates with a keratin mass most likely secondary to the patient's known squamous cell carcinoma of the larynx that has been dripping for a prolonged period of time. The patient was continued on penicillin based IV antibiotics for which he was discharged 2 weeks after admission. Pulmonary actinomycosis could present as an acute to subacute infection which is mainly diagnosed in the chronic phase. Symptoms can mimic malignancy and other lung infections with the most common symptoms being: shortness of breath, chest pain and chronic productive cough. This case shows the potential association of squamous cell carcinoma and the relationship with actinomyces. Even more interesting is the finding for a left middle lobe keratin mass from the patient’s malignancy that shifted to the right lung which caused the patient’s clinical findings and source of actinomyces infection.

CV-15

Paraneoplastic Pemphigus Camouflage by Toxic Epidermal Necrolysis: The Disguise of a Mysterious Oncological Treatment

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Paraneoplastic Pemphigus (PNP) and Toxic Epidermal Necrolysis (TEN) are rare immune-mediated disorders, usually presenting as painful, blistering, and erosive mucocutaneous lesions. PNP is associated with an underlying lymphoproliferative disease, whereas drug cytotoxicity is the leading trigger of TEN. Clinical differentiation is difficult to assess, reinforcing the importance of medical history for adequate diagnosis and subsequent management. Case of a 66-year-old female patient with a history of Non-Hodgkin B-cell lymphoma (diagnosed in 2020) who was admitted to the ICU with a preliminary diagnosis of recurrent TEN after presenting with painful lesions covering more than 50% of BSA. A month before admission, she was diagnosed with TEN and treated with IVIG and cyclosporine at a peripheral hospital. Upon examination, she was found with tender, diffuse, coalescing, erythematous, dusky macules; erosions and hemorrhagic crusting of the oral mucosa; right superior palpebral conjunctiva membranes and corneal epithelial defect; confluent pustules and severe skin denudation in the chest; bullae and ulcerated lesions in the dorsum of the hands; epidermal detachment of the feet; and blisters and peeling of the vulva. In addition, dermatopathology showed vacuolar interface changes and scattered necrotic keratinocytes in the epidermis suggestive of TEN. Treatment was started with 4 mg/kg of cyclosporine for five days, Solu-Medrol 1 mg/kg, and supportive care including pain management, IVF, and avoidance of suspected causative agents (Acetaminophen, Azithromycin, and Ciprofloxacin with Alden score of 6, 5, and 5, respectively). Oncologic history was reviewed despite the initial statement of neoplasm remission, and biopsy results were revised due to poor response to treatment. New information was revealed, changing the diagnosis and undergoing management. Chemotherapy was paused before remission due to poor tolerance of its adverse effects. In addition, the patient and family members associated the observed reduction of 50% of the mass on her last PET-Scan with a naturopathic treatment consisting of fasting and water, deciding to continue with it as primary treatment. Revised immunofluorescence showed IgG and C3 with interkeratinocytic and linear deposits at the dermo-epidermal junction, highly suggesting PNP. Antibody levels were as follows: DSG1 (<14, negative), DSG (118, elevated), Epidermal intercellular (1:160, positive), and Basement membrane (negative). After a multidisciplinary discussion, including Dermatology and Oncology Services, and the patient's education about Rituxan as a treatment for both conditions, she agreed with the plan; receiving four doses of Rituxan 375 mg/m2 resulted in significant improvement. This case shows the relevance of obtaining a complete and accurate history to identify risk factors for specific conditions and how building a trustworthy physician-patient relationship can contribute to providing adequate treatment. In addition, it demonstrates the importance of a multidisciplinary approach in managing ICU patients to improve their health and mental outcomes.

CV-16

Pelvic pain before meningitis

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Herpes Simplex Virus (HSV) continues to be an important pathogen inflicting encephalitis in adults and children globally with a 70% mortality rate in the absence of treatment. Prompt diagnosis and treatment are important to minimize the potential sequelae of disease. We present a case of a 27-year-old woman with no medical conditions that came to the Emergency Department (ED) due to headache and neck stiffness. Headache started the day before in the bilateral temporal region with radiation to the jaw and neck. She had similar headaches in the last year, but not as painful. She complained of a constant throbbing sensation, with a shock-like sensation that radiates through the spinal area all the way to the feet, that worsened with movement. Symptoms were associated with fever, chills, pain in joints, weakness of upper extremities and stiffness of hands, photophobia, nausea and blurry vision. Patient was discharged from ED two days prior due to first time onset of pelvic pain that radiated to rectum. No lesions were noted on examination but due to symptoms, she was treated for urinary tract infection with Nitrofurantoin. She has no recent history of trauma, vomiting, chest pain, palpitations, involuntary movements, loss of consciousness, eye redness, sick contacts, abdominal pain, vomiting, changes in voiding/stooling habits. Upon evaluation, she had leukocytosis, meningeal signs and Tmax of 38.4C. Head CT and Neck/brain MRI without acute abnormality, no white matter lesions. Patient admitted to the Internal Medicine ward due to the clinical suspicion of Meningitis. Treatment was initiated with intravenous corticosteroids, Vancomycin, Ceftriaxone and Acyclovir. Lumbar puncture with CSF findings of mononuclear pleocytosis with CSF HSV-2 DNA PCR positive. Patient had subsequent improvement of headache and neck stiffness by day 2 and complete resolution in mental status by day 8. Antibiotics were discontinued and patient completed 14 days of Acyclovir therapy. This case illustrates a debut presentation of Herpes Simplex Virus type 2 infection as viral meningitis. The prognosis for patients with HSV-2 has been dramatically improved by the availability of specific antiviral therapy. To improve the prognosis for patients with HSV-2, acyclovir treatment should be initiated as soon as HSV-2 is suspected. Recognition of this syndrome is critical to institution of appropriate therapy and prevention of sequelae in surviving patients which may include severe neurological deficits, seizures, and/or neuropsychological dysfunctions that greatly impair quality of life.

CV-17

Inflammatory Breast Cancer Not Exclusive to Females

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Introduction: Breast cancer in males accounts for less than 1% of breast cancer diagnosed worldwide. Less than 15 cases of inflammatory breast cancer in males have been reported in literature, therefore initial clinical suspicion is often low leading to misdiagnosis and delay in treatment. Due to its rarity, male breast cancer is often diagnosed at later stages. Considering inflammatory breast cancer is often associated with poorer prognosis, time is of the essence when diagnosis is achieved. Inflammatory breast cancer may be confused with other skin diseases including dermatitis, cellulitis, or abscess. Currently, there are no guidelines for diagnosis and treatment, and it is mainly based on female breast cancer treatment and response. This case report discusses a male patient with metastatic Inflammatory breast cancer diagnosed 1 year after being treated as dermatitis. *Case Presentation:* This is the case of a 102-year-old man who was initially treated for a right sided chest dermatitis with lotions for symptomatic relief. During the course of a year this area worsened and spread along the right chest and axillae. He has a known history of gynecomastia and prostate cancer treated with Goserelin, as well as hypertension and PTSD. He was a nonsmoker and denied family history of breast cancer. Upon examination he presented with bilateral gynecomastia, right chest erythematous, indurated and ulcerated skin along the right breast and axillary area with nipple retraction. Chest CT was done remarkable for diffuse right breast skin thickening, soft tissue hypertrophy and axillary lymphadenopathy associated. Right breast core biopsy was done with findings consistent with a grade 2 invasive carcinoma of the breast. Immunohistochemical stains demonstrated estrogen and progesterone receptors positive, positive for GATA3, negative for Her2 amplification. It was classified as T4, N2/3, M0 Stage 3B/C Invasive carcinoma of the breast. Patient was offered treatment with Anastrozole 1mg daily, nevertheless patient and family opted for palliative treatment and patient was started on hospice care. *Discussion:* Diagnosing breast cancer in men is evidently challenging and patients usually present with advanced disease and have an overall worse prognosis. The challenge it presents to diagnose male breast cancer is evident on the delay in diagnosis and presentations with worse prognosis such as skin inflammatory changes. Skin changes around the chest may be overlooked as benign and possible breast cancer in men may be overlooked. Therefore, it is important to recognize breast changes in male and distinguish them to provide appropriate treatment. Although inflammatory breast cancer in men may be rare, more studies are necessary to adequately develop guidelines for this population.

CV-18

Coexisting Autoimmune Hepatitis after Acute onset of Type 1 Diabetes Mellitus

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Autoimmune hepatitis (AIH) is a chronic liver inflammation in which our cells are attacked by circulating autoantibodies. This condition can present with other autoimmune diseases such as Type 1 diabetes mellitus (T1DM). The increased coexistence of T1DM with other autoimmune disorders are well documented. However, there are few reports describing cases with both T1DM and AIH with co-occurrence of related autoantibodies, such as anti-Liver/Kidney microsomal (LKM-1) antibodies. This case involves a 20-year-old Hispanic woman with a history of acute onset T1DM of one month of evolution which arrived at the emergency department complaining of right upper quadrant abdominal pain, nausea, vomiting, numbness of lower extremities, and general malaise. One month ago, the patient was admitted due to unintentional weight loss, polyuria, polydipsia, polyphagia, and an incidental finding of transaminitis >1000 IU/L. Diagnosis of T1DM was made with no apparent causes of high liver enzymes. With this new presentation, laboratory workup was again remarkable for transaminitis (AST 978 IU/L and ALT 1185 IU/L), hyperbilirubinemia (Total Bilirubin 2 mg/dL), and elevated coagulation parameters (INR 1.29). Due to the recent diagnosis of TIDM, the coexistence of another autoimmune disease was suspected. Hepatitis workup was sent, revealing a positive liver-kidney microsomal antibody and hypergammaglobulinemia. Further CT-guided liver biopsy was performed, which was compatible with autoimmune hepatitis (AIH) showing less than ten percent of viable hepatocytes with plasma cells and lymphocytes. Treatment with intravenous steroids was cornerstone in the improvement of the patient's symptoms and liver enzymes. Outpatient follow up with Gastroenterology initiated immunosuppressive therapy with mycophenolate mofetil and tapering of steroid therapy. The patient is currently being managed for her autoimmune conditions demonstrating good response. No further exacerbation has been present. Rapid detection of the etiology of hepatitis helped early treatment and prevention of further complications, including fulminant liver disease. This case illustrates the importance of taking into consideration the co-existence of other autoimmune conditions in patients with T1DM and its early recognition to prevent further complications. Due to the lack of documentation of autoimmune disorders in correlation with another, awareness should be warranted in this population since it will help the patients overall prognosis.

CV-19

Cardiac tamponade as initial presentation of underlying autoimmune disease

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Autoimmune diseases are characterized by a pathologic response directed at a normal bodily constituent that leads to inflammation. Autoimmune diseases can affect any organ system, exhibiting incredibly variable presentations. From a cardiological point of view, they could affect the pericardium, myocardium, coronary arteries, endocardium, and/or major vessels. Systemic autoimmune diseases are an important cause of pericardial involvement and contribute to up to 22% of cases of pericarditis with a known etiology. But rarely is cardiac tamponade the first initial presentation of systemic inflammatory disease. We present a 49-year-old female without a medical history of a systemic disease who arrived at the emergency department with intractable vomiting, shortness of breath, chest pain with inspiration, and epigastric pain of two-week duration. She had visited another hospital one week prior with similar yet milder symptoms and was discharged with antiemetics and antacids. On examination tachypnea, tachycardia, severe chest wall tenderness, JVD, and muffled heart sounds were present. Abdominal Computerized tomography was remarkable for a sizable pericardial effusion, and ECG showed sinus tachycardia with low-voltage and electrical alternans. Cardiology services were contacted emergently. A bedside cardiac ultrasound was performed, showing a large pericardial effusion with diastolic right ventricular collapse and a plethoric inferior vena cava with a minimal respiratory variation. 400 mL of bloody fluid were drained from emergent pericardiocentesis, followed by over 800 mL of bloody fluid from a subsequent pericardial window. Pericardial fluid analysis showed elevated RBC at 259000, WBC at 3875, LDH at 495 U/L, negative culture, and cytology. Pericardium biopsy revealed chronic fibrosing pericarditis. Further laboratory work-up revealed normocytic anemia (9.6 g/dL), positive ANA test (1:80 titer, speckled homogeneous pattern), and elevated erythrocyte sedimentation rate (63 mm/Hr), C-reactive protein (5.1 mg/d), suggesting an autoimmune etiology. Furthermore, found elevated TSH (77.5 uIU/mL), and decreased T4 (0.7 ng/dL) and T3 (2.02 pg/dL), which suggested severe, yet asymptomatic hypothyroidism. Serum for Coxsackie B1,2,3,6 were over 1:8 titers, indicative of either past or recent infection. Gathered data pointed to chronic pericarditis due to an underlying and undiagnosed autoimmune disease, exacerbated by an acute concomitant viral infection that resulted in cardiac tamponade.

Cardiac tamponade as the initial presentation of an autoimmune disorder is rare. Reports of cardiac tamponade associated with hypothyroidism, usually present with profound symptomatic hypothyroidism including myxedema. This case raises awareness of cardiac tamponade as a possible initial manifestation of an autoimmune condition. The clinical heterogeneity of autoimmune diseases and the lack of pathognomonic features or tests for many of them pose a diagnostic challenge for the clinician. Therefore, performing a thorough history and physical examination is crucial when evaluating a patient with cardiac tamponade. In addition, it is essential to include appropriate testing for systemic and autoimmune diseases.

CV-20

Paraneoplastic Leukocytoclastic Vasculitis as an Initial Presentation of Acute B-Cell Lymphoblastic Leukemia

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Leukocytoclastic Vasculitis (LCV) is idiopathic in up to 50% of the cases; however, secondary causes include infections, drugs, connective tissue diseases, and malignancies. We present a case of Leukocytoclastic Vasculitis as an initial presentation of B cell Acute Lymphoblastic Leukemia. A 25-year-old female with no known medical conditions arrives at our institution after developing a generalized erythematous rash and profound fatigue for several days. Initial laboratories were remarkable for leukocytosis of 62,000 with 35% blast cells and extensive toxic granulation on peripheral smear, normocytic normochromic anemia, thrombocytopenia, elevated haptoglobin, D-Dimer, alkaline phosphatase, LDH, and inflammatory markers. Physical examination revealed multiple erythematous non-blanching papules diffusely distributed in the anterior and posterior trunk and upper and lower extremity. Chest and Abdomino-pelvic CT scans showed evidence of centrilobular ground glass opacities on bilateral lower lobes with associated consolidation and parapneumonic effusions, hepatosplenomegaly, thrombosis of the left common femoral vein, and axillar and inguinal lymphadenopathy. Bone marrow biopsy revealed hypercellular bone marrow with decreased megakaryocytes and diffused infiltrate of blasts. Flow cytometry suggested B cell acute lymphoblastic leukemia with 24 % blasts cells. The patient started chemotherapy with cyclophosphamide, vincristine, doxorubicin, and dexamethasone. As mentioned earlier, a skin punch biopsy of the lesions was remarkable for fibrin deposition in the walls of venules with perivascular and interstitial infiltrate of neutrophils with nuclear dust. Findings were consistent with leukocytoclastic vasculitis. Despite prompt initiation of therapy, the patient continued to deteriorate clinically, developing hemodynamic instability and respiratory failure requiring mechanical ventilation, ultimately leading to her death. Paraneoplastic cutaneous vasculitis occurs at a rate of 3.8% and is more commonly associated with hematologic malignancies when compared to solid tumors. Cutaneous leukocytoclastic vasculitis (CLV) is the most common paraneoplastic vasculitis. However, the association of Acute Lymphoblastic Leukemia with CLV is infrequent and has been reported only in selected cases. Early recognition of cutaneous manifestations in hematologic malignancies can further guide the clinician toward a diagnosis; thus, careful skin examination should be entertained in such cases.

CV-21

Rare case of angioimmunoblastic T cell lymphoma

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Peripheral T-cell lymphomas (PTCL) are a subgroup of generally aggressive neoplasms that constitute <15% of all non-Hodgkin lymphomas in adults. Angioimmunoblastic T cell lymphoma (AITL) is one of the more common PTCLs accounting for 0.05 cases per 100,000 persons per year in the United States. It is thought to arise from follicular T helper cells. Patients with AITL often have an acute onset of generalized lymphadenopathy, hepatosplenomegaly, systemic B symptoms, rash (usually pruritic), polyarthritis, ascites, effusions, and anemia. Laboratory abnormalities often found include elevated LDH, polyclonal hypergammaglobulinemia, positive Coombs test, elevated beta two micro-globulin, lymphopenia, anemia, thrombocytopenia, hyper-eosinophilia, and hypoalbuminemia. Histological and immunohistochemical analysis of an affected tissue establishes the diagnosis. An 80 y/o male patient with essential hypertension, epilepsy, and alcohol use disorder was brought to the emergency department after being found unresponsive. His neighbors referred a 3-month progression of hypo-activity, poor oral intake, watery diarrhea, fevers, night sweats, shortness of breath, and unintentional weight loss. Physical examination was remarkable for cachexia, poor hygiene, and palpable bilateral sub-mental, cervical, axillary, and inguinal lymphadenopathy. Laboratories demonstrated severe leukocytosis (100k) with eosinophilic predominance (89%), elevated gamma gap of 4.6g/dL, elevated ESR (60mm/h), elevated LDH (373u/L), normal uric acid, and hypoalbuminemia (3.2g/dl). Neck, chest, and abdominopelvic CT scans revealed extensive mass like bulky lymphadenopathy throughout the neck, mediastinum, hila, axilla, abdomen, and pelvis; mild ascites; heterogeneous patchy attenuation of the liver and spleen; and complete occlusion of the left subclavian artery with distal reconstitution. Bone marrow biopsy findings were normal except for eosinophilia. Lymph node biopsy revealed AITL with positive immunohistochemistry for Bcl2, Bcl6, CD3, CD4, CD5, CD8, CD15, CD20, CD21 CD23, CD30, CD38, CD43, CD45, CD79a, BOB, CD56, CD138, GATA3, Cyclin D1, Ki67 (90% of neoplastic cells), MUM-1, PAX5 (in B cells and neoplastic cells), EBV, EMA, and Oct2. The patient was diagnosed with ATIL stage 4B and started treatment with a BV-CHP regimen (Brentuximab, Cyclophosphamide, Doxorubicin, Prednisone), which he received in 2 cycles. During the hospitalization, the patient developed cardiac arrest and expired. Although rare, AITL can cause severe eosinophilia which may be mistaken with other hematologic diseases such as hyper-eosinophilic syndrome. In cases where confounding clinical and laboratory findings make the diagnosis difficult, careful histological examination of affected tissue biopsy by an experienced pathologist can establish the diagnosis. Unfortunately, most AITLs are diagnosed late, contributing to the disease's poor prognosis. There is no standard of care treatment for PTCLs, but they are typically treated with anthracycline-based regimens such as CHOP (cyclophosphamide, doxorubicin, vincristine, and prednisone). In our case, the BV-CHP regimen was chosen since the ECHELON-2 (E-2) study demonstrated improved survival in the CD30-positive patients when compared to the CHOP regimen.

CV-22

A fine line: Mesothelioma progression vs Anti PD-1 induced Polymyalgia rheumatica-like symptoms

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The rarity and potentially misguided perceived futility of exploring adverse effects of drugs on chronically ill patients due to rapidly progressing, poor prognostic malignancies should not fool the clinician into ignoring them. Immune-checkpoint inhibitor therapy is a promising treatment strategy, but overcoming the self-tolerance may result in various immune-driven adverse events. Checkpoint inhibitor-induced polymyalgia rheumatica (PMR) occurs only in around 6.13% of patients receiving these drugs. This diagnosis can be easily dismissed as a symptom of malignancy. We will explore the case of a 74-year-old veteran with a medical history of hypertension and atrial fibrillation who initially presented to the emergency department in March 2021 complaining of shortness of breath. Imaging showed a large pleural effusion. Thoracentesis provided quick symptomatic relief, but pathology was consistent with malignant mesothelioma. After failing first-line treatment, he was started on pembrolizumab. However, the patient presented with limb-girdle pain with prolonged stiffness that severely limited his activities of daily living. Because of mesothelioma progression, a paraneoplastic pain diagnosis was entertained. He was started on Fentanyl patches with poor clinical response and referred to the Rheumatology Clinic. The review of systems was pertinent for weight loss of 15 pounds, but no visual disturbances, carotidynia, jaw claudication, or temporal headache. The physical exam revealed tenderness of bilateral shoulders with painful active range of motion of limb girdles—however, no tenderness or swelling of any other joints. Laboratory tests were remarkable for normocytic anemia. Renal parameters and liver function tests were unremarkable. Inflammatory markers were increased (Sedimentation rate: 60 mm/1Hr, C-reactive protein: 45.1 mg/L). Shoulder radiography was consistent with degenerative joint disease. In essence, the patient had developed limb-girdle symptoms without evidence of inflammatory arthritis. The patient was taken off pembrolizumab and changed to Gemzar owing to worsening symptoms and malignancy progression. He was diagnosed with PMR-like syndrome from checkpoint inhibitors, and treatment with low-dose prednisone was planned. However, after one month off immunotherapy, the patient regained 90% of his functionality, with probable help from dexamethasone provided during new chemotherapy infusions, never receiving a prednisone dose. Our patient received treatment with pembrolizumab, an Anti PD-1, for his lung mesothelioma. About a month later, he presented with PMR-like symptoms that resolved after discontinuing the drug, and corticosteroid therapy. Unfortunately, these symptoms could have easily been overlooked as a progression of his malignancy, resulting in continued pain management while deteriorating his quality of life. With new advances harnessing the immune system to combat malignancy, awareness of the hazards of autoimmunity is critical to identifying the potential perpetrator and addressing it, reducing morbidity. Although rare, it is paramount to consider these deleterious effects to prevent harm to already suffering and fragile patients**.**

CV-23

Stercoral Colitis: A feared complication of a common complain.

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Stercoral colitis is a rare condition that occurs secondary to the impaction of fecal matter in the colon, leading to distention, bowel wall edema, ulceration, ischemic colitis, and bowel perforation. Most cases are seen in elderly patients with dementia, chronic opioid users, and patients with neuropsychiatric conditions. Here we present a case of a patient with multiple comorbidities who developed Stercoral colitis. A 52-year-old female with diabetes mellitus, hypertension, chronic kidney disease, and bipolar disorder, on methadone for chronic opioid use disorder, was receiving inpatient care for left foot osteomyelitis. The patient showed a labile mood and hostile behavior towards medical staff throughout hospitalization. Intermittently refused medical treatment and routine evaluations. She complained of abdominal discomfort but refused to speak and provide further details upon interrogation. History taking and physical examination were limited due to her uncooperative behavior. Laboratory workup showed no electrolyte or metabolic disturbances. Abdominal X-ray was remarkable for changes consistent with severe constipation. Due to persistent abdominal pain, an Abdominopelvic CT scan was performed for further assessment. It showed a distended rectum with fecal impaction and associated stercoral colitis. The patient was educated about complications concerning diagnosis, and treatment options were discussed with the patient. Treatment included daily mineral oil enemas and digital fecal disimpaction. She was reluctant to cooperate with the proposed therapy at first. We consulted with the psychiatry service to optimize psychiatric medications. With time, the patient became more cooperative and receptive to medical therapy. Fecal impaction resolved, and symptoms improved. The patient was safely discharged to a rehabilitation facility. Stercoral colitis is under-documented in the medical literature; therefore, awareness of the condition and recognizing signs and symptoms of this potentially fatal condition is imperative. Comorbidities may delay the diagnosis by preventing optimal history taking and masking physical examination. This case also highlights the importance of an interdisciplinary team when caring for a complex patient.

CV-24

Rare Case of Complicated Parapneumonic Effusion in a 26-Year-Old Male

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Many complications from both Coronavirus disease 2019 (COVID-19) and Mycoplasma pneumoniae infection have been described in the literature, however, complicated parapneumonic effusions are not frequently encountered, especially in relatively healthy, young adults. The rarity of this condition in the aforementioned population might pose a diagnostic and therapeutic challenge, and may lead to delayed treatment and significant morbidity. A 26-year-old male with a past medical history of major depressive disorder, anxiety, and illicit drug use presented to the emergency department complaining of shortness of breath of ten days. He stated it had been worsening, exacerbated by exertion, and associated with a productive cough of green sputum, subjective fever, orthopnea, and right sided pleuritic chest pain. The patient referred he had a positive COVID-19 antigen test eight days ago and visited his primary care physician, who prescribed antitussive medication with no relief. He decided to visit our emergency department, where he was found to be tachycardic (121 beats per minute), tachypneic (34 breaths per minute), afebrile, and with a blood pressure of 116/70 mmHg, and an oxygen saturation of 95%. Diminished breath sounds on the right lung fields were noted, and COVID-19 antigen and Mycoplasma IgM tests both came back positive. The patient was diagnosed with pneumonia, and a CURB-65 score was calculated to determine inpatient versus outpatient treatment, which resulted in one point, indicating a low risk of mortality and outpatient management. However, a chest x-ray (CXR) done as part of the initial workup revealed multifocal pneumonia with a large right upper lobe consolidation and the possibility of a parapneumonic effusion. The patient was admitted for further testing, monitoring, and treatment. An initial Chest Computed Tomography Scan (CT-Scan) showed a large right upper lobe consolidation with additional smaller ones in the middle and lower lobes, a small gravitating pleural effusion, and a compensatory hyperinflated left lung. Echocardiography did not show evidence of vegetations. The patient was treated with Remdesivir and broad-spectrum antibiotics. Despite our interventions, a follow-up CXR three days later displayed a worsening picture, and a repeat Chest CT-Scan confirmed a large right pleural effusion with loss of lung volume. Multiple septations, loculations, and hypercellularity were seen on bedside thoracic sonography, which led to a Video-assisted Thoracoscopic Surgery (VATS), draining frank pus. Pathologic studies confirmed an empyema and cultures grew Staphylococcus haemolyticus, denoted as a contaminant by infectious disease specialist. The patient remains hospitalized, as his lung had sustained significant damage already. This case reflects on an unusual complication of pneumonia by concomitant organisms and the importance of a thorough history, physical examination, and clinical eye for its prompt diagnosis. This may be the difference between a positive outcome, or a possible loss of lung function at an early age.

