2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 001
Category: Clinical Vignette
Residency Program: Central Michigan University
Presenter: Natasa Petreska
Additional Authors: Jaspreet Nannar, MD ; Shrinivas Kambali, MD

A Silent Killer: A Case of Lung Adenocarcinoma

A 68 year old male with past medical history of hypertension and type two diabetes presented with acute on chronic back pain. Prior to this presentation he had been to another facility where he was diagnosed with metastatic lesions to the spine of unknown origin. His presentation was remarkable for blood pressure 207/84. Patient had no history of tobacco use personally, although he did have over thirty years exposure to secondhand smoke via a household member. He did not have any significant travel history, pet exposure, or other environmental exposure. PSA was unremarkable. CA19-9 was unremarkable. Serum protein electrophoresis and immunofixation showed no monoclonal gammopathy. Quantitative immunoglobulins were unremarkable. Kappa light chain was elevated but there was an overall normal kappa lambda ratio. CEA was elevated at 356. CXR was remarkable for moderate to large right pleural effusion, dense ground glass opacity in middle to right lower lobe, and mild ground glass opacity in right apex. CT scan from prior facility was remarkable for multiple lesions within the liver of most measuring 1.9 cm concerning metastatic disease in addition to sclerotic lesions of the thoracic, lumbar, cervical spine, and pelvic areas. MRI spine revealed metastatic disease in nearly every osseous structure including pathologic fracture and lytic destruction in C5 and C6. CT scan of the chest was remarkable for lung mass in the right upper lobe which measured 2.2 cm x 2.2 cm in addition to a large right pleural effusion. Bone scan was done which was remarkable for diffuse metastatic disease throughout the skeleton. 1400mL of bloody fluid was removed and CT guided right upper lung biopsy was remarkable for adenocarcinoma. Liver lesion biopsy was unremarkable for malignancy. Non-small cell lung cancer consists of squamous cell carcinoma and adenocarcinoma. Global incidence and mortality are associated with smoking, however there is a significant presence in non-smokers as well. These individuals were typically female, younger age, and had a good prognosis with responsiveness to treatment with agents such as epidermal growth factor receptor tyrosine kinase inhibitors. Instead of smoking being the main risk factor these never smokers may have genes susceptible to leading to this disease including a mutation in the EGFR gene. In addition there have been associations between lung cancer never smokers and metabolic syndrome via associated susceptible genes. In the case presented above, this patient's past medical history is suggestive of errors in metabolic activity based on past medical history. In cases such as the demographics of the patient presentation presented above, this knowledge is important in considering treatment options. In this case due to the extension of the disease at the time of diagnosis these treatments would likely be futile but knowing the pathogenicity of the non smoker lung adenocarcinoma is important in counseling these patients. If discovered early in the disease course, prognosis may be favorable as well as have favorable response with specific therapy agents. This is likely due to the specific genetic mutations, specifically driver mutations, in these individuals mentioned previously.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 002
Category: Clinical Vignette
Residency Program: Corewell Health – Grand Rapids/Michigan State University
Presenter: Tajuldeen Al-Hasani
Additional Authors: Tyler Van Velsen, MD, Mohamed A Mohamed, MD , Qasim Alameri, MD

When ears speak; bilateral ear pain and discoloration as harbingers of relapsing polychondritis

Introduction

Relapsing polychondritis (RP) is a rare multisystem disease involving cartilaginous and proteoglycan-rich structures. The diagnosis of this disease is mainly suggested by the presence of flares of inflammation of the cartilage, particularly in the ears, nose or respiratory tract, and more rarely, in the presence of other manifestations. The spectrum of clinical presentations may vary from intermittent episodes of painful and often disfiguring auricular and nasal chondritis to an occasional organ or even life-threatening manifestations such as lower airway collapse. There is a lack of awareness about this disease is mainly due to its rarity. Here we present a case of 65 y.o. female polyarthralgia, pain and discoloration in her the pinna found to have relapsing polychondritis.

Case presentation

65 years old female with past medical history of Hashimoto's disease, Sjogren's syndrome, fibromyalgia, , and migraine referred to our rheumatology clinic for evaluation of polyarthralgia and recurrent painful discoloration of her pinnae, mild weight loss, intermittent subjective fever and fatigue over the last 2 years. She reported intermittent symptoms of sharp pain in bilateral wrists and ankles, tightness in shoulder girdle , migraine headache with left sided numbness , the cartilage of the ears hurt when sleep on the side, and it changes color, recurrent bouts of ocular inflammation consist with scleritis and episcleritis. She denied mucocutaneous changes. She also reports chest pain consistent with costochondral nature. She has undergone cardiac workup and was negative. Hand and feet feel cold all the time. ESR, CRP, rheumatoid factor (RF), ANA, cyclic citrullinated peptide (CCP) antibodies, c-ANCA, and p-ANCA were all normal. Since diagnosing RP is primarily clinical in the absence of specific laboratory test, imaging findings, or cartilage biopsy, patient was diagnosed with RP. Patient was prescribed NSAIDs for ear chondritis, and methotrexate for systemic symptoms of polyarthralgia. She reported significant improvement.

Discussion

Relapsing polychondritis is a rare (prevalence is approximately 5 cases per million) inflammatory disease characterized by chondritis (e.g., auricular, nasal, and/or laryngotracheobronchial) with or without systemic involvement (e.g., arthropathy, episcleritis, and/or valvular heart disease). Laryngotracheobronchial chondritis is the most common cause of mortality in relapsing polychondritis and may necessitate emergency interventions. Relapsing polychondritis is sometimes associated with other conditions (e.g., systemic lupus erythematosus, Sjogren's, ANCA-associated vasculitis, and solid organ cancers). Diagnosis is clinical and often delayed due to variable manifestations and insidious onset. A comprehensive evaluation is used to rule out alternative diagnoses (e.g., autoimmune diseases) and assess for systemic involvement (e.g., laryngotracheobronchitis, valvular heart disease). Treatment aims to control acute inflammation and prevent long-term damage. Mild disease is managed with NSAIDs. Severe disease is treated with systemic glucocorticoids. Conventional DMARDs may be used in refractory disease.

Conclusion

RP is an extremely rare, but progressive detrimental autoimmune disease which can lead to fatal complications. cartilage involvement in different organs such as nose, ear, laryngotracheobronchial, heart valves , and joints must keep it on the differential diagnosis. Early diagnosis and treatment is crucial to prevent irreversible damage such as nasal or auricular deformities or fatal complications.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 003
Category: Clinical Vignette
Residency Program: Corewell Health – Grand Rapids/Michigan State University
Presenter: Janene Berli
Additional Authors: 2. Jorgelina De Sanctis, MD, FACP

AngioVac Vegetectomy in a third episode of tricuspid valve infective endocarditis

Introduction: In patients with vegetative right-sided infective endocarditis that are unable to undergo surgery, AngioVac, or percutaneous suction thrombectomy, can lead to reduced infection burden, improved valvular regurgitation, improved right ventricular function and reduced risk of septic emboli (Hamilton, et al). In most cases, this technique has been used due to patients being unable to undergo surgery secondary to hemodynamic instability or size of the vegetation. Less commonly, patients are not offered surgery due to active intravenous drug use (IVDU), conferring a high risk of recurrence of infective endocarditis (Riasat, et al). While ongoing IVDU limits options for treatment of infective endocarditis, AngioVac may remain the only option for definitive management.

Case Description: A 41 yo female with a history of IVDU presented to the hospital with acute chest and lumbar back pain. Two years prior, she had experienced MSSA bacteremia and tricuspid valve infective endocarditis, undergoing bioprosthetic tricuspid valve replacement. Four months later, she developed Pseudomonas bacteremia in the setting of continued IV drug use with infective endocarditis of the bioprosthetic valve. The institution that performed the valve replacement did not offer redo given continued use of IV drugs. She was transferred to a facility that performed reoperative sternotomy for redo tricuspid valve prosthesis replacement. Now, she presented with findings consistent with sepsis. Comprehensive imaging was unrevealing for the source of infection. She was started on empiric antibiotics. Shortly after admission, peripheral blood cultures revealed MRSA. Echocardiography demonstrated a 2.4 cm vegetation on the bioprosthetic tricuspid valve. She developed acute hypoxic respiratory failure, requiring intubation. Given persistent bacteremia, vancomycin was transitioned to daptomycin and ceftaroline. The Cardiothoracic Surgery team determined, “She is not a candidate for third time heart valve surgery because she has continued to use drugs.”

A few days later, she required escalation of ventilatory settings and a CT thorax demonstrated multiple septic emboli. Given the current institution not offering a surgical option, conversations with family included transfer to an alternate facility for consideration of surgical intervention versus transition to comfort care measures. The infectious disease team recommended consultation to interventional radiology for consideration of procedural removal of the vegetation. While the procedure had risk of valve disruption which Cardiothoracic Surgery confirmed would be inoperable, she was considered to be at extremely high risk of mortality without pursuing the IR procedure. Family decided to proceed, so she underwent pulmonary angiogram with large-bore aspiration and vegetectomy. She was then able to clear the bacteremia. She was extubated three days later and was discharged to inpatient rehabilitation with a prolonged antibiotic course.