CV-25

Acquired rectum hypoganglionosis discovered in a patient with a history of chronic constipation: A case report

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Acquired hypoganglionosis is a rare condition with unknown etiology associated with a neuromuscular disease in which Myenteric and Meissner plexuses have reduced the number of ganglion cells. Like Hirschsprung's disease, a congenital disease in which nerves are missing from the intestine, acquired hypoganglionosis is an adult-onset disease. It also causes small or large pseudo-obstruction, abdominal distention, and constipation in most patients. This condition has an unknown etiology, making it harder to find therapeutic solutions. Case of a 44-year-old female patient with a history of chronic constipation presented to the emergency department for TPN nutrition due to severe malnutrition. In addition, the patient reported abdominal pain and distention, nausea, vomiting, and weight loss of 100 pounds. The patient stated that abdominal complaints started three years ago, with multiple hospitalizations resolved with nasogastric tubes. She has been followed outpatient by gastroenterology and general surgery. Before admission, she underwent an esophageal manometry that showed esophageal aperistalsis. A transrectal full-thickness biopsy resulted in a markedly decrease in the number of ganglia (hypoganglionosis). Family history was remarkable for autoimmune diabetes type 1 and psoriasis, and surgical history for three cesareans and cholecystectomy. A physical exam revealed a hemodynamically stable woman with a distended, depressible abdomen and increased bowel movements. Abdominopelvic CT scan showed small and large bowel dilatation without a transition point. Brain MRI/MRA resulted in a partially empty sella and a severe spinal canal. Laboratories resulted in ANA 1:640 (mixed pattern) and C3 hypocomplementemia. The C4, anti-dsDNA, anti-Ro, anti-La, HIV, VDRL, anti-SCL 70, anti-Smith, anti-RNP, anti-centromere antibodies, and RF all tested negative. In addition, EBV IgM, Hepatitis profile, Porphobilinogen, and uroporphyrin 1 and 3 were normal. However, coproporphyrin one and methylmalonic acid were increased. The possibility of an autoimmune disease was high in the differential diagnosis, but no direct antibodies were present. During hospitalization, the patient continued with nausea preventing an adequate calorie intake. Chronic pseudo-obstruction led to constant constipation with abdominal distention. Therefore, the patient could not gain weight even though she was on a parenteral and oral diet, Phenergan, Zofran, and Linzess Treatment. The administration of Fosaprepitant 150 mg IV reduced nausea significantly, but the Hospital Pharmacy did not approve it. Dexamethasone 8 mg IV and previous medications continued to increase nutritional intake. Finally, our patient underwent a sUniversidad Central del Caribe, Bayamonessful ileostomy, and an ileum biopsy presents reduced ganglion cells. After the intervention, the patient started to gain weight during hospitalization and was later discharged home. This case relevance lies in the awareness of the existence of no so common diseases such as Acquired Rectal Hypoganglionosis. Prompt diagnosis will improve quality of life, avoid malnutrition, and provide early interventions.

CV-26

A Painful Metastasis

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Cutaneous Squamous cell carcinomas (cSCC) are typically indolent tumors, with a five-year cure rate of greater than ninety percent and a low rate of metastases of less than four percent. However, upon diagnosis, stratification into high-risk vs. low-risk primary cutaneous squamous cell carcinoma is essential to guide treatment and follow-up surveillance. Tumor characteristics considered high risk are: diameter >2cm, Depth >4mm, poor histological differentiation, high-risk anatomic location (face, ear, genitalia, hands, and feet), and perineural involvement. Here, we present a case of a patient who had an excision of a tumor with high-risk features that a year later presented with metastatic squamous cell carcinoma. A 90-year-old male patient arrived at ED with an enlarging painful right shoulder lump that started growing a month prior to our evaluation. A year earlier, the patient underwent excision of an ulcerated 3cm-diameter right forearm lesion that resulted in squamous cell carcinoma. After, the patient received no further follow-up or treatment. Upon evaluation at ED, the patient was afebrile and hemodynamically stable. A physical examination revealed a right shoulder soft tissue mass greater than 5cm in diameter, with surrounding erythema, tenderness, and ulceration. Laboratories were remarkable for leukocytosis with neutrophilia. Head, chest, and abdominopelvic computerized tomography showed a heterogeneous lesion in the right pectoralis major muscle, measuring approximately 5.1 cm x 6.5 cm x 5.5 cm; large necrotic lymph nodes in the right neck and axillary regions concerning malignancy with metastatic disease and infection. Given the history of rapidly growing painful mass, sarcoma versus metastatic disease was among the differential diagnosis; a biopsy was obtained. Due to superimposed infection, empiric broad spectrum IV antibiotic therapy was started. Biopsy of mass resulted in squamous cell carcinoma. The mass continued to enlarge during hospitalization, causing right arm lymphedema and exquisite pain. The patient started radiotherapy with the intent of starting chemotherapy. However, he continued with progressive clinical deterioration resulting in the patient's death two months after presentation. Ninety percent of metastatic SCC occurs within three years of primary tumor diagnosis. Most of these metastatic lesions come from primary tumors stratified in the "high-risk" category. Standard excision is acceptable in non-high-risk cSCCs. In high-risk lesions, recurrence rates with wide excision vs. Mohs micrographic surgery are four times higher, for which treatment of choice for these lesions should be the latter. To this date, there are no prognostic models to accurately determine an individual's risk of cSCC metastasis and death. This case raises awareness of the importance of identifying high-risk features and developing prognostic models for this common skin cancer to help guide decisions regarding management.

CV-27

An Unexpected Presentation of an Uncommon Malignancy

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Tumor Lysis Syndrome (TLS) is a major oncologic emergency characterized by the presence of metabolic disturbances that arise from rapid turnover of malignant cells and the release of intracellular solutes. It comprises laboratory derangements such as hyperuricemia, hyperkalemia, hyperphosphatemia and hypocalcemia which may lead to acute renal dysfunction, seizures, cardiac arrhythmia and eventually death if not identified early and treated accordingly. This life-threatening condition is commonly observed as a complication of cytotoxic chemotherapy, however the incidence of spontaneous TLS prior to therapy has been rarely described. Given its fatal potential, it is crucial that clinicians recognize laboratory and clinical findings that suggest this condition. A 52-year-old male patient with past medical history of hypertension presents to the emergency room with a 2-day history of general malaise associated with nausea, vomiting and watery diarrhea. Upon physical examination, bilateral non-tender supraclavicular nodes and left sided diminished breath sounds were identified. Chemistry panel showed altered renal function with blood urea nitrogen of 141 mg/dL and creatinine at 7.89 mg/dL along with multiple electrolyte disturbances including severe hyperkalemia of 7.6 mmol/L, severe hypocalcemia of 6.4 mg/dL and severe hyperphosphatemia of 31.3 mg/dL. Increased lactate dehydrogenase at 7,306 IU/L as well as hyperuricemia of 56.6 mg/dL were present as well. Complete blood count showed a normocytic anemia of 9.5 g/dL and moderate thrombocytopenia of 69 x103/uL. Chest CT Scan revealed an anterior mediastinal mass with a left sided pleural effusion and multiple bilateral sub-centimeter axillary and supraclavicular nodes. Aggressive intravenous hydration, renal replacement therapy together with Rasburicase, followed by Allopurinol provided during admission showed adequate response. With such framework of severe TLS, extensive workup was done to rule out possible etiologies, however no other causes were identified. CT-guided anterior mediastinal mass biopsy revealed T-cell lymphoblastic lymphoma/leukemia, later confirmed by bone marrow biopsy. After multiple cycles of chemotherapy, patient achieved complete remission and allogenic hematopoietic stem cell transplantation was performed successfully. This case shows an unusual yet lethal initial presentation of an occult hematologic malignancy. In the general population, the incidence of T-cell lymphoblastic leukemia is about 0.13 cases per 100,000. To our knowledge, cases of severe spontaneous TLS with Acute Lymphocytic Leukemia (ALL) are scarcely reported in literature, finding merely two other cases associated with a large mediastinal mass. Although infrequent, spontaneous development of TLS in high-grade hematology-oncology malignancies occur, becoming a challenging emergency to manage. Given the increasing prevalence and survival rates of cancer patients, recognizing complications related to underlying malignancies and their treatments is vital. Moreover, we should consider that even without an established malignancy spontaneous TLS occurs and it may be the first sign of an occult cancer. Its presence must alert clinicians, as prompt recognition and intervention is key for survival.

CV-28

Two Suspects, One Culprit: A case of an Injured Heart

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Introduction: The use of Immune Checkpoint Inhibitors (ICIs) in the Oncology field has blossomed during the past few years. Although it provides a more guided therapy for a diverse array of cancers, it has been associated with increased prevalence of cardiovascular immune mediated adverse effects, including but not limited to myocarditis, pericardial disease, takotsubo syndrome, destabilization of atherosclerotic disease, among others. We present a patient who was found with heart failure de novo, with one previous echocardiogram essentially normal three months before starting nivolumab therapy. *Case Description:* A 70-year-old man with a history of hypertension, atrial fibrillation on apixaban, 1 vessel coronary artery disease, and stage IV clear cell renal cell carcinoma s/p adrenalectomy and hepatorrhaphy on november 2016, on nivolumab every 4 weeks since April 2020, who came to the emergency department on June 2022 complaining of chest discomfort and shortness of breath that began three days prior to admission. He was found with atrial fibrillation with fast ventricular response which improved after IV diltiazem. Physical exam: irregular rate and rhythm of heart, but clear lungs and no evidence of edema. He was admitted for rate control with metoprolol tartrate 25mg PO every 8 hours. A transthoracic echocardiogram was ordered upon admission and found with a left ventricular ejection fraction of 30-35% and moderate to severe mitral regurgitation. His previous echocardiogram showed normal systolic function in January 2020, 3 months prior to initiating nivolumab therapy. Cardiology service evaluated the patient and recommended optimizing metoprolol to 100mg PO every 6 hours and digoxin. Cause of cardiomyopathy was suspected to be secondary to either progression of CAD or nivolumab toxicity. Last cardiac catheterization in 2015 was found with non obstructive lesion on mLAD, and currently medically managed. Hematology/Oncology service suspected cardiotoxicity secondary to nivolumab, for which immunotherapy was placed on hold, and recommended evaluation by cardiology. One month after discontinuing nivolumab and being discharged home, he was evaluated at hematology/oncology clinics and reported that symptoms almost resolved, with just mild fatigue upon exertion. Cardiology also reevaluated him at clinics and a follow up echo was ordered for reassessment of left ventricular function after nivolumab stoppage. *Conclusion:* Several cases of immune-mediated cardiotoxicity after ICIs have been identified, including heart failure, cardiomyopathy, heart block and myocarditis. Glucocorticoids has been effective in improving left ventricular function in the setting of ICI mediated cardiotoxicity. This case highlights the importance of early recognition of the cardiotoxic effects that immune checkpoints inhibitors can present, to always have it on the differential diagnoses in a patient on ICI presenting with new onset heart failure and being able to identify it. Early recognition and stopping therapy on time saved patient from potentially fatal complications.

CV-29

Abscess, DVT or Metastasis? A Rare Presentation of Metastatic Lung Adenocarcinoma

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Lung Adenocarcinoma comprises 40 % of all lung cancers. Lung adenocarcinoma is a subtype of non-small cell lung cancer usually starting in glandular cells, secreting mucus and develop in alveoli or smaller airways[1]. Cutaneous metastasis are rarely seen but when present must be ruled out especially if the setting of smoking history, suspicious new skin lesions and/or lung cancer, such as the patient being presented. We present the rare case of cutaneous manifestation from Lung Adenocarcinoma. This is the case of a 77 y/o male patient with PMHX of prostate CA s/p RT and advanced Left Lung Adenocarcinoma who was initially admitted to PAICU due to Major Depressive Disorder without psychotic features. Patient was pending to undergo outpatient surgical resection of localized lung tumor. During re-staging and evaluation of back pain, cord compression and extensive metastatic disease including brain was diagnosed. During hospitalization, patient with noticeable right forearm antecubital mass, concerning for abscess vs deep vein thrombosis for which right upper extremity U/S ordered and reported irregular solid lesions at the antecubital region and anterior aspect of distal arm/elbow with no definite etiology, but based on patient's history metastatic etiology could not be ruled out. Dermatology services evaluated patient for possible metastatic disease vs primary skin malignancy. Punch Biopsy reported Metastatic Lung Adenocarcinoma with TTF-1 and Napsin A immunoperoxidase stains (+); lung adenocarcinoma markers. TTF-1 being a nuclear marker and Napsin A being a granular cytoplasmic marker. CK5/6 were negative. Patient received Keytruda due to over-expression of PDL1 of Lung Carcinoma and radiotherapy for metastatic disease to both brain and spinal cord. Patient completed 10 radiotherapy sessions for brain metastasis and 10 sessions with IV dexamethasone for spinal cord compression and was then transferred to Spinal Cord Services Ward for inpatient rehab. This case illustrates a rare presentation of metastatic progression from lung adenocarcinoma. In terms of metastasis, 1/3 of patients' present symptoms related to metastatic disease with the most common sites of metastasis from non-small cell lung cancer being bone, liver, adrenal glands, intra-abdominal lymph nodes, brain, spinal and skin[1]. Skin metastasis is rare and occurs only in 1-12 % with overall incidence of 5.3% for all cancers. Most common sites of cutaneous manifestations include scalp, head, neck and chest[2]. Treatment includes surgical resection, adjunct chemotherapy, radiotherapy, cryotherapy, radio-frequency ablation or interferon alpha injection. When cutaneous metastasis is present, prognosis is poor with an average survival time of 5-6 months[2].

CV-30

A Rare Complication of Empagliflozin: Necrotizing Fasciitis of the Perineum

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Sodium-glucose cotransporter 2 (SGLT2) inhibitors are widely used medications to treat diabetes mellitus type 2 (DMT2), congestive heart failure and chronic kidney disease. Their beneficial effects are clear but, like any other medications, the risk for adverse effects is present. We herein present a patient who was on empagliflozin and developed Fournier's gangrene. An 80-year-old man presented to the emergency room with scrotal edema, erythema and pain with associated chills and subjective fever of 6 days of evolution. He has a history of insulin dependent DMT2 and heart failure with reduced ejection fraction of 20-25% on goal directed medical therapy including Empagliflozin. Blood glucose level was 365 mg/dL and glycosylated hemoglobin was 9.8%. Physical exam was remarkable for scrotal crepitus, necrosis and severe pain out of proportion to exam. Findings suggestive of necrotizing fasciitis of the perineum (NFP) prompted emergent urological service consultation for surgical management and broad-spectrum antibiotic therapy. Full thickness debridement of the scrotum was sUniversidad Central del Caribe, Bayamonessfully done, and he completed broad spectrum antibiotic therapy for polymicrobial coverage with Vancomycin and Piperacillin/Tazobactam after which he was discharged. Diabetics are prone to urinary system infections due to bacterial overgrowth secondary to glucosuria, and bacterial attachment to uroepithelium. It has been hypothesized that SGLT2 inhibitors increased the risk for these infections through similar mechanisms due to their effect on increasing urinary glucose excretion by inhibition of SGLT2 in the proximal renal tubules reducing reabsorption of filtered glucose. NFP which includes involvement of the scrotum and penis, also known as Fournier's gangrene, arises due to a breach in the urethral mucosa resulting in a polymicrobial infection. Therefore, glucosuria secondary to SGLT2 inhibitor use predisposes patients to NFP reason why it is important to monitor patients on SGLT2 inhibitors for signs of infectious processes. Especially NFP as it has a high mortality percentage and management consists of early and aggressive surgical debridement with antibiotic therapy and discontinuation of the medication. In conclusion, this case illustrates a potential life-threatening infection with the use of Empagliflozin and the importance of early recognition of medication side-effects.

CV-31

An Unexpected Visitor to a Dementia Patient: Pasteurella Multocida

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Pasteurella multocida, a gram-negative coccobacillus, typically presents as skin and soft tissue infection following an animal's bite, scratches, or licking. Few cases have reported other manifestations, including pneumonia, endocarditis, bacteremia, meningitis, and osteomyelitis. We report a case of *Pasteurella multocida* meningitis complicated by vertebral osteomyelitis and epidural abscess in a patient living with multiple dogs. The patient is a 77-year-old male with a history of Alzheimer's Dementia presenting to the Emergency Department due to family complaints of a one-week progression of hypoactivity, general weakness, fever, and headaches. Physical examination was remarkable for somnolence, disorientation, grimacing with head and neck manipulation, and positive Brudzinski sign. There were several old bite marks on the extremities but none with active signs of infection. Initial laboratory work-up showed leukocytosis (10.52 × 109/L) with a neutrophilic predominance and elevated inflammatory markers: ESR (90 mm/hr), CRP (30 mg/L). The clinical picture was highly concerning for community-acquired meningitis. The patient was started on broad spectrum parenteral antibiotics with Vancomycin/Ceftriaxone/Ampicillin and IV Dexamethasone. Head CT without IV contrast showed no evidence of acute intracranial pathology. Lumbar puncture for CSF analysis showed neutrophilic pleocytosis (leukocyte count 1200 x 106/L with 60% neutrophils), hypoglucorrhagia (30 mg/dL), elevated protein (350 mg/dL), gram stain and CSF culture yielded no organism. However, two sets of peripheral blood cultures were positive for Pasteurella multocida. Antibiotic therapy was deescalated to Rocephin according to antibiotics sensitivities to the isolated organism. Altered mental status (AMS) improved significantly with the patient following commands. However, as AMS improved, we noted a bilateral lower extremity weakness on physical examination. Prompted evaluation with a Lumbar spine MRI demonstrated L5-S1 vertebral osteomyelitis and discitis with associated anterior epidural abscess measuring 3 mm AP by 5 mm transverse by 8 mm CC causing mild spinal canal stenosis and spinal cord compression was appreciated. The neurosurgeon, and the interventional radiologist agreed that the patient was not a candidate for intervention and to continue treatment with Ceftriaxone. Neurological symptoms improved, and the epidural abscess showed radiographic signs of improvement. After forty-one days of inpatient IV antibiotics, the patient was discharged on a home IV program with follow-ups at Infectious Disease's clinics. This case demonstrates that an organism common in the dogs' oral flora, Pasteurella multocida, may be transmitted simply by licking, kissing, or sharing food, leading to invasive infections such as meningitis, bacteremia, and osteomyelitis. Thus, it emphasizes the importance of a thorough history that includes social aspects (animal exposure) to identify risk factors that prompted the diagnosis and direct the management, especially in this vulnerable population with dementia.

CV-32

My heart is surrounded: Massive Pericardial effusion as sole symptom for uncontrolled hypothyroidism.

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Introduction: Hypothyroidism is a common endocrine disorder with worldwide prevalence resulting from deficiency of thyroid hormone that can affect multiple organ system. It can be asymptomatic and subclinical or symptomatic with a potential. Hypothyroidism can present with symptoms such as fatigue, slow movement and slow speech, cold intolerance, constipation, weight, delayed relaxation of deep tendon reflexes, and bradycardia. Hypothyroidism can be the cause of pericardial effusion due to increase membrane permeability. Massive pericardial effusion or pericardial tamponade is rare. Pericardial effusion can be caused by autoimmune conditions, infections, uremia, medications, iatrogenic, and trauma. We report a case of asymptomatic severe hypothyroidism presenting with a massive pericardial effusion. Abstract: Case of a 68 y/o female with medical history of hypothyroidism was admitted with the diagnosis of large pericardial effusion. Patient came to ER after found incidentally with a pericardial effusion. During preoperative evaluation by her primary care physician abnormal findings on chest X-ray were found for which an Echocardiogram was ordered. During interview patient referred has been suffering from mild shortness of breath at exertion. Physical examination without JVD but with distant heart sounds. Patient was hemodynamically stable with blood pressure of 148/81mmHg and HR 67bpm. Beck's triad was absent. Electrocardiogram showed a sinus rhythm but with low QRS voltage. Patient denies any recent medical procedure, trauma, history of myocardial infarction or malignancy, chest pain, and recent cough or fever. Home medication only Levothyroxine 50mcg that she referred is not compliant. Patient without close monitoring with a PCP. Complete blood count with no leukocytosis, normal hemoglobin levels, and adequate platelets count. Chest X-ray showed massive enlargement of the cardiac silhouette with a water back configuration. Chest CT scan showed massive pericardial effusion. Echocardiogram showed a large circumferential pericardial effusion with moderate diastolic right atrial collapse. Basic metabolic panel without electrolyte disturbances and preserved renal function. Patient was evaluated for causes of pericardial effusion including autoimmune conditions. She was found negative for ANA, Rheumatoid factor, Anti-dsDNA antibody, Anti-Scl-70 antibody, anti-U1-ribonucleoprotein, anti-Ro (SS-A) and anti-La (SS-B). Inflammatory markers within normal limits. Her TSH level of 22.53 µIU/mL with undetectable free T4 pointed towards uncontrolled hypothyroidism as the likely cause of her large pericardial effusion. Patient denies other symptoms of hypothyroidism like weight gain, constipation, cold sensitivity, and dry skin. Pericardiocentesis was performed and 750ml of pericardial fluid was removed. A pigtail catheter was placed. On 2nd day, 200ml of fluid drained and pigtail was removed. Echocardiogram showed immediate resolution of the diastolic right atrial collapse. The case presented the importance of compliant to medical therapy as the initial presentation of this uncontrolled condition was a possible fatal complication. A rare case since no other symptoms presented before the massive pericardial effusion.

CV-33

A Rare Case of EBV-Associated Lymphocytic Interstitial Pneumonia in a Woman with Rheumatoid Arthritis

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Primary Epstein–Barr Virus (EBV) infection, causes infectious mononucleosis syndrome as well as a latent infection. Reactivation can occur when individuals develop an immunosuppressive state and, although pulmonary involvement is rare, it has been reported as a causative agent of Lymphocytic Interstitial Pneumonia (LIP). A 70-year-old female, with a past medical history of rheumatoid arthritis and hypertension, presented to the emergency department with the complaint of one month of intermittent episodes of fever. Associated symptoms were headache, fatigue, and body aches. The patient was taking Leflunomide, Tofacitinib, Plaquenil, Prednisone, and Methotrexate, as part of her rheumatoid arthritis therapy. On admission, her vital signs were within normal limits, except for her temperature, which was 38.5°C. Initial laboratory workup revealed a high leukocyte count in 11.74 units (neutrophils 79%, band neutrophils 4%, lymphocytes 8%), a high Lactate Dehydrogenase (499), a high C-Reactive Protein (4.0), a high Procalcitonin (0.110), high ferritin (958.54) and high D-Dimer (3.91). Initial serologic tests showed a negative Influenza Type A and Type B test, negative Mycoplasma peumoniae IgM antibody, and negative SARS-CoV-2 PCR. Initial CT scan of the chest revealed numerous scattered bilateral variable-sized thin-walled air cysts, scattered sub-centimeters calcified granulomas, a 1.4 cm soft tissue density nodule versus intramammary lymph node within the right breast, changes suggestive of interstitial lung disease and evidence of ground glass infiltrates. The etiology of the infection was not clear, and the patient was receiving broad-spectrum antibiotics and anti-fungal agents. Nevertheless, eventually required intubation and mechanical ventilation. During her stay, consecutive blood cultures, urine cultures, and sputum cultures did not grow any bacteria or fungi. A rheumatologic panel and additional infectious workup revealed the presence of ANA, low total complements, anti-RNP antibodies, IgA deficiency, and antibodies to HSV Type 1-IgG. In addition, EBV viral capsid antigen-IgM resulted negative, but EBV viral capsid antigen-IgG and EBV nuclear antigen antibody resulted positive. Due to suspected EBV reactivation, an EBV PCR was requested, and the patient started with IV Acyclovir and Solu-Medrol. The fever episodes stopped, but the patient's general condition kept getting worse. She developed an oliguric acute renal failure and, unfortunately, she was being dialyzed when suddenly went into cardiac arrest and expired. Shortly afterward, the report of the PCR of EBV DNA came positive, demonstrating EBV reactivation. Therefore, a final diagnosis of EBV-associated LIP could be made. LIP is an uncommon form of interstitial lung disease and, in our patient, was the consequence of EBV reactivation probably due to her immunosuppressive state. It is characterized radiologically by diffuse interstitial mixed with multifocal irregular consolidation infiltrates, ground-glass opacities, and pulmonary cysts. Given the rare nature of such cases, the physician should be aware of EBV-associated LIP when taking care of immunosuppressive patients.

CV-34

Fooled Me Twice: An unusual case of cryptococcal meningitis presenting with negative CSF cryptococcal antigen

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This case highlights the importance of clinical suspicion and diagnostic method limitations encuntered in early cryptococcal disease in immunocompromised individuals. Early recognition of clinical presentation and addressing limiting strategies to diagnose the cryptococcal disease early could likely contribute to better outcomes about morbidity and mortality. A 23-year-old female with SLE presented progressively worsening headaches of 3 weeks duration, sometimes with associated photophobia, phonophobia, nausea, and vomiting. The patient denied recent illness, sick contacts, recent travel, exposure to caverns or rivers, consumption of unpasteurized cheeses or milk, or STIs. Physical examination was pertinent for tachycardia, negative for the focal neurological deficit, altered mental status, or meningeal signs. Laboratory tests are remarkable for mild lymphopenia, microcytic anemia, and thrombocytosis. A presumptive diagnosis of CNS infection vs. vasculitis was made and treatment with intravenous vancomycin, Ampicillin, and Ceftriaxone was started. Brain CT/MRI/MRA/MRV were unremarkable except for partial empty sella suggestive of increased ICP. Lumbar puncture (LP) with CSF analysis revealed increased opening pressure, lymphocytic pleocytosis, elevated protein, and hypoglycorrhagia. Blood cultures, CSF Gram stain, CSF bacterial cultures, and cryptococcal antigen test were negative. While on treatment, the patient developed a febrile episode with associated seizures. Due to new neurologic symptoms, a repeat LP was performed with CSF analysis essentially unchanged from the previous. CSF fungal cultures from both LP grew Cryptococcus neoformans at Day 11. Induction therapy with Amphotericin B and Flucytosine for 14 days. The patient's condition significantly improved, and a repeat LP was performed without evidence of fungal growth. The patient was discharged home with close outpatient follow-up at Infectious Disease clinics. She completed eight weeks of consolidation therapy (Fluconazole 400mg POD) and was transitioned to maintenance therapy (Fluconazole200mg PO daily) to complete at least six months. This unusual case report increases awareness of falsely negative cryptococcal antigen test despite CSF culture-confirmed cryptococcal disease in an immunocompromised patient. In addition, rare cases of HIV-infected patients with a cryptococcal disease with negative CrAg LFA have been described. Such findings may result from a low fungal load, prozone reaction due to high antigen titers, presence of immunocomplexes preventing the release of glucuronoxilomanan-antigen; samples transported in inappropriate vials; or hypocapsular or acapsular strains of Cryptococcus spp. Early diagnosis is crucial for reducing the dissemination, disability, and mortality of cryptococcosis. However, the presenting symptoms are usually nonspecific for individuals with low CrAg titers or false-negative results, and antifungal treatment is often deferred until the disease has deteriorated. Regardless of the high accuracy, sensitivity, and specificity of antigenic testing, careful clinical evaluation, culture assessment, and close follow-up are pertinent. Better monitoring of patients who have been screened for CrAg is needed because false-negative cases may occur and should be considered in immunocompromised individuals.

CV-35

How a sick kidney makes the sweet watermelon stomach bleed

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Gastric antral vascular ectasia (GAVE), also called watermelon stomach, is an uncommon cause of gastrointestinal bleeding. GAVE is associated with few conditions, including portal hypertension, chronic kidney disease (CKD), and collagen vascular disease. There have been limited data reported of GAVE in CKD patients. The term "watermelon stomach" is derived to its characteristic endoscopic appearance of longitudinal rows of flat, reddish stripes radiating from the pylorus into the antrum that resemble the stripes on a watermelon that represent ectatic and sacculated mucosal vessels. Its demographic presentation is usually in female patients above seventy years of age, rarely reporting acute and massive bleeding. Endoscopy procedure is diagnostic and also helps treating lesions with coagulation using a heater probe, bipolar probe, argon plasma coagulator, laser therapy, or radiofrequency ablation which obliterates the vascular ectasia and decreases the degree of bleeding. This is the case of a 44-year-male patient with end-stage-renal disease (ESRD) on hemodialysis with known past medical condition of arterial hypertension and type 2 diabetes mellitus who was admitted to our institution due to severe and relapsing symptomatic anemia within the past three months accompanied by fatigue and shortness of breath. Patient referred receiving several intravenous iron treatments during renal replacement therapy in outpatient medical facility during this time. Patient denied hematuria, hematemesis, melena, hematochezia, pain or previous abuse of any non steroids anti-inflammatory drugs. On physical examination patient's skin and mucosa were noted to be pale but signs of tachycardia or hypotension were absent. Patient refused rectal examination due to personal beliefs. Laboratories reported normocytic normochromic anemia of 6.3 g per dl as well as moderate thrombocytopenia without evidence of coagulopathy. Patient was with appropriate reticulocyte response and no signs of hemolysis were documented confirmed with normal levels of haptoglobin, lactate dehydrogenase, aspartate aminotransferase and total bilirubin. Direct and indirect COOMBS were also negative. Renal function revealed findings related to his dependent-hemodialysis ESRD. Despite fifteen blood transfusions given in our hospital in a period of three months patient persisted with anemia, therefore an endoscopy and endoscopy capsule were performed which revealed findings of increased vascular markings in the antrum with a focal area of a slow oozing trickle of blood visible, slightly altered dark red blood, mixed with bilious contents in the duodenum with a final diagnosis of GAVE. Afterward, patient was optimized and serial treatments with Argon Plasma Coagulation (APC) were performed with favorable response and remission of blood transfusion and raised of hemoglobin levels. GAVE in patients with ESRD is a serious condition that can cause either acute or chronic upper-gastrointestinal bleeding and should be considered in patients with anemia that frequently presents as recombinant human erythropoietin and intravenous iron replacement resistant in patients with ESRD.

CV-36

It is not always BPH: A rare case of melanotic lesion causing urethral obstruction

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Introduction: Blue nevi are a benign congenital or acquired melanocytic lesions classified in two categories: dendritic and cellular blue nevus. Both share clinical and morphologic features including their blue tinctorial properties and melanin pigment inside both the melanocytic tumor cells. Although blue nevi are most frequently seen on skin, they have been described in oral mucosa, subungual, lymph nodes, brain, lung, and even prostate. Blue nevi inside the genitourinary tract is very rare. Additional atypical features can sometimes be difficult to distinguish from melanoma. Primary malignant melanoma of genitourinary tract is extremely rare; most common sites are distal urethra in males. Treatment usually involves excision if symptomatic with good prognosis. We herein present a case of a patient with dysuria and urinary retention that was found to have a hyperpigmented proliferated lesion in his urethra. *Case Description:* A 69-year-old man without history of BPH but with progressively decreased urinary output, and mild elevation in PSA who had a cystoscopy performed and was found with a distal urethral lesion that was hyperpigmented and proliferated, suspected to be a melanoma. The lesion was later removed by urology service and preliminary pathology results with Malignant melanoma invading lamina propria, but not mucosa, with microcalcification. Several days after cystoscopy, he presented to Emergency Department due to fever, chills, tachycardia, and acute urinary retention for which indwelling foley was placed and he was started on empiric antibiotics. Later he was found with bacteremia and prostatitis secondary to E. coli for which he completed antibiotic treatment. Extensive skin examination took place and skin biopsy was taken in hyperpigmented lesion in occipital area; official pathology with basal cell carcinoma as final diagnosis. Imaging with PET-CT and Brain MRI with no evidence of FDG avid lesions to suggest metastatic disease. Due to unusual presentation, urology and tumor board services recommended reevaluation of original pathology case; sent to Joint Pathology Center for consultation. Their final diagnosis read as: Cellular blue nevus, lamina propia. *Discussion:* Blue nevi lesion found in urethra is extremely rare with very few case reports available, especially presenting with straining and urinary retention. In addition, melanoma in urethral and urothelial tissue should be considered as part of the differential diagnosis and cause for concern for early diagnosis and medical/surgical treatment. Adequate pathological distinction and recognition of benign and malignant melanotic lesions should be carefully assessed and reevaluated depending on the clinical presentation of patient such as this case. This case is important for the medical community as it highlights another cause of urethral obstruction that should be considered when creating a differential diagnosis, as well as the importance of re-evaluating with pathologists cases when in doubt.

CV-37

My body ate my kidneys while on Vacation

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The presence of lupus nephritis (LN) should be suspected in patients with known Systemic Lupus Erythematosus who develop an active urinary sediment with persistent hematuria and/or cellular casts, proteinuria, and/or an elevated serum creatinine. Elevated anti-double-stranded-DNA (anti-dsDNA) titers and low complement (C3 and C4) levels often indicate active SLE, particularly LN. A 30-year-old Chinese female without known past medical history who visited Puerto Rico during a two-week vacation visited the emergency department complaining of headaches and non-pitting edema in the upper and lower extremities associated with shortness of breath at rest and foamy urine for the past two weeks. On physical examination the patient was found tachycardic, hypoxemic, with elevated blood pressure and anasarca. During hospitalization laboratories were remarkable for anemia of 6.9 g/dl with elevated lactate dehydrogenase, low haptoglobin, and schistocytes suggesting autoimmune hemolytic anemia as well as persistent lymphopenia and thrombocytopenia. The chemistry panel reported a creatinine of 3.59 mg/dl, BUN 108 mg/dl and GFR 17. Rheumatologic workup reported a positive ANA and anti-ds DNA Ab that were highly specific for SLE. Furthermore, low C3 and C4 was correlated with disease activity. Urinalysis showed microscopic hematuria and proteinuria in the nephrotic range. Chest and abdomino-pelvic CT scan without contrast reported, mild cardiomegaly with moderate pericardial effusion, bilateral pleural effusion, moderate alveolar edema, ascites, and edema in multiple organs consistent with serositis. An echocardiogram study was remarkable for an ejection fraction of 60-65% and moderate concentric hypertrophy of the left ventricle, findings highly suggestive of infiltrative cardiomyopathy. A percutaneous renal biopsy revealed glomeruli with crescents endocapillary proliferation and global glomerulosclerosis by light microscopy. Immunofluorescence showed ''full house'' staining in the mesangium and capillary loops. There were subendothelial, mesangial, and occasional subepithelial immune type electron-dense deposits on electron microscopy as well as moderate interstitial fibrosis. These findings were consistent with diffuse proliferative Lupus glomerulonephritis class IV. Subsequently, this patient was treated with immunosuppression with glucocorticoids, Mycophenolate and Plaquenil. Despite therapy, her renal function declined, and renal replacement therapy was started with no expectations of renal recovery. It is important to recognize as a physician the cardinal signs of LN since this would have an impact on patient's quality of life and expectancy. Therefore, an urgent renal biopsy in patients with rapidly declining renal function or new nephrotic syndrome is imperative since there is a general agreement that diffuse or focal proliferative lupus nephritis is associated with poor renal prognosis; requiring early aggressive therapy to prevent long-lasting damage, as seen in this patient who now requires RRT. This procedure should be performed before immunosuppression to maximize yield and aid in appropriately tailoring therapy.

CV-38

Intermittent Headaches an Unexpected Differential Diagnosis of Castleman Disease

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Castleman disease (CD) is an uncommon group of heterogeneous lymphoproliferative disorders which cause nonmalignant lymphadenopathy. CD is classified into at least three distinct disorders based on the numbers of regions of enlarged lymph nodes with characteristic histopathological features. This diseases that causes fever and non-specific symptoms suggestive of an inflammatory illness, including night sweats, weight loss, weakness and fatigue, is related to increased release of cytokines, particularly interleukin 6 (IL-6). In the United States, incidence of unicentric CD (UCD) is estimated to be between 15 and 19 cases per million patient-years, while incidence of multicentric CD (MCD) is estimated to be between 5 and 6 cases per million patient-years. Although this condition is benign, presentation can be multifocal with adverse manifestations. A 77 year old male was brought to the emergency room due to subjective fevers, altered mental status and disorientation for 2 days. Along with this presentation, he complained of dysuria and intermittent headaches for the last couple of weeks, yet no other symptoms reported. Patient with an unremarkable physical examination. Initial chest X-ray exhibit no evidence of cardiopulmonary disease whereas chest computed tomography scan detected extensive bilateral axillary lymphadenopathy. Therefore, lymph node excisional biopsy was performed revealing Castleman disease, Hyaline vascular subtype. This case report is displayed for the purpose of its rare incidence and lack of documented cases in Puerto Rico. It is an example that brings to light the importance of obtaining a definitive histological diagnosis in patients with lymphadenopathy. Although hyaline vascular CD usually is benign, this patient exhibit multicentric distribution and multi systemic involvement. CD needs to be considered in the differential diagnosis when a patient presents with systemic manifestations and with generalized lymphadenopathy on images. Last but not least, better understanding and comprehension of this condition will help recognize this disease in advance, and prevent further complications.

CV-39

"My arms and legs are falling apart:" A rare case of Symmetrical Peripheral Gangrene

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In the critically ill patient, septic shock is associated with increased mortality due to cytokine-mediated, systemic inflammatory response. The vascular circulatory bed is particularly affected by collateral damage from an unregulated immune response. Damaged endothelium in turn may lead to other complications such as tissue hypoxia, thrombus formation and cellular injury, at times far beyond the initial site of infection. We present a case of a rare vascular endothelial complication following septic shock leading to diffuse tissue necrosis. A 68-year-old man with a medical history of alcoholism, and major depressive disorder, was brought to the emergency department after being found on the floor of his apartment by his brother along with an empty bottle of liquor. Upon arrival, the patient underwent endotracheal intubation and was started on mechanical ventilation due to hypoxemia and respiratory distress. Despite prompt initiation of empiric broad-spectrum antibiotics for aspiration pneumonia based on imaging, the patient developed refractory septic shock within 24 hours, requiring two vasopressor agents, and intravenous corticosteroids. Multi-organ dysfunction ensued and his family was prepared for the potential demise of their troubled loved one. However, on the fourth day, vital signs improved allowing titration of vasopressor support. Physical examination was remarkable for significant pitting edema, decreased peripheral pulse, and cool temperature at all distal extremities with ensuing progressive ascending suppurative, necrotic tissue appearing within hours. Intermittent patches of gangrene were visible up to elbows and knees bilaterally. Vasopressor support was discontinued due to sustained hemodynamic stability over the following days, with tracheostomy performed due to multiple failures of extubation. Blood culture results were remarkable for Staphylococcus epidermidis growth deemed probable contamination. Sputum, and urine culture results showed no growth at 48 hours. Previous personal or family history of autoimmune or inflammatory vascular disease along with serum markers (ANA, p-ANCA, c-ANCA, C3, C4, anti-cardiolipin IgG/IgM) was negative. Moreover, despite elevated D-dimer, both coagulation studies, and fibrinogen remained within normal limits along with negative urine toxicology. Arterial and venous doppler imaging failed to show obstructive vascular disease at all extremities, therefore revascularization was not an option. Pathology report from skin biopsy samples was remarkable for diffuse necrosis and inflammation. Subsequently, amputation of all four distal extremities was performed due to non-viable tissue. Our patient's severely compromised clinical state, along with characteristic physical findings, and exclusion of other causes of cutaneous necrosis is suggestive of the clinical syndrome associated with symmetrical peripheral gangrene. This rare, yet fatal complication of vascular endothelial disruption is associated with a mortality rate between 35 to 40%, carrying significant morbidity after survival. Therefore, early recognition and prompt management including amputation of affected limbs is paramount to avoid further complications.

CV-40

Dermatomyositis as Paraneoplastic Manifestation of Tonsillar Squamous Cell Carcinoma

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Dermatomyositis (DM) is an idiopathic inflammatory myopathy with an incidence of 2 in 100,000. The clinical manifestations are weakness, pain in proximal muscles, and lilac-colored skin lesions. In some cases, an underlying malignancy may present up to 32% of patients; in such instances, the term paraneoplastic syndrome is used. The infrequency with which it is encountered makes dermatomyositis a formidable diagnostic challenge. A 51-year-old man with a history of hypertension, diabetes mellitus type 2, episode of Steven Johnson Syndrome, a former smoker and intravenous drug user, was consulted by his physiatrist due to a diagnosis of myopathy on electromyography at his office. According to the patient, he has been presenting episodes of weakness, chronic pruritic rash desquamation, skin discoloration, bilateral palpebral erythema since eleven months ago. The weakness was a descending pattern that started in the upper extremities and quickly passed to the lower extremities. Symptoms progressed to the point that patient has to use a walker and became dependent for daily activities. At the patient's evaluation, he could not even walk, with muscle pain that worsened with movement; associated with anorexia, vomiting, and undesired weight loss. On physical exam there was heliotrope rash and grotton’s papules on hands. He was previously treated with prednisone by his primary care physician without resolution of symptoms. He denies fever, chest pain, headaches, chills, and genitourinary problems. He was admitted and initiated with pulse of steroids and aggressive intravenous hydration. Laboratory workup was remarkable for normocytic anemia, elevated anti-inflammatory markers and high levels of enzymes associated with muscle damage (creatine kinase 950 IU/L, lactate dehydrogenase 372 IU/L, aldolase 11.6 U/L). Myositis-specific autoantibodies came negative. Muscle biopsy was scheduled, showing yield left triceps skeletal muscle tissue with mild to focal moderate fibrosis and predominant CD4 positive lymphocytes infiltrates, consistent with inflammatory myopathy. Patient was discharged with steroids followed by long-term immunosuppressant therapy (methotrexate) responding effectively to therapy. Extensive age-appropriate cancer screening was performed due to suspected paraneoplastic syndrome. After several months of follow-up with multidisciplinary specialties, a biopsy of cervical lymphadenopathy was performed confirming squamous cell carcinoma of the right tonsil. Tumor was non-operable, and treatment was consisted of immuno-chemotherapy which now is well tolerated. This case illustrates the challenges physicians face to quickly identify and diagnose such unusual paraneoplastic syndromes caused by solid mass. A tumor in the head and neck area should be evaluated in patients with DM, especially if it is the presence of cervical lymphadenopathy. The course of tumor-associated dermatomyositis is positively influenced by tumor therapy. The patient was followed in an outpatient clinic and showed marked improvement. Hence, this report reinforces that the consistent therapy and monitoring of DM is fundamental for sUniversidad Central del Caribe, Bayamonessful tumor and disease treatment.

CV-41

Symphysis pubis osteomyelitis as an unusual complication of recurrent urinary tract infection

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Symphysis pubis osteomyelitis (OM) has been described in literature to be a complication of bacteremia, trauma, intravenous drug use (IVDU), pressure ulcers, and surgical procedures (mostly urological). However, there is limited data associated with recurrent complicated urinary tract infections (C-UTI). We present the case of a 90-year-old male mostly bedridden with a history of recurrent C-UTI secondary to neurogenic bladder, no anatomical defects and no prior pelvic trauma. Relevant urologic history includes radiation cystitis after radiotherapy and androgen deprivation therapy with Leuprolide for prostate cancer without surgical intervention. Patient presented to the emergency department with a chief complaint of suprapubic pain. This symptom was accompanied by subjective fever, general malaise, and poor oral intake. Physical examination describes an acutely ill man, cachectic with bitemporal wasting, with tenderness in hypogastric and suprapubic region. Laboratory values with no leukocytosis or bands, urine analysis with pyuria, bacteriuria, and negative nitrites. Antibiotic choice was tailored to previous urine culture sensitivities which included Pseudomonas aeruginosa coverage. This admission's urine culture grew Proteus Mirabilis and Pseudomonas Aeruginosa and therapy was adjusted to sensitivities. Blood cultures final report were negative. During the following days, the patient continued with suprapubic pain despite adequate antibiotic coverage. Decision was made to order an Abdominopelvic CT scan. Findings were compared to a previous CT scan from 4 months prior and there was new development of an abnormal widening of the symphysis pubis with associated destructive changes of the opposing articular surfaces with associated anteroinferior evolving abscess consistent with OM. Urology service was consulted and, due to patient's multiple comorbidities and advanced age, no surgical management was offered. This patient's case is unique as limited literature describes contiguous spread of infection from soft tissues within the pelvis and no prior history of bacteremia on recent or on previous samples, making hematogenous spread unlikely. Possible organisms involved could be from bacterial colonization of the urinary tract evidenced on urine culture. Pseudomonas is known (although rare) to cause OM of the symphysis pubis and is usually associated with IVDU. A full identification of the causative organism is usually done with biopsy; however, this was not performed as the patient was not a surgical candidate. Thus, we report the possibility of recurrent C-UTI that may lead to OM due to contiguous spread of infection. In this case, the history of prostate cancer and presence friable bladder mucosa after radiotherapy might represent a risk factor that facilitate contiguous bacteria spread to adjacent bony structures.

CV-42

IgG 4 related disease in a patient after 6 years of complete remission of Diffuse Large Cell Lymphoma.

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IgG4-Related disease (IgG4-RD) encompasses multiple and various clinical presentations which include idiopathic retroperitoneal fibrosis, autoimmune pancreatitis, and cholangitis, and lymphoplasmacytic tissue infiltration of orbits and lacrimal glands. It is frequently but not always associated with serologic increase of Immunoglobulin IgG4. When not elevated in serum, IgG4 is overexpressed in tissues such as lymph nodes, pancreas and glands. In 2019 the American College of Rheumatology together with the European League Against Rheumatism published Classification Criteria for IgG4-RD which consists of a three-step process. Observation of dense plasma cells ≥ 10 HPF in tissues, and IgG4/IgG ratio ≥ 40%, is usually found. We hereby present a case of a patient with IgG4-RD presenting as idiopathic retroperitoneal fibrosis after 6 years of complete remission of Follicular Lymphoma. A 93-year-old female with PMH of hypothyroidism, and diffuse large B Cell lymphoma with a small focus, grade IIIA follicular NHL presenting in left supraclavicular node and associated with, retroperitoneal adenopathy 6cm. Ki-67= 60%, BCL 2+, BCL6+, CD 10+, CD20+, diagnosed on 2013. Patient was sUniversidad Central del Caribe, Bayamonessfully treated with R-CHOP without prednisone due to left hip avascular necrosis. Last treatment was on October 2015, with laboratory test results and abdominal CT showing no evidence of disease until December 2021. At that point patient noticed right lower quadrant pain which prompted a visit to the emergency room where an abdominal CT scan showed a cecal mass, but colonoscopy showed no intraluminal mass. PET SCAN showed a large hypermetabolic right pelvic mass which appeared inseparable from the cecum. The metabolic component measured 5.0 x 3.6 cm. SUV was 11.9, therefore the possibility of lymphoproliferative disorder was taken into consideration. CT-guided biopsy showed marked fibrosis with lymphoplasmacytic infiltrate with increased expression of IgG4 suggestive of idiopathic retroperitoneal fibrosis and IgG4-related disease. The atypical infiltrate was positive for CD 20 (focal), CD 19 (focal), BCL-2, and polyclonal for kappa and lambda. Atypical cells were negative for CD 10, PAX 5, BCL6, CD 30, CD15, , CD 21, CD 23, CD30, cyclin D1, and SOX-11.. Plasma cells were positive for IgG with significant expression of IgG4 (>40%). CBC: WBC 10 620, (N: 54%, Ly: 33.7%, Mo: 7.9%, Eo: 3.8%, Ba: 0.4%.) Quantitative IgG4 was 133 mg/dL (normal is up to 135 mg/dL.) In view of previous history of avascular necrosis, we started treatment with rituximab. After one month of treatment patient had stable IgG4 at 133 mg/dL and she was continued on rituximab. This case is an example of an unusual presentation of idiopathic retroperitoneal fibrosis, considered as one of the clinical expressions of IgG4-RD. The previous history of diffuse large cell lymphoma is not a common association with IgG4-RD.

CV-43

A Rare Complication: Cholecystocolonic Fistula

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Complications of gallbladder disease are numerous, cholecystocolonic fistulas are uncommon, occurring in 0.06%-0.14% of cases of biliary disease. Preceding symptoms are usually non-specific and patients usually complain of chronic diarrhea. Most cases are usually diagnosed incidentally during cholecystectomy and in older patients with multiple comorbidities. Identifying the existence of these types of fistulas is important to avoid associated complications including colonic perforation and peritonitis among others. A 68-year-old Hispanic male with medical history of hypertension and paraplegia who presented to ER due to an episode of non-bloody vomiting associated with epigastric discomfort and multiple episodes of watery diarrhea of one day evolution. The patient had no prior abdominal surgeries. Laboratories exhibited leukocytosis with normal liver chemistries and a normal alkaline phosphatase. The patient was with tachycardia, febrile and hypotensive. An abdominal CT scan was performed, revealing the presence of cholecystitis and an associated cholecystocolonic fistula from the gallbladder fundus to the hepatic flexure of the colon. The patient reported having one episode of cholecystitis 5 years prior and his last colonoscopy was over 10 years ago. The patient was admitted by the surgical service and colonoscopy was done showing an ascending colon cholecystocolonic fistula (with two fistulous openings), draining bile to colon and no other abnormal findings. The patient remained on antibiotic therapy due to gram negative bacteremia and two days later he was taken to OR for exploratory laparotomy, resulting in an ascending loop colostomy due to extensive inflammation. The patient tolerated the surgery well and was subsequently discharged home. Gallbladder disease is a common complaint encountered in the ER. Although cholecystocolonic fistulas usually occurs due to repeated bouts of cholecystitis, this was not the case in our patient. Other causes of this rare condition can include cancer, trauma and diverticulitis among others. When symptomatic, surgical management with cholecystectomy and possible colonic resection may decrease morbidity and mortality. This case also illustrates the importance of continuing with regular cancer screening protocols.