Discussion: For patients with ongoing IVDU, options for procedural management of infective endocarditis may be limited given high risk of recurrent bacteremia and fears of further compromise of heart valves. When a patient is a poor surgical candidate due to continued IVDU or otherwise, risk of death and/or serious morbidity associated with complications such as septic embolic stroke remains high and in these cases, consultation with interventional radiology for consideration of suction thrombectomy or vegetectomy is crucial.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 004
Category: Clinical Vignette
Residency Program: Corewell Health – Grand Rapids/Michigan State University
Presenter: Ross Kendall
Additional Authors: Ajith Thomas, MD; Nicholas M Hountras, MD

More than just a seizure: A case of focal temporal lobe epilepsy and ictal atrioventricular block

Case Description

The patient was a 70-year-old female with a history of paroxysmal atrial fibrillation and recurrent unexplained syncope who presented after being found apneic and unresponsive in the middle of the night. The patient's spouse performed several minutes of bystander CPR prior to EMS arrival. On presentation to the hospital, the patient was conscious with stable vital signs. Her neurologic exam was non-focal. Initial workup was significant only for mild lactic acidosis that resolved with administration of IV fluids. EKG and high-sensitivity troponins were unremarkable. CT head and MRI brain were negative for acute processes. She was admitted to general medicine for further workup of her unexplained syncope.

Overnight, she awoke from sleep with oral automatisms, repetitive swallowing, non-purposeful hand movements, and a sensation of chest pressure. EEG analysis demonstrated focal right-sided temporal lobe seizure. Interestingly enough, the patient's seizure was accompanied by a simultaneous 20-second episode of complete heart block with junctional escape captured on cardiac telemetry that resolved prior to any interventions. During the remainder of the night, EEG showed that she suffered three additional episodes of right-sided temporal lobe seizures, but without corresponding arrhythmias.

The patient was initiated on levetiracetam and then subsequently titrated up to 1000 mg PO BID for maintenance dosing, which she tolerated well. Given the patient's increased risk for sudden death, electrophysiology was consulted and successfully placed a leadless pacemaker without complication. She was discharged in stable condition with neurology follow up. Several weeks after discharge, she did suffer an additional seizure episode that required an increase in her levetiracetam dosage, but she had no recurrence of syncope or arrhythmia on subsequent pacemaker interrogation.

Discussion

Complete heart block is a potentially fatal condition with high risk for sudden cardiac death. The most common etiology involves aberrations to the cardiac conduction system by either pathologic or iatrogenic means. Such causes include myocardial ischemia, cardiomyopathy, post-catheter ablation, or medication-related heart blocks. In this case, we see an uncommon presentation of transient complete heart block in the context of uncontrolled temporal lobe seizures. In our patient, aberrant temporal lobe neuronal activity likely increased overall parasympathetic drive, leading to hypervagotonia that resulted in a significant ictal bradyarrhythmia. This vagal-mediated mechanism is supported by the concurrent telemetry data that demonstrated slowing of the sinus rate with increasing P-P intervals and increased AV node conduction delay with increasing P-R intervals prior to her episode of complete heart block. Patients who have seizures complicated by ictal bradycardias are at a higher risk of sudden death, so in addition to treating the underlying seizure disorder, preventative measures such as pacemaker implantation should also be performed to prevent recurrence of symptomatic or life-threatening bradyarrhythmias. This case represents an interesting pathological interaction between temporal lobe seizure activity and the cardiac conduction system. Clinicians should have a low threshold to consider both cardiac and neurological conditions in patients presenting for syncope of unknown etiology, and to keep in mind the interplay between these two systems to ensure complete and appropriate diagnosis and treatment.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 005
Category: Clinical Vignette
Residency Program: Corewell Health – Grand Rapids/Michigan State University
Presenter: Melanie Mrozek
Additional Authors: Dr. Tarek Alsibai, Dr. Stephanie Burdick

Disseminated VZV following High-Dose Steroids in an Immunocompetent Adult

Introduction: Varicella Zoster Virus (VZV) is a human herpes virus transmitted via aerosolized droplets and responsible for primary varicella. Varicella is primarily a childhood disease but can present in unvaccinated adults. Typically, VZV does not cause disseminated disease in adults unless the patient is immunocompromised. Here, we present a case of primary varicella in an immunocompetent individual that progressed to disseminated disease in the setting of steroid use.

Case presentation: A 59-year-old man from Latin America with a history of hypertension was initially evaluated at an urgent care clinic for facial rash that began two days prior. He was given IV solumedrol and was prescribed an oral methylprednisolone taper. Due to a misunderstanding from the language barrier, the patient took all the pills at once. Over the next two days, the patient's rash became progressively worse and involved the torso, upper and lower extremities, ears, and throat. The rash was diffuse, non-painful, and pruritic. Umbilicated, vesicular, and pustular lesions were all present simultaneously. Upon presentation to the hospital, he was hemodynamically stable, complete blood count and initial chemistries were unremarkable, and inflammatory markers including ESR and CRP were slightly elevated. Interestingly, he was not known to be immunocompromised. HIV, HSV PCR, syphilis, and monkeypox testing were negative. Infectious disease was consulted and identified that his wife experienced a painful dermatomal rash consistent with shingles 2 weeks before the onset of his symptoms, raising concern for primary varicella infection. The patient was placed in airborne isolation and was started on valacyclovir. VZV PCR testing returned positive, and serum VZV PCR was positive with 857,000 copies/mL, consistent with disseminated infection. Varicella serology revealed that the patient was non-immune, consistent with a primary viral infection. The patient clinically improved, and the rash evolved to primarily pustular lesions. He was sent home to complete a 7-day course of valacyclovir and with instructions to remain in self-isolation at home until all lesions were crusted over.

Discussion: Primary varicella usually causes a self-limited disease in children. In adult patients who are vaccinated or have a history of childhood exposure to varicella, breakthrough chickenpox can still occur, but with milder symptoms and shorter duration of illness. Individuals with a suppressed immune system from various etiologies including underlying malignancy, solid organ transplantation, or HIV infection are at increased risk of disseminated varicella. In this case, the high-dose of steroids early in the infection likely allowed for progression to disseminated VZV in an otherwise immunocompetent patient. While this patient's presenting rash was not completely classic, with a high proportion of umbilicated lesions, the presence of vesicular lesions should increase suspicion for human herpes virus infections, including HSV. Interestingly, a similar published case report describing severe primary varicella in the setting of recent steroid use identified similar umbilicated lesions, suggesting recent corticosteroid use may influence rash appearance in primary varicella.

Conclusion: Primary varicella infection is a rare cause of vesicular rash in immunocompetent adults without prior exposure or immunization. Recent steroid use may increase risk of disseminated varicella.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 006
Category: Clinical Vignette
Residency Program: Corewell Health – Grand Rapids/Michigan State University
Presenter: Robert Ocomen
Additional Authors: Tarek Alsibai, Brett Plattner

Suspected doxycycline induced glomerular interstitial nephritis in a previously healthy, young patient

Introduction:

A previously healthy 20-year-old male presented to the ED due to severe, progressive lower abdominal pain associated with hematuria and low urine output for 3 days. One month prior, he had received 14 days of doxycycline for febrile illness with tick bite exposure. Upon presentation, the patient was afebrile and hemodynamically stable. Initial blood workup was significant for Hb of 12.6 gm/dL and creatinine (Cr) of 2.82 mg/dL from 0.9 mg/dL at baseline. He had CRP of 106.3 mg/L and ESR of 34 mm/hr. Urinalysis showed protein of >300 on dipstick, small urine blood with only 1.7 RBC, and urine protein to Cr ratio of 0.42. Further workup included kidney ultrasound which revealed no anatomic abnormalities or hydronephrosis. Furthermore, a CT of the thorax, abdomen, and pelvis only showed a stable 5x6 mm nodule in the lateral left lung base. The patient was admitted to the hospital for further workup and was started on intravenous fluids. The next morning, his Cr level worsened to 3.44, and nephrology team recommended renal biopsy and sent a serological workup for etiology of AKI with glomerular pathology. The pathology from the renal biopsy showed Granulomatous Interstitial Nephritis (GIN) (Figure). He was started on steroids at that time. Rheumatological work-up which included ANA, anti dsDNA, C3, C4, pANCA, cANCA, and anti-MPO were all negative. Urine eosinophils of 0. ACE blood level was normal. Infectious disease team was consulted and broadened the workup to include HIV, Hepatitis panel, CMV, EBV, adenovirus, enteroviruses, mycoplasma, histoplasma, and cryptococcus. After 5 days of hospitalization, the patient desired discharge from the hospital. His kidney function was recovering, and eventually he was discharged on prednisone taper with instructions to follow up as an outpatient. Infectious workup came back negative except for positive histoplasma mycelial antibody at 1:64, histoplasma yeast antibody positive at 1:128, and presence of M band. Histoplasma urine antigen was negative. Unfortunately, the patient was lost to follow up despite multiple attempts for outpatient visit. However, renal function went back to baseline evident on lab work.

Discussion:

GIN is an uncommon cause of AKI due to various etiologies. The patient's exposure to doxycycline prior to hospitalization and improving renal function without treatment for histoplasmosis, makes doxycycline induced GIN likely. To date, etiology is hard to assess as the patient was lost to follow up. Very few cases exist in literature that describe an association between doxycycline and GIN [1][3][4]. Kidney biopsy was ultimately needed to make the diagnosis due to the unrevealing serological workup and worsening renal function so patient can be appropriately treated. It was noted that urine eosinophils were negative, although the diagnosis was interstitial nephritis. Literature suggests against using urine eosinophils to diagnose or rule out AIN. [5][6].

Conclusion:

The absence of urine eosinophils does not necessarily rule out acute interstitial nephritis, including GIN. Kidney biopsy remains the gold standard test to diagnose GIN. A broad differential must be considered in the workup of GIN, including medications, rheumatological, and infectious etiologies.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 007
Category: Clinical Vignette
Residency Program: Corewell Health – Grand Rapids/Michigan State University
Presenter: Katarzyna Purzycka
Additional Authors: Jeremy Gentile, DO; Hawraa Alsaedi MS-III

Pulmonary Renal Syndrome as a Manifestation of Type I Cryoglobulinemic Vasculitis

Introduction:

Pulmonary renal syndrome is a condition characterized by diffuse alveolar hemorrhage and rapidly progressive glomerulonephritis. It is often associated with vasculitides, but rarely Type I cryoglobulinemic vasculitis. When presenting in the setting of rare comorbidities, it can be confused with pneumonia and acute kidney injury.