CV-44

Pneumomediastinum as a complication of COVID-19

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Pneumomediastinum (PTM), also known as mediastinal emphysema, is an abnormal gas presence in the mediastinum. It can be categorized as spontaneous or traumatic, as well as primary or secondary, depending on the absence or presence of underlying respiratory disease. Spontaneous PTM is rare, appearing in approximately 1 in 33,000 hospital admissions, while traumatic PTM is slightly more frequent. Mechanical ventilation, including Non-Invasive Positive Pressure Ventilation (NIPPV), is known to induce traumatic PTM, and underlying respiratory disease can further increase the risk. In recent years, COVID-19 has been associated with an increased incidence of both traumatic and spontaneous PTM. A 76-year-old female patient with osteoarthritis, diabetes mellitus, hypothyroidism, obesity class 3, and essential hypertension presented to the emergency department due to shortness of breath at rest and tachypnea that began approximately two weeks after a COVID-19 diagnosis. On physical examination, the patient had bilateral respiratory rhonchi throughout both lung fields, occasional chest pain, but no subcutaneous emphysema or crepitus on palpation of the sternal area. Due to her presentation, she was placed on NIPPV. The patient was COVID-19 PCR positive but with a negative antigen test, consistent with her history of past COVID-19 infection. Chest X-ray performed on admission demonstrated bilateral lung infiltrates and pulmonary congestive changes. On chest CT scan with and without contrast, PTM was identified as well as bilateral ground glass opacities. Due to radiological findings, PaFi <100, no physical exam or echocardiographic evidence of heart failure, and the development of symptoms within one week of COVID-19 recovery lead to the diagnosis of Acute Respiratory Distress Syndrome secondary to post COVID-19 pneumonia. She was left on NIPPV since the patient signed a do not intubate advanced directive. During the hospitalization, she developed severe respiratory distress and hypoxemia, for which the patient revoked DNI and was subsequently intubated. Chest X-ray post-intubation demonstrated tube in place, with increased perihilar markings and enlarged mediastinal silhouette. A few hours after the intubation, the patient developed severe shock and cardiac arrest, from which she did not recover despite employing Advanced Cardiac Life Support Protocol. The patient likely developed cardiogenic shock secondary to PTM expansion after intubation. This case exemplifies the importance of recognizing PTM as a complication in patients with COVID-19 pneumonia who require mechanical ventilation. While spontaneous PTM is often a self-limiting event, traumatic PTM, when associated with an underlying respiratory disease, is a poor prognostic factor.

CV-45

Thoracic Wall Hemangioendothelioma Masquerading as Pneumonia

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Hemangioendothelioma is a rare malignant tumor of vascular origin. It accounts for approximately 1% of all vascular neoplasms. Clinically, it is treated as a low-grade angiosarcoma due to its slow progression. The infrequency of this diagnosis represents a diagnostic challenge. A 79-year-old male, with past medical history of diabetes, coronary artery disease, osteoarthritis, and glaucoma, consulted her doctor due to fatigue, shortness of breath, and dry cough. A clinical diagnosis of pneumonia was made, however, despite appropriate treatment, there was radiographic evidence of persistent left-sided pleural effusion and chest wall invasion. Subsequently, a needle biopsy revealed hemangioma with papillary endothelial hyperplasia. Further imaging reported small to moderate left pleural effusion with partial atelectasis in the left base. In addition, there was radiologic evidence of localized subcutaneous and muscle edema on the left chest wall in the 8th, 9th, and 10th ribs area suggestive of traumatic injury. Due to this lesion's aggressive behavior, an open lung biopsy was planned as initial biopsies were negative for malignancy as well as pleural fluid cytology. At this point, the patient's pleural effusions were recurrent requiring serial thoracentesis that yielded bloody pleural fluid; however, no evidence of malignancy was found even in the proper lung tissue. Extradepartmental consultation was requested, and they reported vascular neoplasm with hemangioma-like features, possibly hemangioendothelioma, CD31, CD34, and ERG positive, low Ki67 proliferative index, negative for cytokeratin and HHV-8. Patient was followed by Pulmonology and Hema-oncology services with recommendations for radiation therapy without chemotherapy with favorable response. During the radiation therapy, a new right-sided pleural effusion was identified and subsequently treated with the same protocol, with sUniversidad Central del Caribe, Bayamoness, in view that the most probable cause was a contiguous spread of the disease. At this moment, there is no evidence of metastatic disease. This case illustrates the importance of correlating complementary studies with the patient's clinical presentation, as initially, the pathology report in this case yielded a more favorable diagnosis that subsequently turned out to be a rare one. Had the lesion's behavior been ignored, the prognosis would probably have had a poor outcome as it was misdiagnosed. From an ethical point of view, this case is a perfect example that demonstrates that working with a multidisciplinary team can be the key at diagnosing a rare disease.

CV-46

Meningitis as an initial presentation of Leptospirosis

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Leptospirosis is a zoonotic disease widely prevalent in tropical and subtropical regions. Infection usually results from exposure to environmental sources, such as animal urine, contaminated water or soil, or infected animal tissue. Clinical presentation of Leptospirosis is highly variable, ranging from mild and self-limited cases to severe and potentially fatal manifestations. Although renal complications have been previously studied, other complications such as neurologic and cardiac involvement are less frequently observed. Here we describe a 28-year-old female without a medical history of systemic diseases that arrived at the emergency department complaining of persistent fever, headache, photophobia, vomiting, and neck stiffness for 5 days, without improvement despite continuous self-administration of acetaminophen. Physical examination was remarkable for fever (39.0℃), tachycardia, and nuchal rigidity. Laboratory work revealed mild leukocytosis (11.5 10^3/uL) with neutrophilia (78.9%), slightly elevated blood urea nitrogen (19 mg/dL) and creatinine (1.43 mg/dL, Glomerular filtration rate 51 mL/min/1.73m3, creatinine clearance 99 mL/min), mild hyperbilirubinemia (total bilirubin 1.1 mg/dL) and transaminitis with cholestatic pattern (GGT 161 U/L, AST 154 U/L, ALT 186 U/L, alkaline phosphatase 207 U/L, lactate dehydrogenase 369 U/L). The patient was admitted with suspected meningitis and encephalitis. Neurology services were contacted emergently. Upon further questioning, she described recent exposure to river water two weeks prior, which led to a suspicion of Leptospirosis. Broadspectrum intravenous antibiotics were commenced, in an attempt to provide coverage against the most common causative pathogens of meningitis, encephalitis, and additionally, Leptospirosis. Head computerized tomography was negative for acute intracranial pathology. Lumbar puncture was performed, and cerebrospinal fluid analysis yielded findings suggestive of bacterial meningitis, with elevated levels of WBC (329 mm3), mononuclear WBC (14%), polynuclear WBCs (86%), and total protein (51 mg/dL). Initial serum serology for Leptospira was reported as negative; after 24 hours, a suspected period of seroconversion, repeat testing yielded positive results. Despite clinical improvement and resolution of fever, on the second day of hospitalization telemetry staff reported bradycardia. ECG showed sinus bradycardia at 45 bpm, which did not resolve with atropine 1 mg. The cardiac enzymes panel was negative. Cardiology services were contacted immediately. Despite being asymptomatic, the patient was transferred to the intensive care unit for more dedicated attention. She was started on inotropes, which she did not tolerate. After several days, her bradycardia improved, she maintained hemodynamic stability and no apparent complications emerged. Although neurological complications of Leptospirosis are well studied, signs and symptoms of meningitis as an initial presentation of Leptospirosis are uncommon, especially in the absence of other pathognomonic features, such as jaundice and conjunctival suffusion. Literature more frequently describes cases of this nature in males and children, compared to adult females. Furthermore, this is an instance in which a patient with mild-to-moderate Leptospioris developed complications suggesting cardiac involvement.

CV-47

Acquired hemophilia A and endometrial cancer: A case report of a not well-known disease.

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Acquired hemophilia A (AHA) is a rare condition characterized by abnormal production of specific antibodies against Factor VIII of coagulation, causing impairment of the coagulation system. Clinically exhibit huge ecchymosis rather than hemarthrosis seen in congenital hemophilia A, laboratory test typically shows twice or triple fold of aPTT, positive Factor VIII inhibitor (Factor VIII Bethesda), normal values of platelets, fibrinogen, PT, INR, TT, and negative lupus anticoagulant. AHA has an incidence of 1 to 1.5 per million with high morbidity and mortality, it is associated mainly with the geriatric population with an autoimmune or neoplastic disorder. Usually, the cause of death is the primary disease but bleeding itself can potentially increase morbidity and mortality. We decide to present this case which teaches diagnostic strategies and a cost-effective approach to the management of the disease. A 52-year-old female with PMH of HTN, congenital valvular disease, Rheumatoid arthritis, and endometrial cancer was diagnosed in 2019 and treated with TLH, chemotherapy, and radiotherapy. Visited ER in May 2022 due to bilateral leg swelling and remarkable progressive ecchymoses of the left leg first anteriorly, progressing posteriorly, and then the contralateral right side of 2 weeks of evolution. The patient denies trauma or use of anticoagulants. The initial lab showed: WBC 9 100, Hb 6.7, Ht 21.3, platelet 206 000, PT 9.7, INR 0.94, aPTT 70.6, CMP normal except for K 2.75, and SARS-CoV-2Ag Negative. Transfusion and potassium replacement treatment was given, and the patient was admitted for further studies. In the ward, Iron 25 UG/DL, TIBC 480 UG/DL, negative FOBT, bilateral lower extremities arterial and venous doppler showed no evidence of occlusion. Coombs direct test and Lupus anticoagulant were negative. 1:1 mixing studies did not correct aPTT and Factor VIII Bethesda was identified. Prolonged aPTT in the setting of acute ecchymoses was concerning for acquired coagulation disorder and promptly suggest the diagnosis of AHA. Due to the risk of developing DIC with continued uncontrolled bleeding and risk of limb ischemia, we began therapy with Novoseven, methylprednisolone, and prednisone, to bypass and induce immunosuppression respectively, later cyclophosphamide, FEIBA, and rituximab were added, bringing aPTT to reference range and negativizing Factor VIII Bethesda after 3 weeks of treatment. During hospitalization, the patient had PRBC transfusion and developed left hemarthrosis, and hematoma of the lower extremities with favorable evolution. The patient's condition improved and was discharged home with no trace of factor VIII inhibitor, and aPTT 24.5s and followed in the outpatient setting. This case shows awareness of how early recognition of a rare disease and prompt treatment can save patients' life. Moreover, encourage the health system to teach about AHA and be prepared to treat it, making sure the supply change of medication is intact.

CV-48

Oligoarticular Arthritis: An Uncommon Immune-Related Adverse Effect of Nivolumab.

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Immune checkpoint inhibitors (ICIs) such as Nivolumab, are established therapies for some solid tumors and hematologic malignancies. Their use has been increased in recent years, but they can cause several immune-related adverse effects (irAEs) which result from immune activation and inflammation. As primary physicians, recognition of these adverse events is extremely important since their use is increasing, and side effects will be commonly seen in our practices. We present a case of a patient that began with oligoarticular arthritis two weeks after initiating Nivolumab. A 42-year-old man with past medical history of right-side unresectable colon adenocarcinoma due to Lynch syndrome who presented to the ER due to bilateral knee pain and swelling that started 3 days before. He received his second cycle of chemotherapy (Folfox and Nivolumab) one week prior. Physical exam with bilateral knee effusions, warm to touch but without erythema, and bilateral ankle swelling with limited range of motion due to pain. Arthrocentesis was performed and he was admitted with suspected septic arthritis and started on antibiotic therapy. Knee and ankle x-rays with evidence of soft tissue swelling and no bone deformity. Elevated inflammatory markers with CRP 109 and ESR 43. Synovial fluid with yellowish color, 1,233 WBCs and 82% PMNs, and cultures negative, against an infectious etiology. Rheumatologic workup (ANA, RF & Anti-CCP) came back negative. Clinical picture was suggestive of arthritis secondary to autoimmune complication of Nivolumab. Patient was started on steroid therapy with prednisone and antibiotic therapy was discontinued. After two days of prednisone, he showed marked improvement in joints symptoms, so therapy was continued. Nivolumab was continued since benefits outweighed the risk at that moment. Oligoarticular arthritis is diagnosed with adequate history and physical examination with the presence of at least two of three of the following criteria: swelling, tenderness, or decreased range on motion in < 5 joints. Immune checkpoint inhibitors as well as other biological therapies use are in increasing trend. Arthritis secondary to ICIs has been reported in small number of clinical trials with an estimated incidence of 1%-7%. Primary care physicians should be able to recognize and manage these adverse effects to improve the quality of life of patients. Proper management and multidisciplinary approach are recommended.

CV-49

When Hugging Vessels Lead to a Painful Affair

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Superior Mesenteric Artery Syndrome (SMAS) is a rare, benign condition in which the third portion of the duodenum is compressed externally between the superior mesenteric artery and the abdominal aorta. Nutcracker Phenomenon is known for impeded outflow from the left renal vein into the inferior vena cava due to extrinsic left renal vein compression. Although rare, superior mesenteric artery syndrome can be seen coexisting with Nutcracker Syndrome (NCS) when the left renal vein is compressed between the SMA and abdominal aorta. We herein present a case of a young woman with chronic abdominal pain without an obvious diagnosis that was found to have both SMAS and NCS. A 39 y/o woman presented with recurrent severe abdominal pain of unclear etiology with more than 15 admissions in one year. The pain was in the epigastric region and colicky; and was associated with fullness, weight loss, and vomiting for several years. These have been present for over 15 years. Multiple endoscopies, endoscopic ultrasounds, magnetic resonance cholangiopancreatography, and computed tomography were unrevealing. She also had multiple surgeries including appendectomy, ovarian cystectomy, cholecystectomy, exploratory laparotomy, and sphincter Oddi sphincterotomy without resolution of symptoms. Other differential diagnoses such as chronic pancreatitis, autoimmune and genetic pancreatitis were also ruled out. Because of not conclusive diagnosis and persistent symptoms patient was evaluated mental health professionals. New abdominopelvic CT scan subsequently showed narrowing of the left renal vein crossing under the SMA with associated chronic enlargement of the left ovarian vein and uterine vessels. She was therefore diagnosed with Nutcracker Syndrome with pelvic congestion. Due to concerns of Superior Mesenteric Artery Syndrome, the patient was evaluated by vascular Surgery Services who, after reviewing imaging and correlating clinical symptoms, diagnosed the condition. Patient had left renal vein transposition and duodenojejunostomy, respectively, after which her symptoms partially improved with less frequent and less severe pain episodes without complete resolution due to pelvic congestion. This case highlights that even though SMAS accompanying NCS is quite unusual, it should be suspected in patients that present with gastrointestinal symptoms in the setting of left renal vein compression. As per literature, this could be misdiagnosed or sub-optimally treated, especially in young women. This presentation could be insidious and challenging to diagnose and should prompt further investigation. It is important to correlate clinical signs and symptoms along with imaging in these patients to ensure proper and timely diagnosis to receive the specialized healthcare needed.

CV-50

Uncommon Triad: Diabetic Ketoacidosis induced Severe Hypertriglyceridemia with subsequent Acute Pancreatitis

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Diabetic Ketoacidosis (DKA) is a life-threatening complication of poorly managed Diabetes Mellitus, less commonly seen in patients with type 2 diabetes. An uncontrolled DM can induce hypertriglyceridemia, especially in the case of DKA, which can trigger a severe elevation of triglycerides. Although hypertriglyceridemia is the third most common cause of acute pancreatitis, it only accounts for very few cases. Furthermore, the triad of DKA, acute pancreatitis, and hypertriglyceridemia is a rare finding and significantly increases these patients' morbidity and mortality. Here, we describe the domino effect of poorly controlled diabetes mellitus, leading to DKA, which triggered severe hypertriglyceridemia resulting in acute pancreatitis. This is the case of a 36-year-old Hispanic male with poorly controlled diabetes mellitus who presented to the Emergency Department with nausea, vomiting, and diffuse abdominal pain for the past few hours. On arrival, the patient was drowsy, complaining of abdominal pain. Basic laboratories were remarkable for blood glucose levels at 378mg/dL, marked high anion gap metabolic acidosis with pH 7.08, CO2 <5, ketonemia and ketonuria, HbA1C 11.8%, normal lipase 72, and leukocytosis 29K. Blood cultures, urinalysis, urine culture, and CXR were unremarkable. The patient was subsequently diagnosed with DKA and started on an insulin drip after aggressive IV fluid resuscitation. However, 6 hours later, the patient reported worsening abdominal pain, now localizing at the epigastric region. Lipase was repeated and was found to be elevated in 1876. Abdominopelvic CT was remarkable for acute pancreatitis with no evidence of fluid collections or necrosis. While at the ICU, the patient had severe hypertriglyceridemia at 2886, a known cause of acute pancreatitis. Fortunately, the treatment for hypertriglyceridemia-induced pancreatitis and DKA entails an insulin drip to resolve both diseases. This case highlights the critical points when treating patients with DKA: (1) The risk of acute pancreatitis is increased due to DKA-induced hypertriglyceridemia; (2) The overlapping presentation of DKA and Acute Pancreatitis might mask the coexisting diagnosis of pancreatitis; and (3) Delaying its diagnosis and treatment could be fatal; for this reason, there should be a high index of suspicion for AP in patients with DKA with non-resolving abdominal pain and delayed anion gap closure.

CV-51

Bell's palsy could be anything: An extremely rare adrenocortical carcinoma presentation

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The incidence of adrenocortical carcinomas (ACCs) is approximately one to two per million people annually. The prognosis is poor, with a median survival time of 6 months if left untreated. ACCs usually are hypersecretory, causing a clinical syndrome from hormone excess. Also can be found as nonfunctioning tumors causing tumor growth-related manifestations such as abdominal pain, constitutional symptoms, hematuria, and others. This cancer is considered a rare but highly aggressive malignancy requiring an extraordinary clinical suspicion due to unexpected presentations in which delay in diagnosis represents high morbidity and mortality. A 45 years-old male with IDDM was completely independent on his ADLs until two months prior to admission, when the patient began with constant left-sided headaches. Symptoms progressed to tongue deviation to the right side and left side facial paralysis. After multiple visits to periphery ER, where imaging studies were suggestive of I-CVA, he was referred to a Neurologist who agreed with the diagnosis and started the patient on gabapentin and physical therapy with minimal improvement. The patient continues to worsen, developing dysphagia (solids and liquids), dysarthria, left-side hearing loss, and bubbling sensation. He visited our ER, where new neuroimaging revealed findings suggestive of left otomastoiditis, left occipital bone osteomyelitis with cortical destruction, and left internal jugular vein thrombosis secondary to multiple masses displacing vascular structures and affecting cranial nerves at different levels. The patient received full-dose anticoagulation and empiric treatment with broad-spectrum antibiotics. However, findings were highly suggestive for metastatic disease, for which he underwent chest and abdominopelvic CT scan that showed suspicious pulmonary nodules, left adrenal mass with central necrosis, measuring over 7cm in diameter with the invasion of the left adrenal and renal veins, and hypervascular hepatic lesions, concerning for adrenal carcinoma with metastatic disease. As per H/O and Endocrinology services, Pheochromocytoma should be ruled out biochemically before performing any biopsy. Findings highly suggest ACC due to imaging and biochemical tests (negative metanephrines and catecholamines, no clinical signs of Pheochromocytoma, elevated cortisol with suppressed ACTH, elevated androstenedione, and suppressed aldosterone). ENT service performed mastoidectomy with a biopsy but yielded no results. The patient underwent liver biopsy by IR services at periphery hospital, confirming adrenal tumor, and was started on chemotherapy. The patient continued to deteriorate, requiring invasive mechanical ventilation, and died due to associated complications. This case let us illustrate not only sporadic cancer but a completely unexpected clinical presentation for ACC. It shows how history and physical examination are the key to making the correct diagnosis. Additionally, it helps raise awareness of the need for further investigation in patients with unusual findings, mainly in the context of young people whose signs and symptoms, such as facial paralysis, could be considered benign or self-limiting.

CV-52

At the Contorted Heart of The Smoker That Never Quits

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Extreme axis deviation, also known as extreme right axis deviation, northwest axis or “no-man's land” axis, is a rare electrocardiographic finding. Extreme axis deviation occurs due to lung hyperexpansion that causes external compression of the heart and lowering of the diaphragm, with consequent rotation and medialization of the heart and in severe chronic obstructive pulmonary disease (COPD) may lead to extreme axis deviation on the electrocardiogram. Distinct changes of the P-wave axis, QRS axis and morphology are the result of the anatomical and pathophysiological changes associated with this disease and it is important to learn and recognize these changes. These changes are illustrated in this case of a 79-year-old male patient with a history of chronic obstructive pulmonary disease and multiple hospital admissions requiring mechanical ventilation presenting with hypoxemia and shortness of breath upon arrival to the emergency department. Patient has a known medical history of COPD, chronic smoker with 70 packs years, oxygen dependent and heart failure with preserved EF 55%. The patient's ECG has an extreme right axis deviation and P-wave axis of 80° (normal 0° to 75°). This exemplifies a highly characteristic ECG finding in chronic obstructive pulmonary disease called “verticalization” of the mean frontal P-wave axis with an angle between +70° and +90°. A vertical axis accompanied by a large upright P-waves in leads II and III, an isoelectric P-wave in lead I and negative P-wave in lead aVL is considered very specific for the diagnosis of COPD that we as physicians need to identify. There are a few studies that have examined the electrocardiogram as a diagnostic tool for chronic obstructive pulmonary disease. The predictive value in using electrocardiogram criteria to diagnose COPD has been shown to fluctuate according to the severity of COPD. Recognizing how these changes develop may provide a better understanding of the presentation of simultaneous disease processes such as myocardial ischemia in a patient with COPD and shortness of breath.

CV-53

One more epiphrenic diverticulum that deceives its physicians

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An epiphrenic diverticulum is formed due to an increase in esophageal pressure and is usually associated with esophageal dysmotility. Appears more frequently on the lower esophagus and is a rare type of diverticula with a prevalence of 0.015 to 2%. Patients present most commonly with dysphagia and regurgitation, but may also have weight loss, aspiration and nocturnal cough and is more commonly seen in males between 60 to 70 years old. Due to its low prevalence, it can be mistaken for a hiatal hernia as it happened in our case. A 70-year-old female with past medical history of Hypertension, Bronchial Asthma, Scoliosis and Gastroesophageal Reflux came to the Emergency Department complaining of dysphagia of 3 months of evolution that started with solid foods and rapidly progressed to liquids. Symptoms were associated with intermittent abdominal pain described as 5/10 on intensity scale, 50lbs weight loss, nausea and emesis after every feeding attempt. During the course of her symptoms, she completed a prolonged course of proton pump inhibitors without improvement of the reflux and currently continued on therapy with Dexlanzoprazole. Outpatient work up including neck and chest CT scan, gastric emptying study and small bowel series suggested the diagnosis of a large hiatal hernia. Esophageal manometry was compatible with ineffective motility. Gastroenterology service was consulted, and an esophagogastroduodenoscopy was done which resulted in a non-erosive gastropathy and confirmed the hiatal hernia diagnosis. Patient was prepped for surgery for laparoscopic repair and upon dissection of the esophagus in the mediastinum it revealed a very large diverticulum outpouching laterally. It was approximately 3 times the size of what it was expected. Decision for a laparoscopic epiphrenic diverticulectomy and Heller myotomy with a toupet fundoplication was made. Patients with this diagnosis of epiphrenic diverticulum usually can be managed conservatively and indications for surgery are based on symptomatology. As it was seen on our patient, worsening dysphagia, regurgitation and food retention are usually indications for surgical procedure. Once surgical management was done, our patient was able to resume oral intake without complications and achieve adequate oral feedings. Pathology reported squamous lining epithelium consistent with the patient's history of epiphrenic diverticulum. Upon further evaluation, patient had failed to mention she had been diagnosed previously with Sjogren Syndrome which could have been the predisposing factor for esophageal dysmotility that resulted in the development of the diverticulum. This case illustrates the importance of an adequate history taking and allows us to review and treat patients with severe limiting symptoms. Delay or failure in the diagnosis may predispose patients to complications such as malignancy or perforation but may also prevent or delay the diagnosis of underlying conditions.