Case presentation:

This patient was a 66-year-old male with a history of multiple myeloma with prior vascular complications who had previously undergone bone marrow transplant several years ago as well as CAR-T therapy one year prior to admission, after which he was thought to be in remission. He presented to the emergency department with progressive fatigue, dyspnea on exertion and easy bleeding and bruising, including nosebleeds and cough with bloody sputum, of several weeks' duration.

Upon arrival at the emergency department, he was hemodynamically stable and breathing room air. Initial laboratory evaluation revealed acute kidney injury with a creatinine of 4.27, urinalysis with proteinuria and microscopic hematuria, anemia with a hemoglobin of 10.0, and a low C4. Chest x-ray revealed multifocal opacities. CT angiogram was notable for ground glass opacities.

He was initially admitted for multifocal pneumonia due to pulmonary infiltrates on imaging, and acute kidney injury, which was thought to be pre-renal and related to his infection and dehydration.

Due to the patient's presentation with hemoptysis, hypoxia, and acute kidney injury, the admitting team was concerned for pulmonary hemorrhage and pulmonary renal syndrome, most specifically with relation to possible cryoglobulinemic vasculitis given his history of multiple myeloma. Plasmapheresis was initiated for concerns of cryoglobulinemic vasculitis causing pulmonary renal syndrome.

Nephrology was consulted and his initial workup was notable for positive cryoglobulin, with immunofixation showing monoclonal IgG Kappa, consistent with Type I cryoglobulinemia. He also had elevated IgG with low IgA and IgM. Serum protein electrophoresis revealed two monoclonal proteins in the gamma globulin regions.

He underwent a bone marrow biopsy, which revealed persistent plasma cell myeloma, consistent with recurrence of his known multiple myeloma. He was treated with a four-day course of high dose dexamethasone per hematology recommendations. Following this hospitalization, he was started on Talquetamab for multiple myeloma in the outpatient setting.

Discussion:

This case demonstrates a rare and severe manifestation of type I cryoglobulinemic vasculitis. Although type I cryoglobulinemic vasculitis secondary to multiple myeloma is an exceedingly rare cause of pulmonary renal syndrome, due to the life-threatening nature of this condition, it is important to maintain a broad differential diagnosis when evaluating patients with pulmonary infiltrates and acute kidney injury, especially in patients with a history of or concern for plasma cell disorders like multiple myeloma. For patients with conditions in remission, it is also important to monitor for complications indicative of recurrence. Pulmonary renal syndrome is one such clue of recurrence. Treatment often includes glucocorticoids and plasma exchange. Since pulmonary renal syndrome is a life-threatening but treatable condition, prompt recognition is of utmost importance.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 008
Category: Clinical Vignette
Residency Program: Corewell Health – Grand Rapids/Michigan State University
Presenter: Ajith Thomas
Additional Authors: Jon Richards MD, Jorgelina De Sanctis MD

Orbital Cellulitis as a Prelude to Maxillary Sinus Cancer

Case Presentation:

A 70 year old male with recent COVID infection presented with intractable migraine and 12-hour history of right eye swelling, redness, pain, and visual impairment. CT orbital imaging demonstrated right periorbital abscess concerning for orbital cellulitis. Given associated proptosis and elevated intraocular pressures, the patient would undergo lateral canthotomy and cantholysis for orbital compartment syndrome. Hospital course would be further complicated by the development of a right-sided superior ophthalmic vein thrombosis requiring initiation of anticoagulation. The patient became progressively ill during this time and grew Streptococcus anginosus in blood culture, raising concerns for a COVID-driven streptococcal bacteremia or a right-sided odontogenic infection. Surprisingly, however, the patient was instead found to have prominent left-sided paranasal sinus disease in the setting of osteolytic lesions involving teeth 14 and 16. The patient would undergo extraction of the aforementioned teeth as the potential source of infection. During this procedure, an incidental mucilaginous cyst of the left maxilla was biopsied and would be later diagnosed as squamous cell carcinoma (SCC). The patient was eventually discharged from the hospital on antibiotics with improvement in his right eye pain and return of his normal vision. An outpatient PET scan was scheduled along with a left maxillectomy and neck dissection for surgical oncologic management of the patient's left maxillary sinus SCC.

Discussion:

Orbital cellulitis is a medical emergency involving infection to the posterior orbital soft tissues and can result in complete vision loss if left untreated. Infection is most often locally spread from adjacent tissues in the setting of bacterial rhinosinusitis, odontogenic infections, or even preseptal cellulitis. The vast majority of cases have coexisting rhinosinusitis in approximately 86-98% of cases with most of those infections stemming from the ethmoid sinus. Odontogenic orbital cellulitis, on the other hand, occurs much less frequently and accounts for only 1-5% of all cases. In our case, the patient would present with a known history of chronic sinusitis and newly discovered dental infections leading to severe orbital cellulitis. Upon an incidental maxillary cyst biopsy, it was discovered the patient had an underlying maxillary sinus cancer that was likely driving many of these symptoms. Maxillary sinus malignancies are rare and account for only 1.5% of all head and neck cancers, yet they present with a poor prognosis given their often advanced staging upon diagnosis. The early symptoms of maxillary sinus cancers are often misdiagnosed as chronic sinusitis or dental infections, thus making it difficult to detect this insidious process. More advanced symptoms tend to present upon bony destruction and malignant erosion of the maxillary wall, making it easier for spread of both metastatic and infectious disease.

Conclusion:

Cancers of the paranasal sinuses are rare and often diagnosed at an advanced stage given their early nonspecific and benign sinonasal symptoms. Common symptoms include persistent nasal discharge, epistaxis, or recurrent dental infections. When these symptoms present in patients over the age of 40, cancer of the paranasal sinuses should be included in the differential diagnosis.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 009
Category: Clinical Vignette
Residency Program: Corewell Health – Grand Rapids/Michigan State University Med-Peds
Presenter: Abigale Oltman
Additional Authors: Theresa Nguyen, BS; Kyle C. Rau, DO, Jeremy Gentile DO, FACP, FSHM

Blame the Bachelor Party; A Shocking Case of Lyme Disease.

The day before his wedding, a 22-year-old male presented to the emergency department with one week of worsening joint pain, myalgias, headache, and rash. Symptoms began weeks after visiting a park in Michigan and several days after walking in tall grass during his bachelor party in Iowa. He presented to the emergency department febrile, tachycardic, and hypotensive. Physical examination was notable for erythema migrans.

Laboratory analysis revealed an elevated CRP, procalcitonin, sedimentation rate, LFTs, troponin, and leukocytosis. Lyme antibody test was positive. EKG findings showed T-wave inversions in the anterolateral leads, a prolonged PR interval without AV block, and sinus tachycardia. Doxycycline was initiated, however, the patient rapidly decompensated, requiring vasopressor support. Subsequently, antibiotic therapy was escalated to ampicillin/sulbactam and vancomycin to broaden coverage and for concerns for anaphylactic reaction, which was later ruled out by a normal tryptase level. Cardiac workup was negative, including an echocardiogram. With clinical improvement, therapy was deescalated to doxycycline monotherapy. He was discharged with 21 days of Doxycycline. Follow-up Lyme Ab testing (western blot) was consistent with an acute infection.

It is exceedingly rare for Lyme disease (LD) to present with shock. The most common cause is cardiogenic shock, occurring in less than 5% of cases with cardiac manifestations. Our patient had no evidence of significant cardiac dysfunction from Lyme carditis. Another possible explanation for shock in LD is co-infection with Borreli, Anaplasma, Babesia or Ehrlichiosis. While co-infection is possible, it is rare and no evidence of coinfection was found in this case.1,2 While there was initially concern for anaphylactic shock, this was ultimately ruled out and the patient was discharged on doxycycline therapy. A final possibility would include Jarisch-Herxheimer reaction (JHR), which has been associated with LD in rare cases.3 However, JHR usually presents hours after treatment initiation. Given the very rapid deterioration after the initiation of doxycycline, developing shock secondary to LD is most likely.

It is exceedingly rare for Lyme disease (LD) to present with shock, which is most commonly due to secondary bacterial infection in the setting of chronic treatment (which was not present in this case). Patients with suspected LD presenting with shock should have all other etiologies ruled out. In this case, no other etiology provides a satisfactory answer to the patient's hypotension requiring the initiation of vasopressors and we suspect this was most likely due to acute LD.

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2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 010
Category: Clinical Vignette
Residency Program: Corewell Health Dearborn Hospital
Presenter: Tabssum Chauhan
Additional Authors: Ammara Aftab, Ahamed Abdulbagi, Wafa Ahmed, Rajiv John

"The Silent Progression of Otomastoiditis: A Case Report on Skull Base Osteomyelitis and Cerebral Venous Thrombosis"

Introduction

Otomastoiditis, a common ear infection, can progress to severe complications such as skull base osteomyelitis (SBO) and cerebral venous thrombosis (CVT), though these are rare. The incidence of CVT in the context of otomastoiditis is approximately 3 to 4 cases per million adults, but it remains life-threatening. Pre antibiotics, CVT secondary to otomastoiditis showed a near-100% mortality rate. Today, early recognition and multidisciplinary management make these complications preventable. This case raises the importance of in-time diagnosis and management in averting severe outcomes such as neurological deficits and death.