CV-54

A debut of AIDs: Wacky neurocognitive findings

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HIV leads to neurocognitive impairments ranging from mild to severe dysfunction or dementia. HIV-associated neurocognitive disorders typically appear as a late manifestation of advanced disease. We present an extremely rare HIV encephalitis as the first sign of AIDS. A 32-year-old male with no prior medical history presents to the ED due to developing progressive episodes of confusion and non-sequential speech three weeks prior. Symptoms progressed to anorexia, generalized weakness, aphasia, and hearing disturbances. He denied IV drug use or a history of blood transfusions; and reported unprotected sexual activity with females. Physical examination is remarkable for facial seborrheic dermatitis, genital and facial warts, altered mental status, and no focal neurological deficits. Laboratory results demonstrated pancytopenia with ALC of 611 cells/mm3 and ANC of 608 cells/mm3. The head CT scan was negative, but brain MRI showed hyperintensities at the bilateral insula, inferior frontal & orbital gyri, anterior periventricular white matter, centrum semiovale, and genu of the corpus callosum, which was concerning for viral encephalitis. He completed 14 days of empiric vancomycin, Ceftriaxone, and Acyclovir. Results were notable for HIV-1 antibodies with a viral load of 541,000 and CD4 of 56, consistent with AIDS. Neurology service performed two lumbar punctures during admission, and both CSF analyses showed mild pleocytosis with monocytic predominance, elevated protein, and no hypoglycorrhagia, consistent with a viral etiology. CSF gram stains and bacterial and fungal cultures remained negative. Cryptococcal Ag was negative in serum and CSF. CSF studies including HSV 1 & 2 PCR, CMV PCR, VDRL, and MEM panel returned negative. Serum tests including hepatitis profile, toxoplasma IgM, PPD, and urine histoplasma Ag returned negative. The main diagnostic consideration was HIV encephalitis due to recently diagnosed HIV with a high viral load and low CD4, AMS, and nonspecific white matter changes. The treatment of choice remains anti-retroviral therapy, which was started. With the initiation of HAART therapy, pancytopenia and neurological symptoms improved, but the patient remained with fluctuating altered mental status. The most common etiology of sporadic encephalitis is herpes simplex virus (HSV) type 1. Other causes include enterovirus, viruses carried by mosquitoes, and, uncommonly, EBV, HIV, and Zika virus. Due to the availability of HAART, there has been a decrease in opportunistic infections in patients with HIV/AIDS. Common illnesses related to AIDS are Pneumocystis jirovecii, esophageal candidiasis, Kaposi sarcoma, and disseminated Mycobacterium avium infection. This case emphasizes the importance of having HIV infection as a differential diagnosis of treatable viral encephalitis in patients without reported risk factors.

CV-55

A disease with many faces: 70 year old female diagnosed with IgG4-RD

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Introduction: Immunoglobulin Type G (IgG) is the second most abundant circulating protein in blood and contains long-term protective antibodies against many infectious agents. IgG is a combination of four different types called IgG subclasses: 1 to 4. Known as IgG4-related disease (IgG4-RD), elevated levels of IgG4 cause inflammatory disease that can affect multiple organs. Increasing evidence suggests that IgG4-RD is an autoimmune condition. Common patient are middle-aged to elderly, and predominantly male. They commonly present salivary and lacrimal gland enlargement, autoimmune pancreatitis, retroperitoneal fibrosis and interstitial nephritis. IgG4-RD has significant hematological manifestations that include lymphadenopathy, eosinophilia, and polyclonal hypergammaglobulinemia. *Case Description:* A 70-year-old hispanic female presenting history of poliomyelitis, hypertension, hypothyroidism and hyperlipidemia pursued hematology consultation, given two years presenting head and neck masses. CT imaging showed enlarged lymph nodes in the right submandibular, internal jugular and posterior occipital chain, and left submandibular and occipital chain regions, as well as spiculated nodularities in the right posterior lung apex. These findings are worrisome for lymphoproliferative disease. The patient did not exhibit any B symptoms, but reported dry eyes and mouth. Submandibular fine needle aspiration was done to rule out lymphoma or sarcoma. The biopsy results were inconclusive for malignancy. An open biopsy was performed to rule out lymphoma, but multiple enlarged lymph nodes were found, which is highly suspicious for malignancy. Open biopsy histology results established benign lymph nodes with sinusoidal histiocytosis and polyclonal plasmacytosis, including increased IgG4 plasma cells. Given these findings, sinus histiocytosis with massive lymphadenopathy (Rosai-Dorfman-Destombes disease) vs. IgG4-related disease were considered as main diagnostic possibilities. Further evaluation of IgG4 levels in serum, routine labs and PET scan were done. Tests revealed high levels of B2MGB and LDH with markedly elevated IgG4 serum levels. Given the combined results of serum studies, histological examination of tissue and clinical manifestations, a diagnosis of IgG4-related disease was established. The patient was started in pharmacological management with Rituximab and is being followed-up by hematology services. This case provides insight into the importance of a thorough clinical and histological evaluation of patients presenting symptoms related to IgG4-RD. *Discussion:* IgG4-related disease is a multi-organ, fibro-inflammatory condition with tumefactive lesions of unknown etiology and characteristic histopathological features. Any organ can be involved, although, the pancreas, kidneys, salivary and lacrimal glands, and retroperitoneum are most common. Patients are often misdiagnosed with malignancy, since lesions can mimic tumors or immune-mediated diseases due to the presence of lymphadenopathy as a common, but under-recognized manifestation. Analizing histopathological features and its correlation to elevated serum IgG4 levels, as well as other clinical symptoms in this case, facilitated diagnosis. Rituximab, a biological drug, has been effective and showed greater response to treatment. It leads to rapid decline of serum IgG4 levels and prompt clinical improvement.

CV-56

An unforeseen cause of lower limb paralysis in a young male.

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The most common malignancy in men aging 15–40 years is the non-seminomatous germ cell tumor (NSGCT) of the testes. However, bone metastasis is a rare event, and when it happens, it is associated with simultaneous retroperitoneal lymph nodes or visceral disease. We describe a case of NSGCT presenting with an isolated vertebral metastasis. Case of a 27-year-old male patient with intellectual disability presenting with a one-month history of progressive lower extremity weakness. During this period, the patient had several visits to the Emergency Department for complaints of low back pain and lower extremity weakness. He was treated with NSAIDs and muscle relaxants. Further evaluation was never pursued. Low back pain intensified, and leg weakness progressed to bilateral lower extremity paralysis. The notable worsening of symptoms worried his brother so much that he immediately returned the patient to ED, this time to our institution. Physical examination was notable for symmetrical lower extremity paraparesis, marked sensory deficit below T11 dermatome, decreased rectal tone, and distended urinary bladder. The genital evaluation showed a large indurated left testicular mass without tenderness to palpation, evidence of inguinal lymphadenopathy, or tracking along the spermatic cord. A thoracolumbar MRI with and without contrast demonstrated a heterogeneously enhancing soft tissue lesion involving the vertebral body of T8 with extension into the left paravertebral space and spinal canal, resulting in severe spinal canal stenosis and spinal cord compression. Serum α-fetoprotein (AFP) and lactic dehydrogenase (LDH) levels were elevated at 2871 ng/mL, and 408 IU/L, respectively; β-human chorionic gonadotropin (β-hCG) was normal at 1.31 mIU/mL. Abdominopelvic CT scan with and without contrast showed a left testicular non-seminomatous testicular tumor measuring approximately 7.5 cm AP x 6.9 cm transverse x 9.7 cm long without evidence of retroperitoneal lymphadenopathy or visceral metastatic disease. The patient underwent emergent radical left inguinal orchiectomy. Pathology demonstrated an NSGCT, specifically, Yolk sac tumor (post-pubertal type). There was no evidence of lymphovascular infiltration, and all margins were negative. Nevertheless, a CT-guided needle biopsy of the spinal lesion confirmed metastatic NSGCT. The patient was treated with a high dose of Dexamethasone in addition to combining conventional external beam radiation and systemic chemotherapy with Bleomycin, Etoposide, and Cisplatin. Neurological symptoms showed improvement. The patient was safely discharged home with close OPD follow-up. This case is a unique and infrequent presentation of a testicular NSGCT with axial skeletal metastases causing symptomatic spinal cord compression that suggests hematogenous spread in the absence of concurrent nodal or visceral metastases. This case highlights the significance of a thorough history and physical examination when evaluating a patient with an intellectual disability and lower limb weakness. In addition, it raises awareness and encourages physicians to increase testicular cancer surveillance in this population.

CV-57

Unexpected cause of Iron deficiency anemia: Ascaris Lumbricoides

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Anemia is a major public health problem worldwide, with an estimated prevalence of 24.8%. The ost common cause in western communities is iron deficiency anemia (IDA) with an estimated revalence of 2.2%-10.5%. The differential diagnosis of IDA in men includes gastrointestinal leeding, occult malignancy, angiodysplasia and chronic malabsorption. We present a 41-years old male patient without history of systemic illness who presented to our hospital with recurrent episodes of anemia over the last 4 years. Hemoglobin levels at presentation was critical (less than 4 g/dL) and required hospital admission for blood transfusions. Patient denies melena, hematochezia, jaundice, coluria, hematuria or B symptoms. This patient was managed previously in the inpatient setting with similar symptoms but unfortunately has not been compliant with his primary care physician follow up visits. Once discharged from the hospital, he returns frequently with same symptoms every 2-3 months. Upon evaluation, he refers feeling tired with dizziness, headaches, dyspnea at rest and chest pain upon exertion. Physical examination reveals generalized paleness, diaphoresis and tachycardia. In view that patient has been hospitalized frequently at our institution, we were able to retrieved results of the previous upper and lower endoscopies, which were unremarkable. Abdominopelvic CT Scan was performed without significant pathological findings. His CBC revealed a hemoglobin of 4.0 g/dL with decreased MCV and MCH with eosinophilia (Eosinophils represented 10% of his total WBC count). Iron kinetic studies was compatible with iron deficiency anemia with a ferritin level on 3. Hematology/Oncology service was consulted and a bone marrow biopsy showed normal hematopoiesis with eosinophilia and markedly decreased iron reserve. Targeted RBC scan performed which did not revealed acute bleeding. We repeated the upper and lower endoscopy and duodenal parasites were seen by GI service. Biopsy results revealed Ascaris lumbricoides which are believed to be the culprit of his symptoms. He was treated with Albendazole with marked improvement and his eosinophilia resolved. Now the patient is feeling well and has not returned to the hospital over the last 6 months. Parasitic infections represent a challenging diagnosis in western countries given the low prevalence and nonspecific symptoms. Although rare, parasitic infections may ultimately present with iron deficiency anemia although the etiology is not entirely understood. As clinicians, we must keep this under the differential diagnosis while managing these patients. In addition, adequate education for the community in regards of sanitation and food hygiene is important to avoid these scenarios in the future.

CV-58

Steroid conundrum: Alcoholic hepatitis and Severe sepsis

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Chronic liver disease is one of the leading causes of morbidity and mortality in the United States. Decompensation of chronic liver disease (DCLD) is associated with increased short-term mortality. Common causes of DCLD include infectious processes, and alcoholic hepatitis, among others. Alcoholic hepatitis is a syndrome of progressive inflammatory liver injury associated with long-term heavy ethanol intake. Here we present a patient with hepatocellular carcinoma, acute hepatitis of unclear etiology and superimposed infection. An 85-year-old man with history of hepatocellular carcinoma that underwent TACE and ablation, cirrhosis Child Pugh C and history of alcohol abuse presented with progressive general weakness and decreased oral intake three days prior to admission associated with dysuria, nausea, and worsening jaundice. He referred drinking 24 beers per week and having stopped one week prior to admission due to feeling weak. Upon arrival, he had low blood pressures, and tachycardia. The physical exam was remarkable for jaundice, scleral icterus, ascitic abdomen, bilateral +2 pitting edema up to the knees and suprapubic tenderness. Laboratories with leukocytosis and bandemia, hyperbilirubinemia and severe transaminitis with AST:ALT ratio of 2:1, AST: >200 and ALT: 100 increased from baseline. Urinalysis positive for nitrites and bacteriuria and cultures later positive for Citrobacter amalonaticus. Paracentesis was performed and fluid analysis had negative cultures and low cell count. Patient was admitted under impression of severe sepsis secondary to complicated urinary tract infection (C-UTI) and DCLD and was started on empiric antibiotic treatment, spironolactone and furosemide. Alcoholic hepatitis was suspected due to significant liver enzyme elevation from baseline and history of alcohol use. Due to severe sepsis, steroids for alcoholic hepatitis were held. The Lille model score, a predictor of response to steroid therapy in hepatitis, was 0.989 which was significantly low. After gastroenterology team re-evaluation, methylprednisolone was started with clinical improvement, however laboratories remained unchanged. Patient continued with hyperbilirubinemia on increasing trend and worsening liver enzymes after a course of seven days of therapy. Additionally, he developed acute kidney injury and hepatorenal syndrome for which he was started on albumin infusion. Very poor prognosis overall in the setting of hepatorenal syndrome, hepatocellular carcinoma, alcoholic hepatitis, cirrhosis and superimposed sepsis secondary to C-UTI. He was consulted to Palliative Care service and the decision was made to put patient under home hospice care. This case represents the importance of considering multiple etiologies of DCLD including alcoholic hepatitis in the case of actively drinking patients. The decision to start steroids in patients with active infectious processes remain a debate and risks versus benefits should be discussed with a multidisciplinary approach. Lille model score is an adequate predictor of response to steroid therapy and can be used as a tool to guide our medical management.

CV-59

ANCA Associated Vasculitis (Granulomatosis with Polyangitis) with Isolated Pulmonary Involvement

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ANCA Associated Vasculitis is characterized by inflammation and necrosis of small vessels leading to subsequent tissue and organ injury. It usually presents as a systemic disease affecting multiple organs, although inflammation can be restricted to one target organ. The diagnosis and management of patients maybe challenging due to variability of clinical expression. A 70 year old male with history of HIV on anti-viral therapy and other comorbidities presents with progressive shortness of breath, dyspnea on exertion and productive cough with blood streaks. Physical examination remarkable for mild expiratory wheezing and diffused rhonchi. No other clinical findings. He denied earache, sinusitis, bloody nasal discharge, nasal ulcers or any systemic symptoms such as fever, chills, night sweats or unintentional weight loss. Imaging remarkable for bilateral patchy opacities, left suprahilar mass-like consolidation and pulmonary embolism. Laboratories with elevated inflammatory markers, d-dimers and positive ANCA test. Routine blood chemistry with stable renal parameters and urinalysis with no evidence of microscopic hematuria. CD4 Count within normal range and Viral load < 20 copies/mL. Cardiovascular causes were ruled out. Bronchoscopy performed with findings of right lower lobe mucosal edema, no malignant cells and abundant reactive bronchial cells. There was no evidence of a demonstrable infectious agent. Biopsy remarkable for non-necrotizing granulomas and negative for malignant process. Medication reviewed and no medication identified as potential cause of medication-induced vasculitis. Patient was started on immunosuppressive therapy, high dose steroid IV and full dose anti-coagulation. He was unable to tolerate various immunosuppressive agents due to moderate GI side effects but continued steroid therapy. His symptoms improved, and follow-up imaging studies revealed resolution of opacities. This case describes ANCA-Associated Vasculitis (Granulomatosis with Polyangitis) with isolated pulmonary involvement affecting small and medium-sized vessels. Single organ vasculitis can affect kidney, central nervous system, skin, gastrointestinal tract and others. Nevertheless, isolated pulmonary vasculitis is a rare entity, only a few cases have been reported.

CV-60

Suspicious Case of STI in lieu of Novel Monkeypox Outbreak in Puerto Rico

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Over the course of the last three months (May-July 2022), the number of Monkeypox cases in Puerto Rico has increased to 21 confirmed cases, as of time of writing. The local Health Department has issued multiple warnings about the ongoing outbreak in the country while enforcing healthcare providers to report suspected Monkeypox cases to the Center for Disease Control and Prevention (CDC) both in inpatient and outpatient settings. Currently, health authorities have been identifying possible susceptible populations at higher risk of transmission for immediate vaccination against the pox virus. A case of a 22-years-old male presents to the hospital's ER department with a diffuse maculopapular rash, generalized pruritus, subjective fevers, chills, and penile lesions for the past 2 days. Patient referred that the appearance of symptoms was sudden. No known drug allergies. His sexual history is remarkable for only having sex with other men and has been sexually active with 2 partners in the last month since onset of symptoms. Denied use of condom barrier protection and currently is in no HIV PreP therapy. Denied any history of previous sexually transmitted infections (STIs). Review of systems was remarkable for fever, chills, malaise, weakness, rash, pruritus, pain on inguinal area bilaterally and penile lesions. On physical examination, he had diffused maculopapular rash on the trunk and 3 round, white, elevated, non-tender papules, without pus, on the glans of the penis. A focused lab work on STIs was ordered including a Hepatitis B/C Panel, Chlamydia Antibody Panel, Gonococcal Urine Antigen, Treponema Antibody Panel and a Monkeypox PCR sample sent to a reference lab in the United States. A positive test for Hepatitis C and Treponema pallidum were remarkable among the series of lab tests. Patient was discharged from the ER with Penicillin G 2.4 x107 U IM Once and Doxycycline 100mg PO every 12 hours for 14 days. Three weeks after discharge, results of the Monkeypox PCR test were positive on our patient as notified by the hospital's Center for Infectious Diseases. his case attributes the importance of thoroughly assessing for diseases that share a common set of risk factors and exposures that can develop a clinical presentation highly similar between each other such as STIs. Monkeypox and Syphilis can present with diffuse maculopapular rash and genital lesions, however, the symptoms shared between them are differentiated by the clinical aspect that comprise them through the course of the infection. Early detection and treatment coupled with preventative safe sexual health practice have show an excellent prognosis as well as low risk of transmission within the population at risk.

CV-61

"Congo Red Heart" From a Strong Heart to a Stiff Heart

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Cardiac amyloidosis is caused by deposits of abnormal protein amyloid in the heart tissue. Over time, these proteins replace normal tissue, leading to heart failure. Symptoms may include polyuria, fatigue, palpitations, exertional dyspnea, anasarca, and orthopnea. Cardiac biopsy is used to confirm the diagnosis. A biopsy of another area, such as the abdomen, kidney, or bone marrow, is often done as well. Treatments may include chemotherapy, implantable cardioverter-defibrillator, pacemaker, and prednisone. Complications may include atrial fibrillation or ventricular arrhythmias and congestive heart failure. Prognosis is poor, but the field is changing rapidly; many people could expect to survive for several years after diagnosis. If the diagnosis is promptly recognized, evaluated, confirmed, and treated. A case of a 45-year-old female patient with past medical history of hypothyroidism, obesity class 3, and asthma. The patient presented to the nephrology clinics due to progressive anasarca, shortness of breath at rest, multiple episodes of syncope, and an increase in weight of 33 lbs in 2 weeks with abnormal serum and urine protein electrophoresis with immunofixation results that were positive for IgG Monoclonal band in lambda and gamma region. After that visit, the patient was admitted in multiple ocassion to the hospital due to anasarca secondary to the nephrotic syndrome and syncope. On physical examination patient presented with bilateral crackles, above the knee pitting edema 3+ and borderline low blood pressure. Her laboratory values were notable during hospitalization for urinalysis with proteinuria and urine protein collection of 5 g in 24 hours. Protein electrophoresis and immunofixation were repeated with the same results as mentioned. The patient had a decreased in Kappa/lambda ratio of 0.08. Bone marrow results showed cortical bone marrow without intertrabecular spaces, non-diagnostic that was repeated with similar results. Cardiac MRI results showed typical imaging features of cardiac amyloidosis. Diastolic and Systolic dysfunction. Moderate pericardial effusion and small bilateral pleural effusion. A fat pad biopsy was scheduled, but before the test was performed, the patient presented to the Emergency room for the third time due to syncope; upon arrival collapsed, and an ACLS code was performed. The patient was admitted to the ICU on mechanical ventilation. An echocardiogram was repeated and showed severely reduced Ejection fraction from 65% three weeks ago to 25%. Two days after, the patient developed a ventricular tachycardia and expired. Patients with unexplained left ventricular hypertrophy with sudden heart failure, syncope episodes, nephrotic syndrome, elevated BUN, and creatinine should be evaluated for cardiac amyloidosis. As providers, high clinical suspicion, based on symptoms and clinical presentation, should be in our differential. Cardiac amyloidosis and heart failure without treatment had an overall median survival of six months. With contemporary management, the median survival has significantly improved to 5.5 years.

CV-62

Angry Rash after a Gastrointestinal Bleeding

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Leukocytoclastic Vasculitis (LCV) is a term used to describe a skin predominant small vessel vasculitis that results of inflammation of dermal capillaries and venules. LCV commonly presents as non-blanching, purpura measuring 1-3 mm mainly seen in the lower extremities as well as thighs, buttocks, and lower abdomen. LCV involvement of the upper extremities and the face is less frequently reported. In addition, LCV is usually limited to the skin with extracutaneous manifestations seen in less than 30% of cases. It is diagnosed with skin biopsy demonstrating neutrophilic inflammation of postcapillary venules. LCV can be due to infections, inflammatory-conditions, medications, and malignancies. We report an atypical presentation of a female patient with LCV involving the face, extremities, that initially presented with GI bleeding followed by AKI and later an outer colonic neoplasm was discovered. 68-year-old female admitted due to out of hospital GI bleeding followed by anuria, abdominal distention and rash over the face, dorsum of hands and distal legs. Patient with history of Parkinson's disease, hypothyroidism, CKD, and depression. Vital signs upon admission within normal limits. Head and neck examination noted a petechial rash concentrated on nose and lower face. Upper extremity examination revealed a petechial rash with bullae in hands bilaterally. Lower extremity examination revealed symmetric, ankylosed lower extremities with multiple petechiae over shins and feet bilaterally. Abdominal examination revealed decreased bowel sounds, distention, depressible with tenderness and no guarding. Laboratory revealed normochromic normocytic anemia of hemoglobin 8.9g/dL, impaired renal function with creatinine 4.36 mg/dl. Serum sodium was 131 mEq/L, and phosphorus of 5.94 mg/dL. Patient received systemic glucocorticoids and supportive care. Rheumatologic work up resulted negative, punch skin biopsy was obtained which revealed LCV. Abdominopelvic CT scan with IV contrast reported a large amount of ascites, and large solid mass in the cecum. Follow up colonoscopy revealed a large non-bleeding deep ulcer with irregular borders found at the cecum with the mass locating at the outer colonic mucosae, biopsies reported colonic mucosa with ulceration, necrotic debris, congestion and edema with no evidence of malignancy. Following patient stabilization, family members who wielded decision making capacity, opted to discharge patient with hospice services due to the multiple comorbid conditions and physical state. Systemic vasculitis that involves the gastrointestinal tract is a well-known presentation of small and medium vessel vasculitis, most commonly seen in polyarteritis nodosa, ANCA-associated vasculitis, Henoch-Schlönlein purpura, and Takayasu arteritis. In addition, GI vasculitis is also associated with Rheumatoid Arthritis and Systemic Lupus Erythematosus. Few cases have been reported of vasculitis limited to the GI tract, known as single-organ vasculitis, the data is limited, and it is not well recognized in the literature. LCV involvement is limited to the skin and the majority of them resolving within months.

CV-63

Ewing sarcoma: an atypical presentation

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Ewing sarcomas (ES) are part of a family of neoplastic diseases known as the ES family of tumors (EFT). EFT can develop in almost any bone or soft tissue but is more common in the pelvis, axial skeleton, and femur. Metastatic disease is found in fewer than 25% of cases at the time of diagnosis, but subclinical metastatic disease is presumed to be present in most patients. Patients with primary pelvic tumors are more likely to present with metastasis, with the most common sites being lung, bone, and bone marrow. Around 80% of patients present with a distinct soft tissue mass with associated pain or swelling. EFT represents the second most common primary bone malignancy affecting children and adolescents after osteosarcoma, with the peak incidence being between 10-15 years of age. This is the case of a 48 y/o male with no medical history that presented to the ED for evaluation after two months of burning and progressive low back pain radiating to the left leg with associated weakness that worsened at night and with weight bearing. The patient had visited multiple hospitals where he was discharged and treated for muscle spasms. He was sent to our institution after a spinal MRI showed the presence of lytic bone lesions. In addition, a right bicep mass was noticed, which the patient recalled started about one month prior and with associated mild pain. The patient was admitted for further workup and evaluation. Multiple imaging studies were done at our institution. The right humerus MRI showed a diffusely enhancing soft tissue mass of 6.6cm x 12.4cm occupying the biceps musculature with bone marrow involvement. Lumbosacral MRI was remarkable for multiple thoracic, lumbar, and sacral metastatic bone lesions with L1/L2 epidural involvement causing cord compression and extramedullary soft tissue masses, particularly affecting L2. Chest CT was remarkable for a single right axillary node 2.9 cm with no evidence of lung metastasis. Initially, plasmacytoma was suspected, but after a right arm open biopsy, the mass was found to be an Ewing Sarcoma. The patient's symptoms continued progressing, eventually causing urinary and fecal incontinence and lower extremity hemiplegia. The oncology service recommended immediate radiotherapy, steroid therapy, and chemotherapy once the patient completed radiotherapy. After radiotherapy, the patient's symptoms improved slightly, and he was discharged home to receive physical therapy and chemotherapy. This case represents an atypical and aggressive presentation of a well-known malignancy as our patient presented with pathology mainly seen in children and young adults and extensive spinal cord metastasis with advanced symptoms.