Case Report

A 78-year-old female with uncontrolled insulin-dependent diabetes (HbA1c 10.3%) and chronic kidney disease (CKD) developed SBO and CVT following otomastoiditis. She presented with a six-week history of left-sided ear pain, discharge, and hearing loss after a dental procedure. Initial treatments with ear drops and oral antibiotics, including antifungals for Candida lusitaniae, failed to resolve her symptoms. CT imaging revealed temporal bone otomastoiditis with osteomyelitis, prompting intravenous (IV) antibiotic therapy with cefepime, Diflucan, and Ciprodex.

Despite treatment, her condition worsened, and an MRI revealed sigmoid sinus thrombosis, a complication of CVT. She was transferred for further management, including mastoidectomy and neuro-interventional care. At the new facility, the patient underwent myringoplasty with T-tube placement, and magnetic resonance venography (MRV) confirmed partially occlusive thrombosis. IV heparin was initiated, but contrast-induced kidney injury required hemodialysis. Following stabilization, she was discharged with a peripherally inserted central catheter (PICC) line for four weeks of IV Zosyn and a three-month course of Eliquis. While her infection was controlled, she continued to experience mild hearing loss, ear pain, and drainage.

Discussion

This case shows the importance of early imaging pro, per cultures, and antibiotics management, particularly in high-risk patients with comorbidities like diabetes and CKD. Although otomastoiditis is common, delays in diagnosis and treatment can lead to severe complications. In this patient, initial oral antibiotics were insufficient, and by the time appropriate imaging was performed, her condition had progressed to CVT. Early intervention with broad-spectrum antibiotics and imaging (CT and MRV) is critical to prevent such complications.

Managing CVT secondary to otomastoiditis requires an interdisciplinary approach involving infectious disease specialists, ENT surgeons, and neurosurgeons. Timely management with IV antibiotics, anticoagulation therapy, and surgical interventions is crucial in preventing long-term neurological deficits and death. Although we had challenges due to the patient's multiple comorbidities, careful monitoring and heparin use helped mitigate further thrombotic complications.

Conclusion

This case demonstrates that CVT is preventable through early diagnosis and aggressive treatment of otomastoiditis, particularly in high-risk patients with diabetes and CKD. Prompt imaging, appropriate antibiotic therapy, and interdisciplinary care significantly reduce the risk of life-threatening complications. Further research is needed to establish guidelines for anticoagulation therapy in infection-related CVT and improve outcomes through evidence-based practices.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 011
Category: Research
Residency Program: Corewell Health Dearborn Hospital
Presenter: Mahdi El Ankouni
Additional Authors: Abdallah Hussein, MD. Wehbi Rashid Hanayni, MD

"Real-World Comparative Outcomes of Chemo-Immunotherapy Versus Chemotherapy in Colon Cancer: A multi center Retrospective Cohort Study"

Background:

Immunotherapy and chemotherapy are key treatments for metastatic colon cancer, but their comparative effects on survival and adverse events remain unclear, warranting further investigation.

Methods:

This retrospective study used the TriNetX database (January 2017–December 2022) to evaluate patients with stage II-IV colon cancer. Outcomes were compared between patients receiving a combination of chemotherapy and immune checkpoint inhibitors including Ipilimumab, Pembrolizumab, Nivolumab, and Atezolizumab (chemo-immunotherapy) and those treated with chemotherapy alone (5-FU or capecitabine). Propensity score matching ensured balanced cohorts.

Result After matching, each cohort was reduced to 171 patients, achieving balance in demographics such as age (mean 64.9 ± 14.1 vs. 66 ± 13.5 years), sex (51.46% male vs. 49.70% male), ethnicity (59.06% vs. 55.56% non-Hispanic), and White race (63.74% vs. 67.25%).

The median follow-up was shorter in the chemo-immunotherapy group (498 days; IQR: 944 days) compared to the chemotherapy group (772 days; IQR: 734 days). Median overall survival (OS) was significantly shorter in the chemo-immunotherapy group (648 days) compared to the chemotherapy group, with survival probabilities at the end of the time window of 40.75% and 58.94%, respectively. The hazard ratio (HR) for survival was 1.883 (95% CI: 1.356–2.616, p = 0.0001), indicating a significantly higher risk of mortality in the chemo-immunotherapy group compared to the chemotherapy group.

The risk of Major Adverse Cardiovascular Events (MACE) was similar between the chemo-immunotherapy and chemotherapy groups (HR: 0.889, 95% CI: 0.608–1.299, p=0.9209). The risk of Major Adverse Kidney Events (MAKE) was comparable between the groups (HR: 1.298, 95% CI: 0.843–1.998, p=0.8126). The risk of liver metastases was higher in the chemo-immunotherapy group compared to the chemotherapy group (HR: 1.548, 95% CI: 1.127–2.126, p=0.2519). The risk of gastrointestinal (GI) bleeding was similar between the two groups (HR: 1.537, 95% CI: 0.727–3.253, p=0.7349).

Conclusion:

Chemo-immunotherapy in metastatic colon cancer showed a shorter overall survival compared to chemotherapy alone, with no significant differences in MACE, MAKE, liver metastases, or GI bleeding risks.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 012
Category: Clinical Vignette
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Case Report- Complex Management of Tricuspid and Pulmonic Valve Endocarditis in an Intravenous Drug User: A Case Report and Review of Challenges and Outcomes

Background:

Right-sided infective endocarditis (RSIE), commonly associated with intravenous drug use (IVDU), primarily affects the tricuspid valve (TV). With sustained bacteremia, the pulmonic valve may also become involved. Staphylococcus aureus remains the leading cause of tricuspid valve infective endocarditis (TVIE), diagnosed using Duke's criteria, which integrate clinical findings, blood culture results, and echocardiographic evidence. The management of TVIE poses unique challenges, particularly in patients with IVDU, who often face barriers to surgical intervention despite severe complications like tricuspid regurgitation (TR), which normally carries a poor prognosis if left untreated.

Case Presentation:

We describe the case of a 39-year-old female with a history of IVDU who presented with recurrent MRSA bacteremia and endocarditis involving both tricuspid and pulmonic valves. Her clinical course was complicated by severe TR, septic emboli, necrotizing fasciitis, and intracranial hemorrhages. During her previous hospital admission, despite evidence of worsening valvular dysfunction and systemic complications, she was deemed ineligible for surgical intervention due to active IVDU and was therefore managed with prolonged antimicrobial therapy, wound debridement, and multidisciplinary care. However, during her most recent hospital admission, despite having a flail leaflet and no surgical intervention during her previous admission, she was relatively asymptomatic from a cardiac standpoint and able to function well despite persistent severe TR and right atrial dilatation.

Discussion:

While early antimicrobial therapy can reverse some valvular damage, structural complications such as severe TR and ruptured chordae tendineae typically necessitate surgical intervention. However, in patients who are bacteremic, or who have active IVDU, surgical options are often limited, and these patients typically fare poorly. This case, however, highlights the remarkable adaptability of the right heart in severe TR and flail leaflet despite not receiving surgical intervention. Notably, the right heart's resilience allowed our patient to avoid significant symptomatic decline despite persistent severe TR. In contrast, severe mitral valve regurgitation in such a scenario would likely have resulted in extensive pulmonary edema and a significantly worsened clinical course. Nonetheless, the risk of progressive heart failure and recurrent infections remains a concern for patients with severe tricuspid valve endocarditis who do not undergo surgical intervention. In our patient, septic emboli contributed to extensive systemic complications, including pulmonary cavitations, pleural effusions, and neurologic sequelae, underscoring the importance of comprehensive multidisciplinary care. Addressing underlying IVDU through addiction treatment is also crucial to improving long-term outcomes and candidacy for surgical repair.

Conclusion:

This case illustrates the remarkable adaptability of the right heart in managing severe TR and a flail leaflet without surgical intervention. It also emphasizes the importance of early diagnosis and targeted treatment in RSIE and highlights the intricate relationship between infection, valvular dysfunction, and substance use. A multidisciplinary approach that integrates infection control with addiction management is essential for optimizing outcomes in this vulnerable population.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

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The Diagnostic Dilemma of Multisystemic Vasculitides - A Case Report of Granulomatosis with Polyangiitis

Granulomatosis with Polyangiitis (GPA) is a small vessel vasculitis disorder that classically involves the upper and lower respiratory tract as well as the kidneys. However, its presentation is not limited to these organ systems as it can present with ocular, dermatological or cardiac involvement, thus creating a broad differential when evaluating patients. This case illustrates the diagnostic challenges with infectious and inflammatory etiologies in a patient with systemic symptoms, concerning imaging and travel to a TB-endemic region.

A 57-year-old female with a pertinent history of recurrent sinusitis, left otitis media, and prior sinus surgeries was evaluated for suspicion of possible tuberculosis (TB) due to 2-month chronic productive cough with occasional hemoptysis and CT findings of multiple pulmonary nodules. This suspicion was prompted due to imaging findings and history of recent 1-month travel history to India with an indeterminate exposure to possible TB contacts. Prior to her return from India she was treated for recurrent sinusitis with multiple courses of antibiotics. Additionally, she reported weight fluctuations and night sweats. Subsequent IGRA testing and fungal cultures yielded negative results. Further investigation revealed chronic sinusitis over the past 2 years and a prior nasal surgery performed in India the year prior that did show a necrotizing granuloma within the sinus contents. A repeat CT of sinus passages revealed extensive inflammatory disease within the paranasal sinuses. As a result, the patient underwent rheumatological evaluation which revealed a positive ANA titer and cANCA level consistent with a diagnosis of GPA for which she underwent CT guided lung biopsy for definitive diagnosis.

The patient's presentation raised concerns about tuberculosis (TB), fungal infections, or inflammatory diseases such as granulomatosis with polyangiitis (GPA). Despite her travel to India and potential exposure to symptomatic individuals, IGRA testing was negative, and biopsy samples showed no acid-fast bacilli (AFB) or fungal organisms. The chronicity of symptoms, imaging findings, and history of necrotizing granulomas prompted a broader differential diagnosis, including sarcoidosis and nontuberculous mycobacteria (NTM) infections. Concurrent evaluation of inflammatory etiologies despite the suspicion of an infectious cause can lead to a more timely diagnosis and earlier initiation of management. This case underscores the importance of integrating clinical, microbiological, and radiological findings to avoid premature empiric treatment and ensure an accurate diagnosis.

Multi-systemic disorders such as Granulomatosis with Polyangiitis (GPA) often present a diagnostic challenge due to their enumerable presentations. The classical triad of involvement of necrotizing granulomas of the upper and lower respiratory system, systemic vasculitis and necrotizing glomerulonephritis is often not evident on presentation as renal involvement is only present in 11-20% of cases. A limited form of GPA however, usually presents with sparing of the kidneys and subsequently can lead to suspicion of other diagnoses as was the case with our patient given her storied social and travel history leading to prioritization of ruling out more insidious causes such as tuberculosis and fungal diseases. Prompt diagnosis is paramount as a delay in management can lead to further progression of the disease and lead to ocular, renal and dermatological manifestations.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 014
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A Rare Case of Esophageal Perforation: Esophageal Perforation Following Cervical Spine Hardware Removal

An esophageal perforation is an uncommonly encountered life-threatening emergency that can lead to leakage of gastric contents into surrounding esophageal tissue. It is most commonly due to iatrogenic injury, typically involving endoscopy, intubation, or esophageal surgery. We describe an unusual case of esophageal perforation secondary to the removal of infected cervical spine hardware.

A 73-year-old male with cervical spine central stenosis with history of an anterior cervical spinal fusion of C5-C7 over 40 years ago presented to the emergency department at the request of his pulmonologist. A CT scan of the neck was obtained in the outpatient setting, as the patient had admitted to an enlarging neck mass over the last month. Initial findings were concerning for a new supraclavicular lymph node. After independent review by his pulmonologist, there were concerns for a paraspinal necrotizing infection, for which he was advised to present to the emergency department.

On arrival, blood pressure was 148/69, heart rate 78, respiratory rate of 17, and pulse oximetry of 98% breathing ambient air. Labs were remarkable for a white blood cell count of 11.3 bil/L and a C reactive protein of 38.6 mg/L. A repeat CT neck revealed a possible abscess and multiple foci of gas tracking along the C3-C6 left paraspinal tissues. An image guided aspiration was performed, and fluid cultures were negative. He was discharged home on oral antibiotics but returned one week later with worsening lethargy and neck pain.

Vitals remained stable on re-admission. Labs were significant for a while blood cell count of 11.8 bil/L. A CT neck showed an increase in the left sided fluid collection, extending into the lateral soft tissues of the neck. The patient was then taken to the operating room with neurosurgery for definitive management of cervical spine hardware removal and evacuation of the deep neck abscess. Surgical cultures grew candida glabrata and candida albicans. Post-operatively, the patient had new onset dysphagia, and additional imaging revealed extensive soft tissue gas tracking throughout the superficial and deep spaces of the neck, concerning for airway injury. He was later intubated for airway protection.

A direct laryngoscopy and neck washout revealed significant purulence and a 4 cm posterior esophageal wall defect. This was repaired with a myofascial pedicled sternocleidomastoid flap. He was discharged in stable condition with intravenous micafungin for 30 days.

Esophageal perforations are most commonly iatrogenic and rarely reported as a result of cervical spine hardware. Additionally, fungal infections caused by infected hardware are infrequent. Upon further review, the patient had a history of fungal esophagitis one year prior. Imaging during admission demonstrated significant anterior displacement of the cervical hardware, which had eroded the esophagus. Its removal likely uncovered this defect and contributed to the etiology of the perforation. This case underscores the importance of independent review of imaging, as well as highlights this rare etiology of esophageal perforation secondary to infected cervical spine hardware.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 015
Category: Clinical Vignette
Residency Program: Corewell Health Farmington Hills Hospital
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A Rare Presentation of Necrotizing Fasciitis: A Diagnostic Challenge Triggered by Isolated Persistent Atrial Fibrillation with Rapid Ventricular Response (Afib with RVR)

According to the most recent review on necrotizing fasciitis (NF), NF often presents with nonspecific findings such as pain, erythema, and swelling. Clinical features include pain out of proportion to physical examination, failure to respond to broad-spectrum antibiotics, and the presence of cutaneous bullae on the skin. We report a rare case in which the diagnosis of NF was unexpected due to its atypical presentation and was ultimately prompted by further underlying exploration in the setting of diabetic ketoacidosis (DKA) and persistent Afib with RVR.

Case Summary:

A 61-year-old male with a history of type 2 diabetes mellitus presented with nausea, vomiting, and dizziness. He also admitted to mild right groin pain. On arrival, heart rate was 138 beats/minute, blood pressure of 144/82, respiratory rate of 18 breaths/minute, and pulse oximetry of 95% on room air. Laboratory evaluation revealed a glucose of 303 mg/dL, bicarbonate 19 mmol/L, anion gap 17 mmol/L, beta-hydroxybutyrate 4.01 mmol/L, and a white blood cell count (WBC) of 15 x 109/L. Ultrasound of his scrotum was initially obtained and was consistent with right epididymo-orchitis. In the setting of medical noncompliance, the clinical picture was consistent with DKA exacerbated by the diagnosis of epididymo-orchitis. His DKA was treated, and he was initiated on broad-spectrum antibiotics with near resolution of his leukocytosis.

Despite these interventions, the patient developed persistent Afib with RVR, with heart rates as high as 220 beats/minutes. This was unresponsive to standard management, including diltiazem pushes, a diltiazem drip, normal saline fluid boluses, two synchronized cardioversions, and metoprolol pushes. There was only an initial response to metoprolol, but the patient eventually reverted back into Afib with RVR.

Approximately 48 hours after arrival, mottling of the abdominal skin was observed. This raised clinical suspicion for a more insidious abdominal process, despite a lack of abdominal symptoms. A computed tomography of the abdomen and pelvis was obtained, revealing the diagnosis of necrotizing fasciitis, requiring urgent surgical intervention: a partial scrotectomy.

This case highlights an uncommon presentation of NF where persistent Afib with RVR was the initial clue to systemic involvement, overshadowing the typical hallmarks of severe localized pain, cutaneous changes, or resistance to antibiotics. It underscores the importance of maintaining a broad differential diagnosis in patients with resistant arrhythmias and DKA, especially in the presence of systemic symptoms. Diagnosis was unexpected when there was initial improvement in WBC, a confounding diagnosis of epididymo-orchitis, minimal skin changes, and improvement in patient's pain. Persistent Afib with RVR can occasionally serve as an indicator of severe underlying pathology, such as rapidly progressive infections like NF.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 016
Category: Clinical Vignette
Residency Program: Corewell Health Farmington Hills Hospital
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Lower Extremity Edema in a 27-Year-Old Female with Systemic Lupus Erythematosus Glomerulonephritis: Is it Renal-Related or Does it Warrant Further Workup?

Lupus myocarditis (LM) is a potentially fatal manifestation of systemic lupus erythematosus (SLE) occurring in 5-10% of SLE patientspatients with SLE (1). Lupus nephritis (LN) is a form of glomerulonephritis that constitutes one of the most severe organ manifestations of SLE (2). We present a unique case of a 27-year-old female with acute lower extremity edema secondary to LM with concomitant LN . This case report highlights LM as a rare manifestation of SLE and the importance of a thorough workup of acute bilateral lower extremity swelling in SLE patientspatients with SLE and glomerulonephritis.

A 27-year-old female with a past medical history of SLE, antiphospholipid syndrome, present and SLE glomerulonephritis presented with acute bilateral lower extremity swelling. Initial workup demonstrated enlarged cardiomediastinal silhouette on chest x-ray, 1 hour troponin 99 ng/mL, 2-hour troponin 108 mg/mL, brain natriuretic peptide 768 pg/mL, Complement 3 59 ng/dL, Complement 4 21 mg/dL, total complement 30.3 mg/dL and urine protein >1,000 mg. An echocardiogram was ordered which demonstrated a newly reduced ejection fraction of 35%, previously 65%. Consultations to cardiology, rheumatology and nephrology were placed. Rheumatology recommended continuing patient's home mycophenolic acid 500 mg twice daily (BID), hydroxychloroquine 500mg BID, & and prednisone 20mg daily. Nephrology recommended continuing patient's home immunosuppressive therapy, 40 mg methylprednisolone every 8 hours (q8h) and prednisone taper on discharge (20 mg daily for 10 days, then 10mg for 30 days). Cardiology performed a right and left heart catheterization that revealed nonischemic cardiomyopathy, normal left ventricular end diastolic pressure, and no evidence for pulmonary hypertension. Lupus myocarditis was diagnosed with patient history, decreased complement levels, positive double-stranded DNA antibodies, high Erythrocyte Sedimentation RateSR and/ C-reactive protein ,CRP and new onset nonischemic cardiomyopathy. She was treated with mycophenolic acid 500mg BID, hydroxychloroquine 200mg BID, 40 mg methylprednisolone q8h, IV furosemide 40 mg BID, metoprolol 50mg daily, empagliflozin 10mg daily, spironolactone 25mg daily, and sacubitril-valsartan 49-51 mg BID. Home apixaban 5mg BID was continued for her history of anti-phospholipid syndrome. She was discharged on a prednisone taper as described above, empagliflozin 10mg daily, spironolactone 25mg daily, sacubitril-valsartan 49-51 mg, metoprolol 50mg daily, 5mg Eliquis BID, and furosemide 40 mg every Monday, Wednesday, and Friday. She was instructed to follow up with her Family Physician, Cardiology, Rheumatology and Nephrology.