CV-64

A unheard history about a medical nemesis: The unforeseen burden of Hydroxyurea

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Hydroxyurea (HU) acts as a metabolic inhibitor of ribonucleotide reductase and is a potent non-alkylating myelosuppressive agent. It treats various myeloproliferative disorders, including chronic myeloid leukemia, polycythemia vera, and essential thrombocytopenia. Unfortunately, numerous reports of cutaneous complications during long-term maintenance therapy with Hydroxyurea have been reported. Common cutaneous side effects include hyperpigmentation, alopecia, atrophy of skin, nail changes, facial erythema, and leg ulcers. However, HU-related cutaneous squamous cell carcinoma (cSCC) has been scarcely reported in medical literature and is one of the most feared side effects. Therefore, early diagnosis and evaluation are critical for determining optimal treatment regimens. Herein, we describe a case of cSCC associated with long-term HU therapy. The patient is an 83-year-old white Hispanic male with a medical history of Polycythemia Vera, diagnosed at age 62. He has spent most of his adult life working in agriculture, attending coffee plantations in Puerto Rico. He has a significant history of an irregular pattern of weekly sun exposure and inconsistent use of sunscreens and hats during working hours. He has been taking Hydroxyurea 500 mg daily since the time of Polycythemia Vera's diagnosis. He has never been evaluated by a dermatologist before, has a poor follow-up with doctors in general, and this time presented to ENT clinics referred by his primary care physician to evaluate multiple skin lesions which have been growing for more than a year. On physical examination, multiple sub-centimeter rough erythematous and scaly lesions through the face and scalp were appreciated. In addition, there was a left pre-auricular 1x1cm minimally ulcerated lesion and a left large 2x2 cm ulcerated skin overlying mandibular angle. Also, a 3x3cm ulcerated lesion located in the left lower vermillion border lateral to midline without associated submental or submandibular lymphadenopathy. There was extensive photodamage and atrophy on the dorsal hands, with multiple scabs, the largest on the left hand measuring 1 cm x 2 cm. Laboratory investigations showed a low Leukocyte count (3.09 x 109/L), low platelet count (209 x 109/L), and low erythrocyte count (3.09 x 1012/L). The patient underwent wide local excision of the lip, mandibular, pre-auricular, and scalp lesions. Pathological examination of the surgical specimens revealed a well-differentiated keratinizing squamous cell carcinoma without perineural or lymphovascular involvement. A growing body of evidence indicates a possible role of Hydroxyurea in skin cancer progression. We present this case to draw attention to the association between Hydroxyurea and secondary skin cancers. Recognizing patterns of HU-associated cSCC is important for the patient and all medical providers. In addition, for patients receiving perennial HU therapy, close dermatologic follow-up is critical for the early diagnosis and selection of appropriate treatment for cutaneous lesions.

CV-65

Tumefactive Multiple Sclerosis: A complex experience with a great mimicker.

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Multiple sclerosis (MS) is a disease of the central nervous system (CNS), which comprises the brain, spinal cord, and optic nerve. This disorder causes the destruction of the myelin that surrounds and protects nerve axons, causing a reduction or loss of body function. Tumefactive multiple sclerosis (TMS) is a rare form of demyelinating inflammatory disorder that presents with MS symptoms or the clinical or radiographic findings of a space-occupying intracranial lesion. Classically, TMS presents magnetic resonance imaging (MRI) with an intracranial mass greater than 2.0 cm with surrounding edema and rim enhancement with gadolinium contrast. Case of a 28-year-old male without a history of systemic illness presenting with a 2-week history of difficulty walking and slurred speech. Physical examination was remarkable for marked dysarthria and ataxic gait. Signs and symptoms did not correlate with a particular cerebrovascular bundle to explain presentation by an acute cerebrovascular accident, the reason why other CNS pathology were also entertained since the beginning. Our workup started with a Brain MRI enhanced by Gadolinium contrast. It showed multiple supratentorial and infratentorial T2-FLAIR hyperintense lesions located at the periventricular white matter, brainstem, pons, and cerebellum, with the largest lesion measuring approximately 2.8 x 2.4 cm at the right frontal periventricular white matter with an associated rim enhancement pattern and surrounding edema. Subsequently, a lumbar puncture was done to obtain CSF sample to evaluate for infectious etiologies. Biochemical and microbiological CSF profiles showed normal findings. The IgG Synthesis rate was 4.8 mg/day and provides support for the diagnosis of multiple sclerosis. Antibodies to Toxoplasma Gondi, Cryptococcus, EBV, CMV, VDRL, and VZV were not detected. The serum serologic test for HIV and Syphilis was negative. Workup was negative for infective diseases. Since radiological imaging and laboratory findings correlated with MS, patient was started on Solumedrol 1000 mg IV daily. Patient showed signs of rapid improvement with complete resolution of symptoms by third day of therapy. He was discharged with a close follow-up with a Neurologist. Tumefactive demyelinating lesions are frequently misdiagnosed, mostly because several neoplastic and infective diseases of the brain may have similar imaging characteristics, leading healthcare providers unfamiliar with this condition to perform unnecessary studies and delay proper treatment. This case highlights the importance of a good history taking, a thorough physical exam, and a stepwise approach for the proper diagnosis and management of tumefactive multiple sclerosis. It is important to consider tumefactive demyelinating lesions in the differential diagnosis of intracranial masses, since early diagnosis and treatment can decrease long-term neurological complications.

CV-66

A Patient with A White Lung Two Months after Coronary Artery Bypass Graft Surgery

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Introduction: Postpericardiotomy syndrome (PPS) is a medical presentation of an immune reaction after surgical intervention of the pericardium. PPS is commonly seen after percutaneous coronary interventions but has also been described after trauma to the heart or pleura. The prevalence of PPS has decreased over the years as preventive strategies have been developed; however, it can still be a deadly complication. We here present a case of a patient who underwent a cardiotomy for Coronary Artery Bypass Graft (CABG), missed a follow-up appointment and presented with a white lung. *Case description:* This is the case of a 67 y/o male with type II diabetes mellitus, hyperlipidemia, and obesity who came to ER 2 months after undergoing CABG due to ACS/NSTEMI. The patient was seen at a follow up visit and referred progressive shortness of breath since discharge and intermittent palpitations. The patient presented with dyspnea on exertion when walking from the waiting area to the office. On examination he had decreased breath sounds and dullness to percussion over the left hemithorax. ECG revealed sinus tachycardia. Chest x ray revealed complete opacification of the left hemithorax. The echocardiogram revealed small pericardial effusion and EF 55-60%. A CT-scan was performed which revealed a large pleural effusion with complete left lung atelectasis. The patient was treated with thoracentesis, chest tube placement and Colchicine. Drainage was complicated with Re-expansion Pulmonary Edema (REPE) that was treated with furosemide and slowing of pleural fluid drainage. After resolution of pleural effusion and pulmonary edema, the chest tube was removed and the patient was discharged home without any complications. *Discussion:*

PPS can have a variety of clinical presentations including pericarditis, pericardial effusion, and pleuritis among others. The prevalence of PPS varies from study to study but is generally found to be between 10-45% among patients who underwent cardiac surgeries. Even though preventive methods are being implemented, careful follow-up is of utmost importance. Early recognition of signs and symptoms in this patient would have helped avoid extreme interventions for resolution of PPS.

CV-67

A Lethal Case of Prostate Cancer: Neuroendocrine Differentiation of Prostate Adenocarcinoma

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Prostate cancer is the second most common cancer in males worldwide. Neuroendocrine prostate cancer (NEPC) is an aggressive variant form, with 2% of cases arising de novo and 10-17% evolving from adenocarcinoma in patients with castration-resistant prostate cancer. A 60 year-old-male with medical history of metastatic prostate adenocarcinoma presented to our institution with a one-month history of rapidly progressive lower extremity weakness, dysphagia, hoarseness, and weight loss. The patient had been diagnosed with metastatic prostate adenocarcinoma seven months ago after presenting with severe lower back pain, a PSA at 349ng/ml, a high-grade Gleason score greater than 8, and imaging evidence of metastatic disease to the axial and appendicular skeleton. He was initially treated with Gonadotropin-releasing hormone agonist and androgen receptor blockers, including Bicalutamide and Enzalutamide, which significantly improved symptoms. Also, PSA levels markedly decreased with the last reported at 0.340ng/ml. Unfortunately, upon arrival at our institution, the patient presented with a prompt clinical deterioration despite a great initial response to androgen deprivation therapy. Abdomen and pelvis CT scan now showed metastatic hepatic disease, diffuse blastic bone lesions throughout the axial skeleton, and a soft tissue mass involving the sacrum at the level of S1 and S2 causing strain with involvement of the spinal canal and sacral foramina. A liver biopsy was performed with findings consistent with neuroendocrine carcinoma (synaptophysin positive, CD56 positive, chromogranin negative, racemase negative, and Ki67 90-100%). During hospitalization, the patient acquired multiple nosocomial infections and developed respiratory failure requiring mechanical ventilation. Once pathology reports were obtained, the decision was made to begin chemotherapy with a platinum-based regimen. However, the patient at this time was critically ill, and despite our best efforts, died before starting therapy. Neuroendocrine differentiation in prostate cancer is a rare and more aggressive clinical entity as seen in this patient age of presentation of metastatic disease. The median age of prostate cancer diagnosis is 66, per contra, the median age of males who develop metastatic disease or die from this disease is considerably older. NEPC may arise de novo or in patients previously treated with hormonal therapy as a resistance mechanism. Common features of neuroendocrine differentiation of prostate after therapy include rapidly progressive disease, low PSA levels, primary tumor with a high-grade Gleason score greater than 8, and unusual sites or patterns of metastasis. Platinum-based chemotherapy has shown survival benefits in both regional and metastatic tumor patients. A high level of suspicion should be, therefore, entertained as prompt diagnosis of this aggressive variant is crucial for rapid initiation of therapy and improvement of its progression-free survival.

CV-68

Primary Mediastinal Large B-cell Lymphoma: An Oncologic Emergency

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A 43-year-old Hispanic veteran male with history of arterial hypertension, PTSD and chronic cigarette smoking, presented to the emergency department (ED) after sustaining a syncope of one minute duration when changing from recumbent to standing position. Other symptoms prior to the fall included chills, shortness of breath, nausea and dizziness. One month prior to the ED visit, patient noticed puffiness of the face including the eyes, along with varicose veins in the chest, hoarseness, fatigue and an imprecise amount of unintentional weight loss. His family history was pertinent for non-Hodgkin lymphoma on his mother. He reported exposure to toxic fumes and contaminants while in military service. Physical exam revealed normal vital signs, facial plethora, conjunctival suffusion, and ectatic superficial veins over the chest. Heart and lungs were normal. Abdominal exam revealed splenomegaly and bilateral supraclavicular and axillary lymphadenopathy. There was no cyanosis or edema on extremities. Neurologic examination was unremarkable with no focal deficit. Admission laboratories were unremarkable. A thoracoabdominal CT scan with intravenous (IV) contrast revealed a large heterogenous anterior mediastinal mass extending from the thoracic inlet to the diaphragm, encasing the superior vena cava, brachiocephalic vein, azygous vein and central pulmonary arteries and veins, surrounding the tracheal airway and extending into the subcarinal space. Splenomegaly, left axillary, supraclavicular and cardiophrenic adenopathy were also present. Patient was admitted to our Institution. IV fluids, IV Dexamethasone and Allopurinol were initiated and Hematology Oncology service was consulted. PET/CT scan revealed multiple hypermetabolic lesions encasing the mediastinum with involvement of the pericardium plus multiple lymphadenopathies with maximal SUV of 15.9. On the next day of the admission, a CT guided mediastinal mass biopsy was performed and consistent with a primary mediastinal high grade Non-Hodgkin's B cell lymphoma. Due to his aggressive presentation, patient required urgent external beam radiotherapy (RT) to neck and mediastinum. After 5 sessions of RT, patient was started on dose-adjusted chemotherapy with Etoposide, Prednisone, Vincristine, Cyclophosphamide, Doxorubicin and Rituximab (DA-EPOCH-R). He completed 5 cycles of chemotherapy with complete resolution of his symptoms. A follow up PET/CT scan, after 4 cycles of therapy, revealed no significant hypermetabolic lesions or metabolically active lymph nodes, indicative of adequate response to treatment. Primary mediastinal large B cell lymphoma (PMBCL) is an uncommon aggressive lymphoma with unique clinicopathologic features. It comprises 2.4% of all non-Hodgkin's lymphoma and has a female predominance. Its clinical presentation is catalogued as an oncologic emergency which typically consists of fast-growing invasive tumor resulting in airway compromise and superior vena cava syndrome. In this case, prompt recognition, timely diagnosis and appropriate management was crucial for this patient's survival and improvement. PMBCL should be part of our differential diagnosis in patients who presents with Superior Vena Cava Syndrome.

CV-69

Secondary acrocyanosis, the only visible sign present in a "Long COVID" patient.

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Acrocyanosis is deep blue and purple discoloration of the dermis and hypodermis of hands due to cyanosis. Currently, the literature highlights this sign in COVID-19 patients, but there is research lacking as a possible visible sign of "Long COVID" syndrome. Patients suffering from sequelae of COVID-19 known as "Long COVID" experience reduced quality of life which severely impairs their health. This is especially true for patients who develop silent hypoxia after COVID-19 infection. These patients can produce extremely low oxygen saturation levels and secondary acrocyanosis. Is imperative to raise awareness of these signs and symptoms to research it more in-depth. A 76-year-old male with a past medical history of End stage renal disease (ESRD) on Hemodialysis, Hypertension, Congenital heart disease, and Implantable cardioverter-defibrillator. Comes to the Urgency Room due to striking acrocyanosis in both hands. Upon evaluation, the patient presented with marked hypoxemia, and bradycardia. Recently, the patient experienced a COVID-19 active infection which resolved 4 days ago. Upon physical examination, the patient had bilateral edema in both arms and prominent cyanosis in the palm side of hands and fingers with capillary refill for more than 3 seconds, and no clubbing was noted on the fingertips. The patient had +2 pulses, with no pitting edema or cyanosis in the lower extremities. In lung auscultation presented bilateral rhonchi. The oxygen saturation at the bedside was unable to be obtained due to pronounced acrocyanosis. At admission, leukocytes were 5.4 with neutrophils at 64.4. The patient was started on empiric antibiotics with Ceftriaxone and Doxycycline, for suspected community-acquired pneumonia. The patient's oxygen saturation was 64% at room air and increased to 99% with Nasal Cannula at four liters. Despite using Nasal Cannula at four liters, the patient presented constant secondary acrocyanosis and desaturation. Chest CT was remarkable for right basilar opacities which can be expected from a patient with recent COVID-19 infection, due to residual inflammation. After 3 days, oxygen saturation was 96.9% at room air. The patient was suspected of having "Long COVID" with marked secondary acrocyanosis that ought to resolve over time with proper treatment and follow-up. With no signs of active infection and no oxygen requirement, the patient was discharged home with follow-up in 1 week at our Internal Medicine outpatient clinic. Physicians should be aware of visible physical signs and symptoms present in "Long COVID" patients, for example, acrocyanosis. If physicians find these signs early, supportive treatment can be given, reducing mortality and morbidity in these patients in the long run. It is imperative that work-up is done to find other possible causes while including "Long COVID" in the differential.

CV-70

No specific guidelines has been reported of a crash kidney injury as a result of hidden crystals

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Urate nephropathy after seizures is a rare cause of intrinsic acute kidney injury. However, it can be detected earlier, and preventive specific treatment could be provided before kidney injury is present. This is a case of a 40-year-old male with past medical history of arterial hypertension, chronic use of medicinal cannabis, and previous inexplicable non-treated episode of acute kidney injury after a seizure de novo on July 2021. This patient visited a rural hospital emergency department three months later after presenting a fifteen-minute-generalized clonic-tonic seizures witnessed by a relative which was treated with levetiracetam 100 mg and lorazepam 2 gr administered intravenously, without no new episodes during evaluation. Subsequently, due to inaccessible neurologist services at that center the patient was referred to our hospital with the diagnosis of unspecified seizures. Upon arrival to our institution, patient had no sign of meningism or trauma and his physical examination of cardiovascular, respiratory, and gastrointestinal system was unremarkable. Patient was admitted into intensive care unit and managed with anticonvulsive therapy and aggressive hydration. Preceding reports of renal panel and laboratory markers prior to admission were found within normal values. Within hospitalization patient presented a second seizure episode that was sUniversidad Central del Caribe, Bayamonessfully controlled after increasing the dose of levetiracetam to 750 mg intravenously. At that point, his laboratories were remarkable for an increased serum creatinine of 6.32mg per dl, a glomerular filtration rate of 10, and a fractional excretion of sodium showed of 3.7%, reason why the diagnosis of intrinsic acute kidney injury stage 3 was made. Likewise, as part of renal injury protocol a serum creatine phosphokinase was obtained reporting a maximum value of 1451 units per liter discarding the possibility of a rhabdomyolysis as the main cause of renal failure. Furthermore, urinalysis exhibited the presence of uric acid crystals which guided us to evaluate serum uric acid levels, confirming its elevated value; which normally, metabolic pathway prevents its toxic accumulation and seventy five percent of it is excreted in the kidneys daily. This rare and unique way of presentation of acute urate nephropathy warrant medical awareness and can be suspected in patients who develop uric acid crystals in the urine sediment where there are no other explainable causes of the acute kidney injury. The increase levels of uric acid, provoked by muscle injury produces a metabolic acidosis that precipitates uric acid and makes it less soluble in the renal collecting duct causing its deposition in the tubular lumen. This case highlights the importance of clinical index of suspicion needed to manage this condition. Specific guidelines to treat this presentation and classification of degree of severity of nephropathy has been not reported as of today.

CV-71

A not so common cause of pleural effusions/SOB: Pulmonary Actinomycosis.

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Introduction: Pulmonary actinomycosis is a rare respiratory infection. It is caused by Actinomyces spp., a gram-positive bacteria that usually is found in the mouth and gastrointestinal tract. Infections are commonly associated to poor dental hygiene and dental abscesses. Actinomycosis with lung involvement is even rarer and often leads to misdiagnosis. Here we present a case of an 85-year-old male patient with Pulmonary actinomycosis diagnosed via bronchoscopy with bronchial washes. *Case description:* This is the case of an 85-year-old male patient with past medical history of diabetes mellitus type 2, hypertension, high-grade large B-Cell lymphoma, liver cirrhosis, and chronic interstitial lung disease who presented to the emergency department due to progressive shortness of breath. Denied fever, chills, or other systemic symptoms. Physical examination remarkable for decreased breath sounds at right apex and poor dentition. Initial chest X-Ray with right hemithorax pleural thickening and loculated pleural fluid. Chest CT with IV contrast showed progressive volume loss of the right hemithorax with associated ipsilateral mediastinal shifting and right apex peripheral loculated pleural effusion with pleural thickening. Pneumology service consulted for evaluation. Bronchoscopy was performed to evaluate the etiology of imaging findings. Diagnostic bronchoscopy was performed by Pneumology service and was remarkable for, right mainstem bronchus, upper and middle lobe bronchial mucosa with erythema, edema, and friable. Abundant thick foamy mucous secretions observed. Bronchial washing, BAL (bronchoalveolar lavage), cytology, and microbiology were obtained. BAL (bronchoalveolar lavage) and bronchial washing from the right lung consistent with an inflammatory/infectious process. Acid Fast Stain negative but Periodic Acid-Schiff (PAS) stain with abundant filamentous bacteria morphologically consistent with Actinomyces spp. Patient was started on Amoxicillin as per ID service recommendations with a length of therapy of 6-12 months. *Discussion:* As previously mentioned, pulmonary actinomycosis is very rare and often leads to misdiagnosis of pulmonary tuberculosis or malignancy. It might present initially with common respiratory complaints, for which extensive history and physical examination are important to suspect it (for appropriate diagnosis). Although rare, it should be in the differential diagnoses when a patient with poor dental hygiene and pulmonary shadowing on imaging presents for our evaluation. A high level of suspicion is needed for early diagnosis, as failing to arrive at a diagnosis could limit treatment modalities.

CV-72

The Cancer Mimicker: A Rare Case of IgG4-Related Disease with Bone Marrow Involvement

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Introduction: IgG4-Related Disease (IgG4-RD) is an auto-immune fibroinflammatory disease that can affect many organs including pancreas, salivary glands, thyroid gland, lungs, kidneys, among others. Its incidence is unknown, and symptoms are mostly dictated by the type of organ affected. Common presentations include auto-immune pancreatitis, sclerosing cholangitis, retroperitoneal fibrosis, major saliVary gland enlargement, and orbital disease. Diagnosis requires serological data, radiology studies, and pathology results. We herein present a case of IgG4-RD with history of multiple pancreatitis episodes with pancreatic cyst, lymphadenopathy, systemic manifestations, and bone marrow involvement with leukocytosis. *Case Description:* A 79-year-old man came to the ED with history with unintentional weight loss for 2 months, poor oral intake, and abdominal discomfort for 2 weeks. He had a left incarcerated inguinal hernia repair less than 1 month ago. He reported having nausea, vomiting, and chills. Found with fever and tachycardia. Physical exam was unremarkable and left inguinal scar was healed without signs of infection. Laboratories with leukocytosis and low albumin/total protein ratio. CT scan of the abdomen with thickening of the small bowel, multiple enlarged groin, peripancreatic, and mesenteric lymph nodes, and 2 right sided complex cysts on pancreas with hemorrhagic fluid. He was started on antibiotics, but leukocytosis and systemic symptoms (fever, tachycardia) persisted. Labs: negative cultures, decreased C3 & C4, increased ESR & CRP; rheumatologic & infectious workup negative; SPEP with monoclonal gammopathy with elevated IgG4 levels. MRI without pathognomonic features of pancreatic CA. PET/CT was consistent with an hypermetabolic lesion in pancreas head, surrounding lymph nodes, and bone marrow. Bone marrow biopsy was interpreted as a plasma cell proliferative disorder with 20-25% of IgG4+ plasma cells. Joint Pathology Center second opinion indicated that there was no evidence of a lymphoproliferative disorder, plasma cell neoplasm, or metastases. As clinical and radiographic picture is compatible with IgG4-RD, then it is suggested that bone marrow features might be secondary to it. Hence, patient met criteria for IgG4-RD with bone marrow involvement. Patient with persistent but stable symptoms for which is been followed by Hematology/Oncology clinics, but has not yet started treatment. *Discussion:* IgG4-RD manifest sub-acutely and without systemic symptoms. To our knowledge, very few reports of IgG4-RD with systemic manifestations and even less with bone marrow involvement are reported in medical literature. Furthermore, pancytopenia is usually present due to the fibrotic nature of this disease and in this case leukocytosis was present, making it even more unique. This case presents a not so common presentation of IgG4-RD that clinicians should be aware of. Initial recognition and subsequent follow up is needed to avoid other common manifestations such as kidney, thyroid, and salivary gland involvement.

CV-73

Clinical Case of Mesenteric Ischemia in A Young Patient with Diabetes Mellitus Type I.

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Case of a 28 years old male patient with a past medical history of diabetes mellitus type I and hypertension, NKDA, who came to our Institution's Emergency Department due to epigastric pain of five days of evolution. The patient states that he had been recently been seen and discharged at another Emergency Department for the same symptoms, but there was no resolution to his ailment. The patient described the pain as sharp, 6/10 in pain scale that radiated to bilateral flank area. Patient reported that he took NSAID's without improvement. He further reported associated symptoms of polydipsia, dizziness, and fatigue. Patient denied chest pain, nausea, vomiting, diarrhea, urinary changes, fever, or chills. The patient was admitted to our Institution due to intractable abdominal pain, dehydration, and uncontrolled diabetes mellitus. Laboratories were reviewed and were noted for anemia and elevated lactate levels, with negative serum ketones and no anion gap ruling out diabetic ketoacidosis. Patient continued to have persistent elevated lactate levels despite adequate fluid resuscitation and without evidence of infection, for which a diagnosis of acute mesenteric ischemia was suspected. Due to increased lactate, diffuse abdominal pain, and high suspicion of mesenteric ischemia, the patient underwent abdominal aortogram, celiac, and superior mesenteric artery arteriogram. During the procedure, it was found that there was a marked decreased caliber of the distal branches of the superior mesenteric artery, which were compatible with non-occlusive mesenteric ischemia. Patient then received two, intra-arterial infusions of 30 mg of Papaverine which resulted in clinical improvement within 1-day post-intervention. This case is an example of how acute mesenteric ischemia can present in younger patients that have diabetes mellitus and can aid in educating medical professionals in being vigilant with younger patients that present with similar symptoms and similar patient history. Furthermore, this case can reinforce the importance of having acute mesenteric ischemia as a differential diagnosis within these patients.