This case underscores the importance of recognizing LM as an etiology behind lower extremity edema in patients with SLE glomerulonephritis instead of solely attributing it to poor renal function. Although rare, it is important to consider LM as the culprit behind acute lower extremity edema since patients with high SLE disease activity have both LM and LN (3). LM Diagnosis is established through urinalysis, troponin, transthoracic echocardiogram, left and right heart catheterization, and specialty expertise.

It is important to consider LM as an etiology behind acute lower extremity edema in SLE glomerulonephritis patients. Early recognition and diagnosis are key for optimizing patient outcomes through tailored medications, specialists' recommendations, and close follow-up. In turn, early individualized treatment plans improve disease burden and patient quality of life.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

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Category: Clinical Vignette
Residency Program: Corewell Health Farmington Hills Hospital
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Additional Authors: Amira Al-Nabosi, Barbara Senger, Gurveer Gill, and Yevhen Drobot

Not A Cyst, but GIST: A Case Report

Gastrointestinal Stromal Tumors (GISTs) are the most common mesenchymal neoplasms found in the gastrointestinal (GI) tract, although they only account for 1-2% of gastrointestinal tumors. It is suspected that GISTs originate from the Cajal cells, necessary for regulating peristalsis. Diagnosis relies heavily on histopathologic examination, majority of GISTs being caused by an oncogenic mutation in the KIT gene, responsible for the regulation of tyrosine kinase. KIT upregulates the interstitial cells of Cajal, resulting in tumor formation. Therefore, these tumors are predominantly found in the stomach and small intestine, less frequently in colon, esophagus, and rectum. Often these neoplasms are benign, with their clinical presentations varying depending on location, with symptomatology ranging from GI bleeding, dysphagia, abdominal distension, or constipation. Primary extragastrointestinal stromal tumors (EGISTs) are rare, with 0.7% of cases being esophageal and 5.5% presenting at various locations. If found outside of the gastrointestinal system, possible presenting signs could include shortness of breath, chest pain as symptoms are often related to the organ with metastasis. Treatment includes surgical resection if possible, or in patients with metastases, adjuvant targeted therapy using tyrosine kinase inhibitors (Imatinib) can be used.

A 49-year-old female with history of hypertension, migraines, malignant melanoma status-post resection, and anxiety presented to the emergency room for right sided chest pain and neck pain radiating to her back for the last 4 days. She also reported dysphagia and diarrhea. Vitals were significant for a blood-pressure of 178/89, heartrate of 105 beats/minute, afebrile, respiratory rate 18. Initial laboratory investigations were unremarkable apart from a neutrophilic leukocytosis (WBC 15.3 bil/L, Neutrophils 13.0), . Imaging completed included a chest x-ray, notable for a globular attenuation at the right cardio-phrenic angle which could represent atelectasis, a diaphragmatic hernia, or a mediastinal lesion. This was followed up by a CT Chest without IV Contrast was then completed and significant for a well-circumscribed round fluid attenuating mass that measured 6.7x4.8x4.7cm adjacent to the right atrium. Following biopsy of this lesion, a diagnosis of a gastro-esophageal junction GIST with pericardial metastasis was made. She received neoadjuvant therapy with Imatinib and underwent an esophagastroduodenoscopy (EGD) robotic assisted video-assisted thoracic surgery (VATS) with pericardial cyst resection. A chest tube was placed followed by a transgastric laparoscopic robotic assisted endoluminal resection of the GIST tumor.

This case represents the presence of GIST in an atypical location and the importance of pursuing further testing when there is any suspicion of malignancy. Early diagnosis of GISTs is crucial to achieve a reduction in mortality in patients with this specific neoplasm. Diagnosing Gastrointestinal Stromal Tumors presents as a challenge as they can be either asymptomatic or present with a vast array of nonspecific symptoms, often being found incidentally. Early diagnosis is key in reduction of mortality of affected patients, and depending on various factors may be at a higher risk for recurrence. This emphasizes the importance of a thorough investigation and work up if there is any suspicion of malignancy, and prompt pharmacologic and/or surgical intervention.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 018
Category: Clinical Vignette
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Profound endocarditis resulting in recurrent fatigue

A 46 year-old female with past medical history of congenital aortic stenosis status post bovine bioprosthetic valve replacement and an ascending aortic aneurysm repair 13 years prior to presentation presented with fatigue and generalized weakness. The patient also had a history of non-obstructive coronary artery disease, hypertension, and HFpEF. She recently was diagnosed with infectious mononucleosis 3 weeks prior. In the 1 month prior to her index presentation she had two prior admissions for respiratory symptoms.

On physical exam, the patient had a 4/6 holosystolic murmur. Her laboratory markers revealed a profound leukocytosis, mild anemia, a mild troponinemia, hypokalemia, and hyponatremia. Blood cultures revealed staphylococcus epidermidis. Due to inconclusive TTE findings and recurrent presentations with non-specific symptoms, a transesophageal echocardiogram (TEE) was performed. TEE revealed a 5 mm mobile echodensity on the bioprosthetic valve suggestive of a vegetation along with prosthetic valve dehiscence. The TEE also noted abscess formation of the aortic annulus and a fistula between the sinus of valsalva and the left atrium. There was severe mitral regurgitation with perforation of the anterior mitral valve leaflet. Given the extensive endocarditis the patient was to be transferred to a tertiary care facility for cardiothoracic surgery evaluation. In the interim, the patient developed multiple arrhythmias and conduction disease due to the aortic root abscess and infection burden. Throughout her admission she clinically deteriorated and required vasopressor support for mixed shock. Sadly, our patient sustained a cardiac arrest and despite our best efforts she passed away while awaiting transfer.

Although infective endocarditis is typically diagnosed quickly with imaging and managed medically, it is important to recognize the downstream effects of this condition, especially in patients with prior prosthetic valves who are at a higher risk of complications and can have an indolent presentation. Despite having severe valvular disease and endocarditis our patient did not present with classical symptoms of decompensated heart failure at presentation, but rather more non-specific symptoms. Conduction abnormalities are typically suggestive of an aortic root abscess and carry an increased mortality risk along with the need for urgent cardiac surgery. As internists, it is crucial to be vigilant of patients with prior valvular surgeries and procedures who are at risk of prosthetic valve infections and to obtain appropriate imaging.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 019
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Coronary Subclavian Steal Syndrome: A Rare but Deadly Complication in Post-CABG Patients

Coronary Subclavian Steal Syndrome (CSSS) is a rare but serious complication of coronary artery bypass grafting (CABG). It occurs when the left anterior descending (LAD) coronary artery is bypassed from the left subclavian artery (LSA) using the left internal mammary artery (LIMA). The syndrome arises due to stenosis of the LSA, leading to reduced blood flow through the LIMA. This triggers retrograde flow from the LIMA to the distal LSA, resulting in myocardial ischemia despite patent grafts. Clinical presentation can vary from asymptomatic cases to severe manifestations such as new-onset heart failure or acute coronary syndrome (ACS).

A 79-year-old female with history significant for ACS status post CABG (LIMA-LAD) and breast cancer status post radiation presented with chest pain. She described it as dull pain in her substernum that woke her up from her sleep and felt similar to her prior ACS episode. Initial evaluation, including EKG, troponins, and chest X-ray, was unremarkable. However, echocardiography revealed regional wall motion abnormalities. Subsequent left-heart catheterization demonstrated a patent LIMA-LAD graft. However, it revealed 80% proximal stenosis of the LSA with a translesional pressure gradient that increased from 20 to 40 mmHg after nitroglycerin, confirming retrograde flow consistent with CSSS. A stent was successfully placed in the LSA, leading to symptom resolution. The patient was discharged on dual-antiplatelet therapy for 6 months.

It is estimated that up to 12% of patients undergoing CABG have LSA stenosis, although only a small subset develop CSSS. The most significant risk factor for CSSS is concurrent peripheral artery disease. Notably, the AHA guidelines do not currently recommend routine screening for LSA stenosis as part of the pre-CABG evaluation. However, studies have shown that a bilateral systolic blood pressure difference exceeding 15 mmHg has a specificity of 99% for identifying LSA stenosis. Most cases of LSA stenosis are attributed to atherosclerosis, which likely played a significant role in this patient's condition. However, her history of breast cancer treated with radiation could also have contributed to the LSA stenosis, representing a unique cause of CSSS. Regardless of the underlying etiology, CSSS should remain a key consideration in the differential diagnosis for post-CABG patients presenting with angina.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

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A Rare Case of Lenalidomide associated B cell Lymphoblastic Leukemia

Introduction

Autologous stem cell transplantation followed by maintenance with Lenalidomide has improved the overall survival and progression free survival in patients with Multiple Myeloma. However, maintenance therapy with Lenalidomide can increase the risk of several hematological adverse events including secondary B cell lymphoblastic leukemia. We present a case of 61 year old female who was previously treated for multiple myeloma and on maintenance Lenalidomide developed B lymphoblastic leukemia/lymphoma.