CV-74

The Perfect Storm: An Immunocompromised Patient with Miliary Tuberculosis and John Cunningham Virus

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Immunocompromised patients are prone to have severe infectious complications that can present as diagnostic and therapeutic challenges. Miliary tuberculosis is a potentially fatal form of the disseminated disease due to hematogenous spread of tubercle bacilli to the lungs, and other organs. Progressive multifocal encephalopathy is also a fatal demyelinating disease of the central nervous system caused by the lytic infection of oligodendrocytes by a human polyomavirus JC virus. We herein present a case of a kidney transplant patient found with two serious and rare infections at the same time. A 77-year-old man with a living donor kidney transplant in 2005(on Tacrolimus and Mycophenolate Mofetil), diabetes mellitus type 2, and hypertension had progressive general weakness and episodes of disorientation for 2 weeks. He also had chills, recurrent visits for community acquired pneumonia and 40lbs weight loss for 3 months. Imaging showed diffuse bilateral miliary nodules, a calcified right basilar granuloma and bilateral lower lobe cylindrical bronchiectasis. Acid-fast bacilli smear in sputum and in bronchoalveolar lavage were negative. Tuberculin skin test at the time of transplant was also negative. He developed altered mental status, seizures, and hypoxemic respiratory failure for which he had to be transferred to the ICU on mechanical ventilation. A nucleic acid amplification test from endotracheal aspirate was positive for Mycobacterium tuberculosis. Interferon-gamma release assay was found positive nine days after admission. Patient was started on treatment with Rifampin, Isoniazid, Pyrazinamide and Ethambutol. Electroencephalograms were concerning for diffuse encephalopathy and head CT angiograms showed findings related to demyelinating process. A lumbar puncture smear was negative for AFB but positive for John Cunningham virus (JC virus) causing progressive multifocal leukoencephalopathy (PML). Immunosuppressive therapy was stopped to decrease progression of demyelination and multiple antiepileptics were required to control seizures. There was partial response to treatment, but he continued with seizures and was later complicated with ventilator associated pneumonia. Unfortunately, he passed away 42 days after admission due to multiorgan failure. The rate of PML in solid organ transplanted (SOT) patients is unknown but studies suggest a calculated incidence rate of 1.2 cases per 1000 person years. The incidence of miliary TB in SOT is unknown, but in one study the incidence of TB was of 512 cases per 100,000 patients per year. Upon literature review, this is the first reported case of a patient with a SOT found with miliary tuberculosis and PML. This case highlights that an immunocompromised patient could present with more than one infectious process at the same time. Our patient sadly presented at an advanced clinical state and did not respond to available treatments. Clinicians should have a low threshold to obtain an infectious workup for these patients.

CV-75

Mandibular Aggressive Angiomyxoma, an extremely rare entity.

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Aggressive angiomyxoma is an exceedingly rare neoplasm usually arising in vulvar, perineal or pelvic region in women, with associated hormonal stimulation mostly estrogen and progesterone. Aggressive angiomyxoma of the oral cavity has been scarcely reported, making this diagnosis particularly challenging as it can be confused with other soft tissue tumors, even when tissue biopsies have been done. These tumors are described as aggressive because of their tendency to recur despite total excision. A 57-year old Hispanic female, who had been recently discharged from the hospital after a cerebrovascular accident with residual hemiplegia of the left side, was admitted for an excisional biopsy as during the previous hospitalization she was found to have a right anterior mandibular mass. As the patient underwent two separate incisional biopsies while outpatient with non-diagnostic results, a decision was made to perform a partial excisional biopsy in the operating room. The patient reported she noted a growing bump-like lesion on the floor of the mouth that started to grow 2 years prior to her admission at the hospital. However, she denied weight loss, night sweats, fever or any other constitutional symptoms. She also denied family history of malignancy. The physical exam was remarkable for a right anterior mandibular friable exophytic and ulcerative mass involving the gingival mucosa of the mandible and displacing adjacent teeth, with associated blood oozing. Maxillofacial CT showed an heterogeneously enhancing mass, arising from the gingival soft tissue of the right maxillary region, measuring approximately 5.3 x 3.2 x 5.3cm with associated osseous remodeling of the right mandibular body. The second biopsy which had been done while outpatient demonstrated findings concerning for actinomyces for which the patient was started on ceftriaxone. However, the third and final biopsy returned negative, and revealed the final diagnosis of an aggressive angiomyxoma. The pathology report revealed no presence of estrogen or progesterone receptors; therefore, the patient could not benefit from estrogen or progesterone targeted antagonistic therapy. Hematology/Oncology service evaluated the patient and determined complete excision to be the definitive treatment, despite high possibility recurrence, as radiation and chemotherapy is only used in rare cases as proliferation and division of tumor cells are not significant, limiting response to these therapies. This patient's presentation highlights how challenging it can be to diagnose aggressive angiomyxoma of the mandible as it is exceedingly rare in this location. Misdiagnosis could lead to an unnecessary burden of treatments leading to invasive and non-necessary interventions. It also brings attention to the importance of performing repeated tissue biopsies to achieve a definitive final diagnosis when clinical correlation does not fit pathologic results.

CV-76

Erythema is not always cellulitis or DVT: A compartment syndrome secondary to calcinosis universalis

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Calcinosis universalis, considered a diffuse form of calcinosis cutis, is a symmetrical skin calcification associated with inflammatory disorders of connective tissue such as Scleroderma and Dermatomyositis. Compartment syndrome as a complication is an unexpected presentation that should be noted for prompt intervention due to high morbidity. A 27-year-old woman with juvenile dermatomyositis, scleroderma, and multiple calcinosis cutis who has become intermittently infected presented to the emergency department due to sudden onset of right arm pain one day before arrival with warmth and erythema. She developed edema at the same extremity, which progressed rapidly to limit the movement of the fingers, wrist, and elbow. The pain was unresponsive to opioids at home. Additionally, the patient indicated unquantified fever, headaches, night sweats, and chills. At the time of arrival, the working diagnosis was deep vein thrombosis vs. cellulitis of the right upper extremity, but due to rapid progression, the General Surgery service was consulted due to concern of compartment syndrome. Physical examination was remarkable for tense and not depressible forearm compartments. Palpable radial and ulnar pulses, however, decreased capillary refill. Tenderness and mottling throughout were noticed, with limited active and passive ROM. Upper extremity X-rays were remarkable for extensive soft tissue calcifications, as seen with calcinosis universalis—no fracture, dislocation, or bone destruction. Acute compartment syndrome was diagnosed clinically, and the patient underwent fasciotomy with an improvement of local and systemic symptoms. Upper extremity MRI with gadolinium ruled out osteomyelitis or pyomyositis but showed soft tissue inflammation. It is known that calcinosis can ulcerate and get infected, disrupting skin integrity and provoking inflammation until progression to compartment syndrome, particularly in the context of calcinosis universalis secondary to connective tissue disorders such as dermatomyositis and overlapping scleroderma. This case illustrates the need for high clinical suspicion for acute compartment syndrome with atypical presentations due to unexpected etiologies such as calcinosis universalis in patients with connective tissue disorders. Without prompt intervention, the morbidity burden is very high, including possible limb amputation with subsequent diminished quality of life for our patients.

RESEARCH ABSTRACTS

RS-1

Extraintestinal manifestations in Puerto Ricans patients with IBD: Challenges in the Primary Care Landscape

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Introduction: Inflammatory Bowel Disease (IBD) is associated with various extraintestinal manifestations (EIMs) presenting in 24-40% of IBD patients in the United States (US). EIMs mostly involve the musculoskeletal system, kidneys, skin, hepatobiliary system, and eyes. Because EIMs can appear before IBD onset or during periods of remission as well as during active disease, patients may consult their primary physicians when they first manifest. We aim to describe the presence of EIMs in Hispanics with IBD in Puerto Rico and raise awareness of the role of the primary physician in the early diagnosis of systemic manifestations of IBD. *Methods:* The Registry of IBD, a demographic and medical database, has been recruiting patients since 1995. We describe demographics, frequency of IBD diagnosis, disease duration, complications of drug toxicity, osteoporosis, malnutrition, and EIMs. Descriptive statistics included frequency, median, mean, and standard deviation. Intellectus Statistics was used for comparative analysis using the Chi-square test of independence. The study is approved by the MSC-IRB. *Results:* Of 1,399 participants, 386 (27.6%) reported having an EIM. Of these, 18.7% presented more than one (n=72). The prevalence of EIM among ulcerative colitis (UC) patients was 29.1%, and for Crohn's disease (CD) patients, 26.6%. EIMs were more frequent in females (32.5% $p<0.001$) and those widowed/divorced (35.5% $p<0.001$). Mean age of participants with an EIM was 38.4 + 15 years old ($p<0.001$), the mean age of diagnosis was 30.8 + 14 years old ($p=0.028$), and the mean disease duration was 7.63 + 7.85 yrs ($p<0.001$). When categorized by type of onset (Adult/Elderly/Pediatric), 79.3% with EIM were adult onset; however, there were no statistical differences between groups. The presence of complications was significantly associated with EIMs ($p<0.001$). The most common EIM was joint manifestations (48.4%), followed by skin (19.7%), hepatobiliary (16.1%), renal (12.5%), and eye manifestations (11.7%). There were no statistical differences between patients with two or more EIMs compared to patients with only one EIM. *Conclusion:* The prevalence of EIMs was similar to that reported in the US, arthropathy being the most common. Age >40 and longer disease duration were associated with greater EIM prevalence. Patients will frequently consult the primary physician for non-gastrointestinal symptoms and diagnosing an EIM may be challenging. The diagnostic considerations in patients with IBD complaining of joint pain must include IBD arthropathy in addition to other more common causes such as osteoarthritis, especially in the older population, as avoidance of nonsteroidal anti-inflammatory drugs in these patients is important. Vigilance for uncommon EIMs will aid the early diagnosis of active IBD and the proper management of the EIM.

RS-2

Altered DNA methylation dynamics in therapy-resistant prostate cancer cells

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Background: More than 268,000 men will die from prostate cancer (PCa) this year in the United States. Early detection of PCa is critical for clinical management, as advanced or recurrent disease is incurable. The development of drug resistance in advanced PCa is a major barrier to the elimination of the disease in patients. The advent of precision medicine for PCa underscores the need for biomarker panels to facilitate risk stratification to identify aggressive disease and estimate treatment response. Epigenetic profiling, including global DNA methylation assessment, has been made possible through commercial high-throughput arrays that are currently being evaluated for clinical use. This study was designed to test the hypothesis that DNA methylation patterns provide insights regarding drug response, yielding potential epigenetic biomarkers for evaluation as precision medicine tools for PCa. *Methods:* Castration-resistant (androgen-depleted; CR) LNCaP cells, enzalutamide-resistant (EnzR) LNCaP and 22rv1 cells, and docetaxel-resistant (DR) 22rv1, PC3 and DU145 cells were generated through chronic incrementally-increasing fractions of androgen-depleted medium or doses of drugs until >95% viability was reached at the initial IC50 dose. Resistant phenotypes were validated using viability assays using dose-response curves and protein expression of established resistance-associated markers including glucocorticoid receptor (GR) and multidrug resistance protein (MDR1). DNA methylation enzyme (DNMT) expression was evaluated by immunoblotting. DNA isolation from sensitive and resistant PCa cells was performed using the QIAamp DNA extraction kit (Qiagen). DNA methylation analysis was performed using the Illumina EPIC 850K array at Moffitt Cancer Center (Park lab), and differentially methylated genes were identified. *Results:* Viability data indicate successful selection of cells resistant to 50uM enzalutamide or 10nM docetaxel. Resistance-associated GR and MDR1 expression was used to further validate a resistance phenotype. DNMT1 expression was elevated in CR, EnzR and DR phenotypes, but no difference was detected in DNMT3a or DNMT3b levels. DNA methylation profiling identified significant differentially methylated genes in CR (447), EnzR (43), and DR (102) PCa cells compared to sensitive cells. Cross-referencing these genes with existing datasets (Park lab) from aggressive prostate tumors yielded several genes that overlapped with those from therapy-resistance: RNF220, ERBB4, TENM3, SPOCK1, KIAA1908 and DGKH were associated with a CR phenotype; SPOCK1 and TGFB1 were associated with EnzR cells; and ERBB4, TENM3, and FAM65B were associated with a chemoresistant phenotype. Further work is warranted to ascertain possible mechanisms by which these changes contribute to the development of therapy resistance, and whether they have clinical prognostic/predictive significance for patients with PCa. *Conclusions:* This cell-based approach identified candidate epigenetic biomarker panels associated with resistance to standard medical interventions for PCa, including androgen depletion, enzalutamide, and taxane-based chemotherapy, yielded several candidate biomarker methylation events. Ongoing studies are evaluating DNA methylation profiles of ethnically-diverse populations to determine the translatability of these findings.

RS-3

Association of Gut Microbiome with Diabetes Mellitus and Cognitive Impairment in a Puerto Rican Adult Population: A Preliminary

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Alzheimer's disease (AD) is the most common cause of dementia, consisting of a highly debilitating disorder progressing from slight memory impairments to a complete loss of mental function, resulting in significant disability and death. In Puerto Rico, AD is the fourth leading cause of death, with a mortality rate of 32.4/per 100,000, higher than that observed in the United States at 20.9/per 100,000. Evidence suggests that the gut microbiome plays a role in the pathophysiology of AD through neuroinflammation and amyloid deposition leading to cognitive impairment. We present the preliminary results of an ongoing study at the Medical Sciences Campus. Our main objective is to study the fecal microbiome composition and diversity of Puerto Ricans with AD compared to unimpaired cognitive controls. Fifty-three participants, 28 with AD and 25 controls were evaluated clinically and cognitively with the Montreal Cognitive Assessment (MoCA) to associate the gut microbiome with cognitive impairment. A fecal sample per patient was collected for genomic DNA extractions. NextGen Illumina MiSeq was used to sequence 16S rRNA genes (V4 region) and analyzed with standard pipelines. Demographic data and chronic disease history were assessed, diabetes being a prevalent one with 34% rate. Diabetes Mellitus is nowadays considered a risk factor for AD. Preliminary analyses showed no statistically significant differences in bacterial diversity and richness between Alzheimer's patients and controls. However, there were slight differences in composition, including an abundance of Euryachaeota, Actinobacteria, and Verrucomicrobia in AD, while controls had higher levels of Bacteroidetes. We found significant differences in alpha diversity with cognitive decline ($p=0.02$) with evidence of less diversity with decreasing scores in MoCA. Reduction of Roseburia in participants with severe cognitive impairment. We evaluated the association of the microbiome with diabetic status of participants and found that participants with diabetes have moderately lower gut microbial diversity. We also found a decrease in Bacteroidetes and Actinobacteria in these patients. Both cognitive impairment and diabetes seem to reduce butyrate producing bacteria. To our knowledge, this is the first study in Puerto Rico comparing a chronic degenerative disease seen in the aging population with the gut microbiota. This developing study area may open the possibility for preventive microbiome-based therapies that could result in a clinical benefit for patients with and without AD. This research was supported by the NIH National Institute of General Medical Sciences under grant numbers 1U54GM133807 and P20GM103475.

RS-4

Rate Control vs. Early Rhythm Control in A-fib de Novo: The Effect in Length of Stay and Readmission.

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Introduction: Atrial fibrillation(AF) is the most treated cardiac arrhythmia. The prevalence increases with age, and it is estimated to affect over 4% of the population above the age of 60. It is estimated that 12.1 million people in the United States will have AF in 2030. AF is generally associated with an irregularly irregular ventricular rhythm and absence of distinct P waves. Complications of AF include risk of thromboembolism and risk of heart failure. Hypertension and coronary heart disease are the most common underlying disorders. Initiation and maintenance of AF reflect electrophysiologic alterations in atrial myocardium. For decades the preferred choice of treatment has been rate control. During the last years several trials has been presented the option of cardiac ablation as the initial choice of therapy for Atrial Fibrillation most commonly for Atrial Fibrillation de novo. *Methods:* This is a retrospective and cross-sectional study of 151 patients with the diagnosis of Atrial Fibrillation de novo at Mayaguez Medical Center, Puerto Rico, between January 2021 to March 2022. We reviewed the electronic records of those patients to analyze the option of initial treatment and the decision to consult cardiac electrophysiologist vs clinical cardiologist. A comparison between rate, rhythm and cardiac ablation as initial treatment was performed. In addition, the age, sex, and comorbidities were collected. *Results:* This study showed that, in admitted population with the diagnosis of Atrial Fibrillation de novo at Mayaguez Medical Center during January 2021 to March 2022, the preferred initial choice of treatment was rate control. Most of the population were female above 65 years old. The most common comorbidities were diabetes mellitus, hypertension and coronary artery disease. A 75% of patients were consulted with clinical cardiologist and only 25% were consulted with electrophysiology. The choice of treatment for electrophysiologist was cardiac ablation and rate control for the clinical cardiologist. Based on the data, 68% of patients treated with ablation had a length of stay below 6 days vs 32% in the rate control group. Also, proportionally the group treated with cardiac ablation had less risk for readmission in comparisson with the other options of treatment. As expected with previous results the patients that were consulted with electrophysiologist had a short length of stay in comparison and less risk of readmission in comparison with the patient consulted with clinical cardiologist. *Conclusion:* Individuals despite the age or gender admitted with the diagnosis of atrial fibrillation de novo treated with cardiac ablation as initial therapy had a length of stay below 6 days and less risk of readmissions in comparison with other types of treatment. Patient consulted with electrophysiologist had better outcomes. In the long term our study suggests that cardiac ablation is a better asset cost effectively.

RS-5

Do we really use that Trough?

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Approximately 72,000 people acquire MRSA infections in the USA and around 70% of those infections are either hospital acquired or healthcare associated. To optimize vancomycin use for the treatment of serious infections caused by MRSA, 2020 ASHP guidelines recommend monitoring for patients with unstable renal function and those receiving prolonged courses of therapy (more than three to five days). The preferred approach to monitor AUC involves the use of Bayesian software programs, embedded with a PK model based on richly sampled vancomycin data as the Bayesian prior, to optimize the delivery of vancomycin based on the collection of one or two vancomycin concentrations, with at least one trough. As such, a quality improvement initiative was undertaken to assess the rate of patients who are 1) prescribed Vancomycin; 2) are ordered Vancomycin trough levels on admission and 3) are ordered Vancomycin trough levels 2 days after admission or just before 4th dose. The end goal was to provide clinicians with the appropriate trough monitoring and improve treatment goals accordingly. To achieve these goals, we gathered data in a descriptive, prospective cohort of patients who were prescribed vancomycin and were admitted by the Internal Medicine (IM) service during a 30 day period at a small private community based hospital. Data was collected from the Electronic Medical Record (EMR). We calculated 1) the mean number of patients who are prescribed vancomycin on admission and are ordered vancomycin trough levels on admission during data collection period, 2) mean number of patients who are ordered vancomycin trough levels 2 days after being admitted and 3) mean number of patients who were not ordered vancomycin trough on admission during data collection period. Of the IM admissions, 21% of patients were prescribed vancomycin on admission. Of those, less than half were sent trough levels on admission. Those patients who did not have trough levels ordered at admission, they were ordered on average 3.5 days after admission. Of special note, 25 % of patients who were prescribed Vancomycin were never ordered trough levels. The following interventions were recommended to the IT department to be presented before the hospital committee overseeing EMR changes: to establish a reflex order set within the EMR for physicians ordering Vancomycin with Vancomycin trough level taken 48 hours in the future with nursing instructions: “take sample just before 4th dose”. Following implementation of the order set, we proposed that a follow up quality improvement initiative assess the rate of Vancomycin trough ordered for patients on Vancomycin. Guidelines information and implementation information were presented to the IT department for committee review to develop a plan to implement Bayesian AUC guided vancomycin dosing in order to decrease morbidity and prevent life-threatening complications from inadequate Vancomycin dosing.

RS-6

Prevalence of ARDS and Outcomes in a Hospitalized Population with a Diagnosis of Covid-19 Pneumonia

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Introduction: Severe acute respiratory syndrome coronavirus 2 is known to cause coronavirus disease 2019 (COVID-19). COVID-19 has been well described to present a wide variety of respiratory complications that range from self-limiting upper respiratory tract infection to the life-threatening form of severe acute respiratory failure in the form of acute respiratory distress syndrome (ARDS) from underlying pneumonia. Nevertheless, the prevalence of ARDS, specifically among COVID-19 Pneumonia patients, is currently unknown in Puerto Rico. Therefore, this study aimed to evaluate the prevalence of ARDS among patients hospitalized with COVID-19 Pneumonia as well as to characterize clinical outcomes. *Methods*: This is a retrospective and cross-sectional study of 185 patients with the diagnosis of Covid-19 Pneumonia at Mayaguez Medical Center, Puerto Rico, between January 2021 to December 2021. We reviewed the electronic records of those patients with a laboratory-confirmed COVID-19 PCR test. In addition, the age, sex, comorbidities, vaccination status, PaO2/FiO2 ratio, and outcome of each patient were collected. Eventually, for those patients with ARDS, the diagnosis was confirmed following Berlin Criteria for ARDS. *Results*: This study showed that in hospitalized population with the diagnosis of Covid-19 Pneumonia at Mayaguez Medical Center from January 2021 to December 2021, had an ARDS prevalence of 16%. COVID-19 patients with ARDS were detected in about 21% of hospitalized older adults (age group: above 65 years) and 12% of youngest adults (age group: 21-64 years). Patients diagnosed with ARDS were statistically significantly older than the ones without the diagnosis ($p=0.012$). Among those, 48% were female and 52% were male. As well, 66% had severe ARDS, 21% had moderate ARDS and 13% had mild ARDS. The most common comorbidities were hypertension, diabetes mellitus type 2, and dyslipidemia. Regarding vaccine status, 28% of those with ARDS were vaccinated with a least one dose of a COVID-19 vaccine. The mortality rate among these patients was 30%. Patients with ARDS and COVID-19 Pneumonia had an increased risk of dying of 14.29 (5.37 - 37.96), $p<0.001$. The analysis revealed that about 67% of young ARDS patients and 88% of older ARDS patients died. *Conclusion*: Unvaccinated patients, individuals over 65 years of age, males, as well as those with at least two comorbidities, had higher odds of developing COVID-19-associated ARDS. Furthermore, those in-hospital COVID-19 patients who developed ARDS had higher odds of a fatal outcome. This confirms ARDS as a serious complication of COVID-19 infection.

RS-7

Improving Documentation and Recognition of Sexual and Gender Identity of Patient Admitted to University District Hospital

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Introduction: The ACP recognizes that reducing health disparities in the LGBTTQI+ population will take concerted efforts by those in the medical community and society. Training future physicians to be culturally and clinically competent in LGBTTQI+ health care, working with practicing physicians to increase their understanding of the LGBTTQI+ population and their health needs, advocating for practical health policies supported by empirical research, and working to eliminate laws that discriminate against the LGBTTQI+ community and their families are all essential steps to reduce and ultimately eliminate the health disparities experienced by the LGBTTQI+ community. Our goal was to implement a standardized form on the electronic medical records (EMR) where we can document aspects of gender identity, sexual health, and orientation and to raise awareness among resident physicians and health care professionals on the different gender identities, how to ask and report the information of these questions. *Methods:* In the admission interview, patients admitted to the University District Hospital (UDH) were asked questions similar to those implemented at The University of California, Davis Health System (UCDHS). The questions were: "What is your gender identity?", "What gender were you assigned at birth?" and "How do you identify your sexual orientation?". During the project's first phase, a questionnaire was administered to first- and second-year internal medicine (IM) residents to assess their knowledge of gender disparity and the frequency in which they asked the above questions. Then, education was provided to healthcare personnel and residents at UDH regarding the benefits of decreased gender disparities and how to administer the proposed questions at the time of admission correctly. Gender identity questions were incorporated into our institution's EMR and made a required field to increase compliance. Finally, after implementing the educational activities and the questions in the EMR, a survey was administered to IM residents, and data was analyzed. *Results:* Before implementing the three questions to the EMR, 18.2% of the participants reported asking their patients these gender-specific questions. After implementing the questions and providing the educational activity, 28.57% of these participants reported addressing these gender questions with their patients. *Conclusion*: Results showed a significant increase in the use and discussion of these gender-specific questions with patients. Improving the documentation and discussion of this information is expected to increase awareness and subsequently improve the provision of care to this population. Therefore, expansion of this initiative is recommended to improve knowledge and appropriate management of the health conditions affecting this vulnerable population.

RS-8

Symptomatology Assessment Following COVID-19 Vaccination: An Analysis of Puerto Ricans with Pre-existing MSK & RHU Comorbidities

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Given the swift introduction of vaccines to counteract the COVID-19 pandemic, scarce information is known regarding their adverse reactions. Musculoskeletal and rheumatic symptomatology has been an unwanted effect after vaccination. In this study, we aimed to assess musculoskeletal afflictions after COVID-19 vaccination in a Puerto Rican population. An online questionnaire assessing musculoskeletal and rheumatic variables pertaining to post-COVID-19 vaccination was provided to participants via QR code. Participants were recruited at the Universidad Central del Caribe Vaccination Clinics, and via social media distribution between July 2021 and October 2021. Descriptive analysis was performed to assess quantitative variables. This study is approved by the UCC IRB. In a survey of 247 participants, 143 identified as female and 104 as male. Ages ranged from: 21-30 (42.1%), 31-60 (34.4%), 61+ (23.5%). 22.4% of participants had joint pain at least 3-4 days after vaccination, while 77.6% did not experience any pain. Of these 247 participants, 9.7% had a preexisting musculoskeletal/rheumatic condition and experienced post-vaccination pain, 23.8% had a preexisting conditions yet no post-vaccination pain, 12.6% had no preexisting conditions but experienced post-vaccination pain, while 53.4% experienced neither. There was no statistical significance regarding musculoskeletal and rheumatic pain after vaccination between participants with preexisting musculoskeletal/rheumatic conditions and those without preexisting conditions ($p=0.07813$). A notable percentage of the study population experienced musculoskeletal and rheumatic adverse effects after COVID-19 vaccine administration. However, when assessing patients with musculoskeletal and rheumatic afflictions and those without before the COVID-19 vaccine administration, a similar proportion in each group experienced musculoskeletal and rheumatic adverse reactions, demonstrating no statistical difference. Data may reveal tendencies pertinent to a Puerto Rican cohort, useful for vaccination administration guidelines and local public health matters.