Case presentation

A 61 year old female initially presented with left sided hip pain and lower back pain in 2018.Chest X ray revealed mass like opacity in the left upper lobe and erosions of the left posterior aspect of the 6th rib which was confirmed on CT scan. Biopsy of the lesion showed plasma cell neoplasm. Further, flow cytometry was positive for lambda restricted plasma cell population. Monoclonal gammopathy evaluation showed an IgG lambda monoclonal protein measuring 4.1g/dl and elevated free lambda level of 55.26 mg/dl. Bone marrow biopsy showed bone marrow involvement by plasma cell myeloma with 20-30% marrow cellularity. She was treated with 4 cycles of chemotherapy with Lenalidomide, Carfilzomib and Dexamethasone as per protocol with concurrent Zoledronic acid. She showed complete response with normalization of her free lambda level and marked improvement in her monoclonal protein that became unmeasurable.She had a follow up biopsy in 2019 which showed no evidence of plasma cell myeloma. She underwent autologous bone marrow transplant after receiving Melphalan 200mg/m2.

She was then started on maintenance Lenalidomide 10 mg 21 days on and 7 days off with monthly Zoledronic acid.

She presented in December 2024 with worsening fatigue along with easy bruising, gingival bleeding and epistaxis. Complete blood counts showed anemia and thrombocytopenia. Peripheral smear showed granulocytic left shift with occasional circulating blasts with high suspicion for myeloid neoplasm. Bone marrow biopsy in January 2025 confirmed B lymphoblastic leukemia/lymphoma. Flow cytometry revealed a predominant B lymphoblastic leukemia/lymphoma. She is planned to get an induction chemotherapy with mini hyper CVD (Cyclophosphamide, Vincristine, methotrexate, Cytarabine and dexamethasone) with Intozumab, Ozogamicin and Rituxan every 21 days along with intrathecal chemotherapy.

Discussion

Incidence of therapy related secondary ALL is very low. It constitutes only 1.9 to 9 %of all the patients with hematological second primary malignancies.

Some of the properties of Lenalidomide contribute to secondary B ALL. Lenalidomide binds to cereblon protein which is a part of E 3 ubiquitin ligase complex which takes part in repairing damaged DNA. Binding of Lenalidomide to cereblon protein downgrades transcription factors which are involved in the development of B cells leading to the clonal expansion of B cells.

Some of the other risk factors include conditioning with Melphalan , patients age and length of survival contribute to the increased risk of secondary B ALL, making it multifactorial. Further studies are necessary to understand the complexity of this mechanism. This underscores the importance of close follow up of the patients on long term Lenalidomide, particularly for any secondary malignancies and educating the patients about potential adverse events.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 021
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An Incidental Finding of Inferior Vena Cava Thrombosis in a Patient Presenting with Gastroenteritis

Introduction

Inferior vena cava (IVC) thrombosis is an under-recognized entity that is associated with significant morbidity and mortality. IVC thrombosis is prevalent (60% to 80%) among patients with congenital IVC anomalies. These anomalies occur in 0.5%–1% of the general population. Thrombosis of the IVC in the absence of congenital abnormalities is rare and is usually a result of a predisposing hypercoagulable state or IVC filter. Here, we present a case of an incidental finding of IVC thrombosis in a patient presenting with gastroenteritis.

Case description

A 57-year-old female with a past medical history of obstructive sleep apnea, and non-alcoholic steatohepatitis (NASH) presented with a five-day history of generalized abdominal pain, vomiting, and diarrhea. The laboratory tests fecal calprotectin of 196. The patient denied prior thromboembolic events, recent trauma or surgery, malignancy, contraceptive use, past or current smoking. A CT scan of the abdomen with IV contrast was obtained and showed circumferential thickening of the descending colon, a partially calcified thrombus predominantly within the infrahepatic and suprarenal IVC with extension into the hepatic portion, and a left renal vein that obstructed 40% of the IVC lumen. The patient was initially diagnosed with viral gastroenteritis and IVC thrombosis and was put on supportive treatment and IV heparin infusion. Further evaluation with bilateral lower extremity and IVC/iliac vein Doppler ultrasonography was unremarkable. Chart review of the patient's medical records showed that the patient was up to date with her age-appropriate cancer screenings, including a colonoscopy one year ago, which was unremarkable. Thrombophilia workup, including JAK 2 gene mutation and paroxysmal nocturnal hemoglobinuria (PNH) screens, was remarkable for decreased antithrombin and increased Factor VIII activity. The patient's symptoms resolved with supportive treatment, and the patient was discharged on apixaban for outpatient follow-up.

Discussion

IVC thrombosis is a challenging diagnosis for most physicians. It usually has an insidious onset, and the clinical presentation is often ambiguous with nonspecific symptoms. Additionally, physicians are often not familiar with IVC thrombosis and may not entertain this diagnosis unless the patient has a proximal lower extremity DVT. In our case, IVC thrombosis was an incidental and unexpected finding. The thrombophilia workup showed decreased antithrombin levels and increased Factor VIII activity levels. Factor VIII is a known acute-phase reactant, and in an acute inflammatory state, which is shown by the elevated calprotectin level in our patient, it is not reliable. Antithrombin deficiency is rare, with a prevalence of approximately 0.02% in the general population and false-positive results may be seen with liver disease and heparin therapy. There are no specific societal guidelines currently available to aid with the diagnosis and management of IVC thrombosis. Further research and studies are required to define precise guidelines for IVC thrombosis, especially considering the rising use of IVC filters along with elevated late thrombosis rates in up to 33% of patients.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 022
Category: Clinical Vignette
Residency Program: Corewell Health William Beaumont University Hospital
Presenter: David Connolly
Additional Authors: Michael Barnes, MD

A case of futile mechanical thrombectomy in chronic thromboembolic pulmonary hypertension

Introduction

Percutaneous mechanical thrombectomy is a mainstay therapy in the management of high-risk acute pulmonary embolism (PE), as it reduces pulmonary artery pressure and improves right ventricular function. However, the role of percutaneous mechanical thrombectomy in the management of chronic PE or acute on chronic PE is unclear.

Case Description

We present the case of a 46-year-old male who presented to the emergency department with 4 days of worsening dyspnea and pleuritic chest pain. Past medical history is significant for class II obesity, prior transient ischemic attack, pulmonary hypertension with right-sided heart failure, and four admissions over the previous 10 years due to venous thromboembolic events. An inferior vena cava filter had been placed 8 years prior, and he has been maintained on long-term therapeutic anticoagulation with apixaban. However, there have been periods of time where he missed apixaban doses, including the 10 days leading up to the present admission.

On presentation to the emergency department, he was mildly tachycardic and saturating 95% on 4L supplemental oxygen. Computed tomography pulmonary angiography revealed multiple bilateral pulmonary emboli with an RV:LV ratio of 1.5. Bedside point of care ultrasound also demonstrated signs of right ventricular strain. Intravenous heparin was started. Several hours later, percutaneous suction thrombectomy was performed via right femoral vein access. Pre-intervention measurements included pulmonary artery pressure 91/23mmHg (mean 51mmHg) and cardiac index 1.8L/min/m2. Both acute and chronic thrombi were removed, with post-intervention angiogram demonstrating residual distal lobar artery emboli bilaterally. Post-intervention measurements included pulmonary artery pressure 98/28mmHg (mean 57mmHg) and cardiac index 1.8L/min/m2.

Following the thrombectomy, the patient was requiring increasing amounts of supplemental oxygen, up to 6L per minute. Post-procedure point-of-care ultrasound was remarkable for bowing of the interventricular septum towards the left with systole, and severe right atrial enlargement. Over the next several days, clinical status including dyspnea and oxygen requirements improved with intravenous diuresis and continued anticoagulation. Patient was instructed to follow up outpatient with the pulmonary hypertension clinic with the goal of evaluating and optimizing the patient for pulmonary artery thromboendarterectomy.

Discussion

Chronic thromboembolic pulmonary hypertension (CTEPH) occurs when venous emboli accumulate chronically, or remain unresolved, leading to pre-capillary pulmonary hypertension and, eventually, right ventricular failure. Because CTEPH is marked by remodeling of the pulmonary vasculature and the right ventricular myocardium, there is no clear benefit to mechanical thrombectomy. Case reports of mechanical thrombectomy in chronic PE without CTEPH exist, and those patients experienced rapid improvement. However, no trials have demonstrated benefit to thrombectomy in CTEPH. The only curative treatment is pulmonary artery thromboendarterectomy.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 023
Category: Clinical Vignette
Residency Program: Corewell Health William Beaumont University Hospital
Presenter: Meghan Glaser
Additional Authors: Ashley Armstrong (PGY-1), Justin Syzynski (attending)

Water-Associated Bacterial Infection without Aquatic Exposure

Introduction:

Shewanella algae is a gram-negative, facultatively anaerobic bacterium most commonly found in marine environments. It is an emerging human pathogen, most often associated with hepatobiliary and skin and soft tissue infections (SSTI) following water exposure. Known risk factors for infection include those participating in recreational water activities, flood victims, and those with underlying liver disease, immunosuppression, or IV drug use. This case involves a 70-year-old male who was involved in a motor vehicle accident in 2008 leading to multiple orthopedic surgeries complicated by recurrent prosthesis infections who presented with concern for sepsis.