RS-9

Assessing Parents' and Guardians' perceived trustworthiness regarding Pediatric COVID-19 Vaccine information

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Introduction: Novel vaccines were developed to protect the pediatric population from COVID-19 and its unprecedented consequences. Nevertheless, societal impressions and demands have had a significant impact when considering the administration of the vaccine. This study aims to understand several factors that may have driven parents and guardians to vaccinate their children against COVID-19; whether it was because the schools require the vaccine, whether the vaccine is considered as a step to go back to "reality", or they trust the effectiveness of the vaccine, amongst many other factors. We plan to explore the main reasons why parents and guardians opted in favor or against for their children to receive the vaccine against COVID-19. *Methods*: This data are based on 81 participants from the Northern area of Puerto Rico that answered a questionnaire based on their perspectives on the approval or denial of the administration of COVID-19 vaccines for their children. Among the questions, perceived trustworthiness of vaccine information was assessed. This questionnaire was answered by the participants before the latest approval of the vaccine for the ages of 5 and older. This study is IRB approved. *Results*: According to the data, 67% were parents of children younger than 12 years old, while 33% were 12 years old or older. Furthermore, 81% of the responders were mothers, 17% were fathers, and 2% identified as "Other." Evaluating the inquiry stating that the information provided about the vaccine against COVID-19 was trustworthy 19% of the participants completely agreed with this premise, 42% of the participants answered that they agreed, yielding an approximate total of 61% that trust the information provided about the COVID-19 vaccine. However, 26% neither agreed nor disagreed; while 10% disagreed with the premise, and 4% completely disagreed. Upon addressing the possibility of vaccinating their child against COVID-19, 64% responded in favor of vaccinating their child. In contrast, 21% answered that they would not vaccinate their child, while 15% remained unsure whether they would vaccinate their child or not. *Conclusion*: When analyzing the data, there seems to be a general agreement that parents and guardians consider the information supporting the Pediatric Vaccine against COVID-19 as trustworthy, which influenced in their decision to vaccinate their child. These results can further enhance vaccination rate, by reaching out to parents in a comparable way and providing trustworthy information that may increase vaccination rates in this population.

RS-10

Transition of care from the inpatient to the outpatient setting

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The transition of care (ToC) from the inpatient to outpatient setting begins with a patient's admission to a hospital and ends when the patient is received in the ambulatory setting. The team for a successful ToC includes the patient, their caregivers, the discharge planning team, and the primary care physician (PCP). An effective ToC improves the quality of care and decreases hospital readmissions and costs. For instance, $15 billion of the $814 billion spent in hospital care in the USA in 2010 went to hospital readmissions within 30 days post-discharge in Medicare fee-for-service patients. Having adequate follow-up by a PCP that received a discharge summary decreases the risk of readmission. Unfortunately, the University District Hospital of Puerto Rico (UDH) has no standardized protocol for adequate ToC. Thus, we developed a quality improvement project to establish a protocol to contact the PCP of admitted patients and deliver the discharge summary as part of the discharge planning process to improve ToC from the inpatient to the outpatient setting in UDH. We intended to select 50 patients admitted to the internal medicine ward at the UDH and contact their PCP to notify the admission, determine a method to deliver the discharge summary, and establish follow-up. After at least four weeks, participants were called to fill out a questionnaire to evaluate the follow-up with the PCP, compliance with recommendations upon discharge, and readmission at 30 days post-discharge. Of the 37 patients included in the study, the discharge planning personnel were able to contact 28% of the PCP. The questionnaire administered to the 37 patients revealed that 62% had a follow-up with PCP within 1-2 weeks after discharge, and 62% of patients reported that their PCP had access to the discharge summary. However, only 13% of discharge summaries were sent by the discharge planning personnel following our protocol. Of the 62% of patients who had a follow-up with PCP, 74% did not have readmission, and 26% were readmitted. Of the 38% of patients without follow-up, 64% did not have readmission, and 36% were readmitted. This study revealed that there is no official up-to-date database of PCP contact information in our health care system. Different electronic medical records further limit the lack of communication between healthcare professionals. There is no standardized method of communication between physicians and patients. In addition, it was challenging to integrate the administrative personnel of our institution to establish a ToC protocol. Further studies are needed to standardize the discharge summary documentation and the communication between physicians to improve outpatient follow-up and preventive medical care. Our study revealed that the only tertiary hospital in Puerto Rico has multiple barriers impeding a proper ToC, affecting the care we provide to our patients.

RS-11

Preventing Aspiration Pneumonia Using an Aspiration Prevention Protocol

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Hospital-acquired pneumonia, which includes aspiration pneumonia (AP), is a serious infection with considerable mortality and costs. Several factors put patients at risk of developing AP, and screening for these risk factors on admission and implementing preventative nursing interventions can decrease the incidence. Based on an extensive literature review, an evidence-based, clinical practice guideline (CPG) was identified, adapted, and implemented for AP screening and prevention in a general internal medicine ward at the University District Hospital (UDH) in Puerto Rico. The Clinical Practice Guideline Manual was used to guide the evidence- based practice guideline adaptation, and the AGREE II tool was then used to evaluate the adapted CPG. The HAAP protocol consisted of three parts: a) A risk assessment tool consisting of identifying patients at increased risk of aspiration; b) A functional assessment tool that consists in evaluating swallowing ability; and c) A list of bedside interventions that would result in decreasing aspiration events. All patients admitted to the 5th floor internal medicine unit were submitted to the risk assessment tool. If the patient was found at high risk for aspiration, the second and third parts of the protocol were activated, and aspiration events were monitored. Patients admitted to the 4th internal medicine ward were used as the control group. We monitor the occurrence of new cases of HAAP over a 4-month period (January-April 2022) in the general internal medicine wards. We used Electronic medical record coding system to search for ICD-10 J69.0 Forty-five patients and fifty-six patients were enrolled in the study in the 5th and 4th-floor units respectively. 8 and 12 aspiration events were reported in the 5th and 4th-floor unit, with an associated 17% and 21% event rate, respectively 5/8 aspiration events on the 5th floor were reported in patients with feeding tubes. Our findings suggest that compliance and completion of protocol interventions lead to a decrease in aspiration events and better patient outcomes It is expected that the use of a standardized AP prevention program will improve patient outcomes as well as decrease patient morbidity and mortality. By increasing nurses' ability to recognize those at risk for developing AP and implementing preventative interventions on admission, this nurse-driven protocol will promote positive social change by improving patient outcomes and decreasing costs.

RS-12

Adverse Reactions Reported in a Two-Dose COVID-19 Vaccination Series: An Analysis of a Puerto Rican Cohort

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Introduction: The COVID-19 pandemic has significantly impacted nations around the world, and Puerto Rico was no exception. New vaccines were quickly developed by the scientific community in order to offer protection against the virus. It is important to report the adverse effects and events of these vaccines, as individuals will not present the same reactions. Therefore, we decided to conduct a study concerning the Pfizer-BioNTech and Moderna COVID-19 vaccines and their effects in the Puerto Rican population. *Methods*: A questionnaire regarding sociodemographic variables and vaccine adverse reactions was administered from April 2020 to December 2021 at COVID-19 Vaccination Clinics and social media. Participants who received two doses of the Pfizer-BioNTech or Moderna COVID-19 vaccines were eligible. Bivariate analyses were executed to assess emerging vaccine effects. This study is IRB approved. *Results*: A total of 171 participants (74M/97F; mean age: 37.4±15.9) were recruited. Age groups were as follows: 20-39 and 40-59 years. For those who received the first dose, 73.1% had local pain at the injection site, 18.1% reported body aches, and 87.8% had inflammation of the arm. Additionally, 42.7% reported tiredness, 77.8% had headaches and 15.2% of participants reported feeling chills after the initial dose. When using a scale from 0 to 5, 0 being no symptomatology and 5 having the most severe symptomatology, 71.3% chose a value between the range of 0 to 2, while 28.7% chose between 3 and 5. As for those who received the second dose, 66.7% reported local pain at the injection site, 32.7% experienced body aches, and 12.9% had inflammation of the arm. Furthermore, 59.1% felt tired, 36.3% had headaches and 28.7% had chills. However, 10% had no adverse effects. When using the same scale from 0 to 5, 49.1% chose a value between the range of 0 to 2, while 50.9% chose between 3 through 5. In relation to age groups and symptomatology severity between doses, the second dose was significantly more likely to cause greater symptomatology in 20-39 y/o ($p=0.0002$) and 40-59 y/o ($p=0.0459$). *Conclusion*: According to the analyzed data, the first dose predominantly presented with localized symptoms such as pain at the injection site and inflammation of the arm, in addition to headaches. However, for the second dose, the symptomatology shifted to more generalized symptoms, namely body aches, tiredness, and chills. Nonetheless, the most reported symptom was local pain at the injection site. When comparing both doses, the second dose demonstrated greater symptomatology and severity than the first dose. This analysis will contribute useful data, for not only the Puerto Rican population, but also for the medical field, in order to assess and care for COVID-19 vaccine adverse reactions.

RS-13

Impact of the COVID-19 Vaccine on the Quality of Life of Adults after Vaccination in a Puerto Rican Population

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Introduction: Due to the COVID-19 pandemic, everyday aspects of life have been affected, making individuals look for alternatives to maintain a healthy lifestyle. We expected that daily practices and activities would return to normalcy after introducing vaccines against COVID-19. Objective: We aimed to identify if vaccination influenced vaccinated individuals' way of living during the pandemic. *Methods*: A questionnaire containing sociodemographic inquiries was administered via QR Code at the Universidad Central del Caribe (UCC) vaccination clinics and social media platforms to assess the quality of life (QOL) after vaccination against COVID-19. The study ran from January 2022 to May 2022. *Results*: Participant recruitment reached 203 participants, 138 identified as female and 55 as male, all aged 21 and older. Participants received the following vaccines: 69.5% received Pfizer- BioNTech, 25.6% received Moderna, 3.4% received a combination of Pfizer-BioNTech/Moderna, and 1.5% received Johnson&Johnson. We analyzed that During the Pandemic and Before Vaccination (DPBV), 60% of participants did not visit food establishments ($P < .001$). Likewise, 62.3% did not visit malls ($P < .001$). However, there was a statistical difference After Vaccination (AV), with 67.5% of participants visiting food establishments ($P < .001$) and 74.2% visiting malls 1-2 times per week ($P < .001$). Regarding feeling of safety, while spending time with vaccinated or non-vaccinated people, we observed that 72.8% felt assured about hanging around vaccinated people, and 19.9% did not feel safe spending time with non-vaccinated people ($P < .001$). Concerning safety attending public events: 9.3% of participants said they felt safe DPBV, while 33.7% said they felt secure AV ($P < .001$). *Conclusion*: The COVID-19 vaccine positively impacted the QOL of Puerto Ricans participating in the study. The statistical analysis indicates an increase in the measured daily activities amongst individuals post-vaccination compared to pre-vaccination in several variables, such as visits to food establishments, malls, and public events.

RS-14

OLFACTORY AND GUSTATORY DYSFUNCTIONS AFTER COVID-19 RECOVERY IN THE PUERTO RICAN POPULATION

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Introduction/Background: As the Coronavirus Disease 2019 (COVID-19) transitions to becoming an endemic, it is vital to understand its long-term consequences. Although most patients recover within 2-3 weeks, others suffer persistent symptoms that can exceed 6 months. Studies have confirmed persistent olfactory (POD) and gustatory (PGD) dysfunctions as one of the most frequent long-term sequelae of COVID-19, with a prevalence of 24.6% and 19.5%, respectively, second only to fatigue (42.5%). [1] These new long-term effects of POD and PGD are also raising concerns about their potential impact on patients' quality of life (QoL). *Objectives:* This cross-sectional study aims to: assess the prevalence of POD and PGD in the Puerto Rican population, characterize the types of olfactory and gustatory disorders, and evaluate how the persistence of these dysfunctions affects the participants' QoL. *Methodology:* The population consists of subjects of age 21 or older who live in Puerto Rico and recovered of COVID-19. Participants are being recruited through social media. Once subjects sign the informed consent, they can complete a 15-minutes questionnaire in REDCap. The questionnaire assesses demographic information, medical history, and evaluates the senses of smell and taste. Once a sample of 500 subjects is reached, an analysis will be performed using descriptive statistics for continuous variables and frequency distributions for categorical variables. *Results:* Currently, there are 55 participants recruited. 21 (42%) subjects experienced smell dysfunctions and 22 (44%) experienced taste dysfunctions after being diagnosed with COVID-19. Of the 21 participants who experienced smell dysfunctions, 11 had persistent symptoms after testing negative. While of the 22 who experienced taste dysfunctions, 10 had persistent symptoms after testing negative. Around 60% of the subjects reported at least some impact on their QoL because of POD and PGD. *Conclusions:* The preliminary data shows a similar trend to the findings observed in other studies where there was a significant percentage of people with POD and PDG. Thus, the results from this study are important to understand the extent and duration of long-term smell and/or taste changes as well as their impact on patients' QoL. Yet, the final sample of the study (N=500) and statistical analysis are pending to reach significant conclusions.

RS-15

The Impact of the COVID-19 Pandemic on the Accessibility the Deaf have to Healthcare Services

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Background: The COVID-19 pandemic exposed the obstacles and injustices faced by the Deaf community on a daily basis. These circumstances in which contact between Deaf patients and healthcare professionals was hampered by safety measures such as masking, social distancing and the telemedicine modality. *Objectives*: This study sought to investigate and compare Deaf adults' accessibility to healthcare services and their ability to communicate with providers before and during the pandemic as well as to create a demographic profile of healthcare disparities, needs, and barriers among Deaf adults living on the island. This is of special importance due to the fact that there is limited research on this population living in Puerto Rico. *Methods*: This descriptive cross-sectional study has IRB approval. Social media was used to recruit the subjects, who were Deaf and over 21 years old and residents of Puerto Rico. Online surveys were used to obtain data between 07/12/2021–10/25/2021. *Results*: Sixty-four subjects accessed the questionnaire, but only ten completed it. Seventy percent expressed that their access to healthcare services worsened after the pandemic. Before the pandemic, 80% of the patients used gestures and lip-reading, and 70% used family members as interpreters, however, these methods decreased by 70% and increased by 10%, respectively. Communication by writing on paper increased to 60%. Subjects reported worsening in satisfaction in their communication with physicians after the pandemic. Reasons for the dissatisfaction are related to their perception of the quality/quantity of the information discussed by the physician, the level of understanding of the information provided by the physician and the subjects perception of the physician's understanding of their complaints. *Discussion*: The population of Deaf people now faces a communication barrier due to the enforcement of the usage of personal protection equipment. This community deals with issues of access, dissatisfaction with the clinical experience, and loss of autonomy. Ineffective communication might compromise patient safety and result in poorer health outcomes. *Conclusions*: The global crisis provoked by the pandemic managed to expose and deepen issues of societal exclusion for Deaf population. Deaf community's access to healthcare services suffered a blow due to the pandemic, contributing to inequity. Healthcare providers should be aware of their individual responsibility in closing inequity gaps.

RS-16

DMOG Reduces Helicobacter pylori-Induced Gastric Inflammation by Modulation of H. pylori Virulence and Proinflammatory Responses

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Introduction: Gastric cancer is the fourth leading cause of cancer-related deaths worldwide. Helicobacter pylori is the strongest risk factor for gastric cancer development, but only one to three percent of infected individuals develop gastric adenocarcinoma. This suggests a more intricate model of gastric carcinogenesis where complex interactions between H. pylori, host, and environmental factors promote cancer development. DMOG, a prolyl hydroxylase inhibitor, stabilizes hypoxia-inducible factor-1a (HIF-1a) levels by preventing its proteasomal degradation and has been reported to play a protective role in diverse experimental models of disease, such as colitis and pneumonia. We hypothesize that, similar to other infection models, treatment with DMOG reduces H. pylori-induced inflammation in vivo. *Methods:* C57BL/6 mice were treated with either DMOG or vehicle control (PBS) and then challenged with Brucella broth as a negative, uninfected control or with cag+ H. pylori strain PMSS1 for eight weeks. Gastric tissue was recovered from both infected and uninfected mice treated with DMOG or vehicle control. Gastric tissue was assessed for indices of inflammation by histopathology and gastric tissue cytokine/chemokine profiles were characterized using the MILLIPLEX mouse cytokine/chemokine magnetic bead panel. In vivo-adapted H. pylori strains, harvested from mice treated with DMOG or vehicle control, were co-cultured with AGS human gastric epithelial cells for five hours. Co-culture supernatants and whole cell lysates were collected to assess both induction of IL-8 by ELISA and translocation of the oncoprotein, CagA, by Western blotting, respectively. One-way ANOVA with Sidak's multiple comparisons tests were used for statistical analyses. *Results:* H. pylori induced significant levels of gastric inflammation in C57BL/6 mice and treatment with DMOG partially attenuated this response. H. pylori-infected mice treated with DMOG exhibited a marked reduction in the expression of proinflammatory cytokines and chemokines, including IL-1b, IL-12, IFN-g, and KC, as compared to vehicle-treated mice. In vivo-adapted H. pylori strains harvested from DMOG-treated mice were less efficient at translocating CagA into gastric epithelial cells than strains isolated from vehicle-treated mice. Consistent with decreased CagA translocation, in vivo-adapted H. pylori strains recovered from DMOG-treated mice also exhibited a significantly reduced ability to induce the proinflammatory chemokine IL-8. *Conclusions:* Collectively, DMOG treatment significantly reduced H. pylori-induced inflammation through decreased Th1 cytokine and chemokine responses in vivo and reduced cag type IV secretion system function and induction of downstream responses ex vivo. These data suggest that stabilization of HIF-1a may serve a protective role in the context of H. pylori-induced gastric inflammation in an acute infection model.

RS-17

Communication disparities among deaf and hard hearing community in the Southern region of Puerto Rico

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The deaf and hard of hearing community has always confronted disparities when it comes to healthcare access. This community, when compared to hearing people, often uses health care services less frequently due to feeling unwelcomed and the poor accessibility to communication. This tends to affect health outcomes as these patients often look for help when the disease is already established instead of looking for help when the disease could be prevented or treated on timely manner. In addition, this community faced unique challenges during the pandemic as mask wearing became the daily living, making lipreading impossible and sign language even harder. There is lack of literature on health outcomes in deaf-mute and hard hearing patients in Puerto Rico. The purpose of this quality project is to address the issue of the language barriers that the deaf-mute and hard of hearing community faces when it comes to health care services to improve access to essential health services and overcome such barriers. Our study consisted of a retrospective quality improvement cross-sectional study in Centro Medico Episcopal San Lucas at Ponce, Puerto Rico. A Questionnaire was administered to the personnel of the medical center, in which they would answer questions regarding healthcare accessibility and experiences with the deaf-mute and hard of hearing community. The Questionnaire was sent via REDCap link and/or through a personal interview, and a total of 124 participants were interviewed. Results showed that 70.1% of participants had attended patients of the deaf community. Of these personnel, over 65% marked that they felt very or moderately uncomfortable when providing care. In total, 90.3% of the personnel were not trained in sign languages, and 81% believe that lack of knowledge in communicating with deaf patients has affected patients' health directly. The majority of the participants coincided in the need of implementing a structured plan that provides alternatives to appropriately attend these patients, such as sign language training for the hospital personnel, availability of sign language interpreters, informative guides with specific signs to express the patients' special needs, and screening guides to identify patients as part of the deaf-mute or hard of hearing community for personnel to recognize in advance to their personal encounter. In addition to the evaluation of responses, we presented possible solutions as to deal with communication barriers with this community at the hospital. Solutions consisted of sign language interpreters, sign language classes, and cellphone applications to avoid communication disparities with this community. Implementation of protocols is underway, as well as ways to evaluate effectiveness. The hospital addresses public health problems as of primary importance, meaning this study was critical for self-improvement.

RS-18

Changes in the adult and elderly Puerto Rican population's health due to limitations faced during the COVID-19 pandemic

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Introduction: Puerto Rico has a relatively large proportion of adults aged > 65 years, and of this population, 71.5% of Medicare-enrolled persons report having two or more chronic conditions. Many studies performed since the start of the pandemic have revealed that the adult and elderly populations have been significantly affected by imposed restrictions. However, limited information on this topic has been reported for the Puerto Rican population in literature. *Objective:* This study aimed to present an estimate of how the Puerto Rican adult and elderly population's overall health has been affected due to limitations that surfaced during the time of the COVID-19 pandemic. *Study design:* This is a cross-sectional design study that assessed the effects of the restrictions imposed during the COVID-19 pandemic on overall health status. *Methods:* A total of 202 participants were included in the study. A 21-item questionnaire was distributed to patients of the multidisciplinary clinics of Hospital Ramon Ruiz Arnau (HURRA) where they were asked to respond to questions regarding perceived changes in their health status as well as attributable causes. To assess how overall health has been affected by the COVID-19 pandemic, we divided the pandemic's effects into two periods: first lockdown (March 2020-March 2020) and second lockdown (April 2021-December 2021). A chi-square test of independence was used to analyze for correlations between difficulty obtaining healthcare and health deterioration. *Results:* 40.7% (79/194) of participants reported perceiving a worsening of their overall health status, while the remaining 59.3% (115/194) saw no change since the beginning of the COVID-19 pandemic. The majority of participants indicated they had no problem going to their appointments, which were mostly in person. Of those who did miss appointments, 32 people (n = 202) said they did not want to be exposed to COVID-19, 18 people (n = 202) reported they could not contact their doctor to make an appointment, 16 persons (n = 202) stated not having transportation, and 14 participants (n = 202) responded they did not understand how telemedicine works. *Conclusion:* Results show that an overall decline in health was not the predominant observation, however, they still demonstrate a significant portion of the population perceiving a worsening of their overall health status. The method employed for this study could not reach patients with true limitations concerning access to medical services, and therefore they were not included in our study. This means that, should we have included these patients, it is very likely that the results would have been even more significant. To obtain a true estimate of population health as a consequence of the limitations brought by the pandemic, we recommend the study be repeated with a method that reaches these patients as well.

RS-19

Perceived COVID-19 Vaccine Safety According to Education Level in a Puerto Rican Population

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Introduction: As a matter of public health, vaccines have always been surrounded by ethical issues that have shaped the perception of the general population regarding the benefits that may emerge from them. The rapid development of the novel COVID-19 vaccines brought uncertainty, further contributing to this prejudice. Education level may also play a role in this judgment. This study was conducted towards understanding the factors, mostly culturally based, contributing to the envisage of COVID-19 vaccines within the population of Puerto Rico, as well as how they assimilate its development, risks, and benefits within the reality of the pandemic. *Methods*: A questionnaire regarding vaccination decision-making and sociodemographic factors was distributed to participants on-site through a QR code at the Universidad Central del Caribe (UCC) Vaccination Clinics and social media platforms from April 2021 to January 2022. Statistical analyses were performed. This study is IRB approved. *Results*: A total of 250 participants (143 females/107 males) were recruited. Participants' ages ranged between 21-84 years old: 61.7% were 21-44, 33.1% were 45-64, and 5.2% were 65+. Of the 250 partakers, 2% reached primary school, 16.9% attained high school, 20.1% obtained an associate degree or technical certificate, 38.2% received a bachelor's degree, 14.9% obtained a master's degree, and 8.0% achieved a doctorate's degree. In terms of whether participants agreed or disagreed with the proposed inquiry that the vaccine is safe: 1.6% totally disagreed that the COVID-19 vaccine is safe, 0.8% disagreed that the vaccine is safe, 24.4% neither agreed or disagreed, 32.8% agreed that the vaccine is safe, and 38.0% totally agreed the vaccine is safe. When comparing education level and the perceived agreement that the COVID-19 vaccine is truly safe, there was no statistical significance for those who attained high school ($p=0.480$), associate degree or technical certificate ($p=0.327$), bachelor's degree ($p=0.212$), and master's degree ($p=0.096$). However, there was statistical significance in participants with a doctorate's degree ($p<0.05$). *Conclusion*: Despite the lack of statistical difference, the data exhibited a trend in acceptance and understanding for the safety and effectiveness of the COVID-19 vaccine as education level increased. However, a majority agreed on vaccine safety in the participant population. The results obtained can contribute useful data for professionals in the medical field and local public health authorities, to assess the tendencies regarding vaccination hesitancy, update physician guidelines, and to improve the rate of individuals that get vaccinated against COVID-19.