Case Description:

Patient is a 70-year-old male with a past medical history of chronic atrial fibrillation, nonischemic cardiomyopathy, type 2 diabetes mellitus, and multiple left hip surgeries with recurrent prosthesis infections who presented to the hospital with left hip pain, fevers, and fatigue. About 3 weeks prior to admission, the patient had a fall resulting in a periprosthetic fracture of his proximal femur requiring I&D and subsequent left hip disarticulation due to extensive scar tissue. At that time, he was discharged to subacute rehab on a 6-week course of IV cefazolin due to rare Staphylococcus capitis isolated from his left hip synovial fluid. In the ED the patient was hypotensive, tachycardic, and febrile. Labs were remarkable for leukocytosis (33.9) and anemia (9.6). CT abdomen and pelvis showed a 6.4 x 6.4 x 5.8 cm complex fluid collection in the left hip. The patient was evaluated by the medical ICU but didn't require admission as his blood pressure was fluid responsive and did not require vasopressor support. He was admitted to the medicine service and started on IV vancomycin and piperacillin-tazobactam. Orthopedic surgery was consulted and the patient underwent a left hip I&D on hospital day #2. Intra-operative wound cultures grew rare Shewanella algae and few Enterobacter cloacae complex, while hip fluid cultures grew only Shewanella algae. Blood cultures collected in the ED remained negative. Infectious disease was consulted and transitioned the patient to IV meropenem based on the intra-operative culture results. His hemoglobin slowly down-trended, initially thought to be related to hemodilution from aggressive fluid resuscitation as well as his recent surgery – he ultimately required 1 unit of pRBC on hospital day #5. He had a wound vac placed on hospital day #12 due to ongoing serosanguinous drainage from his stump. His hospitalization was further complicated by a COVID-19 infection. Overall, the patient responded well to IV antibiotics and was ultimately discharged to inpatient rehabilitation. Based on ID recommendations, the patient completed a 6-week course of IV meropenem, starting from the date of his surgery.

Discussion:

This case presents a unique scenario given the patient's lack of exposure to an aquatic environment and typical risk factors. This highlights the need for consideration of Shewanella algae as a potential pathogen in patients with prosthetic devices and significant comorbidities, even in those without marine exposure. It reinforces the importance of prompt and thorough diagnostic evaluation, appropriate antimicrobial adjustments, and a multidisciplinary approach in managing rare and complex infections.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 024
Category: Clinical Vignette
Residency Program: Corewell Health William Beaumont University Hospital
Presenter: Emma Glover
Additional Authors: Morgan Kiryakoza, MD, Nader Mina, MD

Development of parapneumonic effusion in a patient using kratom

Introduction:

"Kratom" refers to both Mitragyna speciosa, a tree native to Southeast Asia, and to its products, derived from the tree's leaves, which are marked as an herbal supplement. Kratom is an herbal supplement with both opioid and stimulant-like effects. While there are no approved uses for kratom by the U.S. Food and Drug Administration, it is frequently used by individuals to manage withdrawal symptoms and cravings (especially related to opioid use), pain, fatigue, and mental health disorders. Furthermore, because kratom is unregulated, it can contain contaminants, including heavy metals and harmful bacteria. This case details the development of parapneumonic effusion in an individual taking increasing concentrations of kratom.

Case:

Patient is a 37-year-old male with a past medical history of tobacco dependence and polysubstance use (current kratom use, history of marijuana use, and amphetamine use with last reported amphetamine use four months prior to admission) who presented to the hospital with a four-week history of right-sided chest pain, dyspnea, night sweats, and unintentional weight loss of approximately 10 pounds. Patient reported that prior to symptom onset he began taking higher concentration of Kratom. The patient was referred to the hospital after receiving a chest x-ray at an urgent care, which showed an extensive infiltrate involving the right lower lobe with right lateral perihilar upper lobe involvement, and a right-sided pleural effusion. Upon presentation patient was febrile to 38.4 C and tachycardic to the 100s. Laboratory studies were significant for leukocytosis 22. Urine drug screen was positive for mitragynine, a metabolite of kratom. CT imaging of the chest showed a heterogenous consolidation of the right middle lobe with rounded hypodensities measuring up to 1.3 x 1.2 cm as well as a moderate multi-loculated and septated right parapneumonic effusion, with concern for necrotizing pneumonia and mediastinitis. He was initiated on antibiotic therapy with metronidazole, azithromycin, and ceftriaxone. Pulmonology was consulted however due to loculation of the effusion, surgery was necessary. Thoracic surgery was consulted, and the patient underwent right-sided video-assisted thoracoscopic surgery (VATS) with total decortication. Pleural cultures were obtained and were ultimately negative. Infectious Disease was consulted, and antibiotics were escalated to ampicillin-sulbactam. Patient's condition improved and he was discharged on amoxicillin-clavulanate for an additional 4 weeks.

Discussion:

Mitragynine, the major alkaloid metabolite of kratom, is a partial agonist at the mu-opioid receptor. In animal studies, mitragynine has shown a ceiling effect of respiratory depression due to metabolic saturation of the CYP3A enzyme. Other available evidence suggests that mitragynine has an improved side effect profile and reduced respiratory depression, when compared with traditional opioids such as morphine and codeine. Nevertheless, there is much that remains unknown regarding the physiologic effects and safety profile of kratom, particularly at higher doses. Patients should be counseled that kratom is largely unregulated, and that effects may vary between brands or doses of the supplement.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 025
Category: Clinical Vignette
Residency Program: Corewell Health William Beaumont University Hospital
Presenter: Julia Meireles
Additional Authors: Berk Celik MD, Ajaz Banka, MD

Silent to Stressed: Evaluation of an Incidentaloma With Elevated Normetanephrine Levels

Introduction/Background:

The prevalence of adrenal incidentalomas varies between 1.4-7.3% rising with age due to an increase in imaging studies performed for other reasons. Additional workup is typically done to evaluate for presence of functional masses that over secrete hormones. Elevated catecholamines in the context of an adrenal mass should trigger clinical suspicion for pheochromocytoma, an adrenal medulla tumor. However, for isolated elevations in normetanephrines a broader differential should include paraganglioma as well as stress, certain foods, and medication side effects requiring a thorough history and clinical evaluation. We present a case of an adrenal mass with elevated normetanephrine levels in a relatively asymptomatic patient with progression of symptoms after a stressor.

Clinical Case:

A 59 y/o female with a remote history of migraine headaches and hypertension diagnosed 2 years prior to presentation controlled on hydrochlorothiazide presented to clinic for evaluation of a right adrenal nodule. She underwent abdominal ultrasound for abnormal liver function lab results. The ultrasound incidentally found a 3.5 cm soft tissue nodule in the region of the right adrenal gland. CT study with contrast confirmed presence of 3.4 cm mass in right adrenal gland consistent with lipid poor adenoma measuring 39 Hounsfield units pre-contrast. At the time of her visit the patient denied any sweating, palpitations, headaches. Blood pressure at time of visit was 130/70, BMI was 26.08. Lab work revealed elevated serum free normetanephrines at 3.6, elevated urine metanephrines and catecholamines which were predominantly norepinephrine. Additional workup for aldosterone secreting or cortisol secreting mass was unremarkable. She had no prior family history of paragangliomas upon further questioning. MRI of the abdomen showed 3.4 cm stable mass in the right adrenal gland most consistent with pheochromocytoma, and no additional suspicious lesions. She was referred to endocrine surgery with plans to proceed with elective adrenalectomy, however she was lost to follow up. Approximately 5 months later she presented to an urgent care for symptoms consistent with a UTI and blood pressure was found to be 154/87 likely due to excess catecholamine release from stress on top of likely existing pheochromocytoma. During follow up in clinic 2 months after repeat lab work showed interval increase in urine metanephrines and catecholamine levels, repeat imaging showed stable size of mass with no new additional abdominal findings. Patient was referred to endocrine surgery for adrenalectomy given worsening symptoms and concern for future noncompliance in the event of anesthesia. Patient completed resection of right adrenal gland after appropriate perioperative alpha and beta blockade with resolution of abnormal urine and serum free metanephrine levels. Pathology confirmed pheochromocytoma. Genetic testing was negative for any pathologic variants for pheochromocytoma or paraganglioma.

Conclusion/Clinical Lesson:

Catecholamine over secretion can have serious consequences if left undiagnosed and untreated. This case serves to highlight the presence of hormone secreting tumors in patients with mild or absent symptoms and the need for a broad differential including pheochromocytoma and paraganglioma. It also demonstrates the need for adequate patient counseling and shared decision making to help ensure and prevent delays in necessary treatment.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 026
Category: Clinical Vignette
Residency Program: Corewell Health William Beaumont University Hospital
Presenter: Basant Sanad
Additional Authors: Deena Sukhon, Merzia Subhan, Mamon Tahhan, MD

A Case of Orbital Apex Syndrome and Mucormycosis in Undiagnosed Diabetes

Latent Autoimmune Diabetes in Adults (LADA) is a slowly progressive and indolent condition often characterized by nonspecific symptoms at onset, which can result in delayed diagnosis and the development of severe complications. We report a case presenting with HHS/DKA, left orbital apex syndrome due to invasive fungal sinusitis, and multiple neuropathies. Despite aggressive surgical debridement, antifungal therapy, and ongoing ophthalmologic monitoring, he remains at risk for further complications, including potential orbital exenteration.

A 45-year old male who has not sought medical care in the past 20 years and has no significant past medical history presented with progressive bilateral leg pain and swelling impairing his ability to walk. He reported that his leg pain and weakness has been ongoing for the past 3 years. Additionally, he experienced left facial swelling with decreased vision in his left eye beginning two days prior. On examination, he appeared ill with generalized cachexia and sarcopenia. The left side of his face was swollen with facial droop, although forehead muscle movement remained intact. He exhibited left-sided ptosis with purulent discharge and loss of abduction in the left eye. Furthermore, he had decreased sensation on the left side in V1 and V2 distributions. Laboratory results revealed leukocytosis, anion gap metabolic acidosis, and a glucose level of 810. His urine contained 15 mg/dL ketones and >1000 mg/dL glucose. His HbA1c was >20% with a C-peptide level <0.2 ng/ml. Due to high clinical suspicion of invasive sinusitis, the patient was promptly started on empiric treatment with amphotericin B, vancomycin and meropenem. Abdominal and pelvic imaging showed anasarca but was otherwise unremarkable. A contrast-enhanced CT scan of the head identified concerning areas of air within the inferior orbital fissure, retroantral space, pterygopalatine fossa, inferior turbinate, concerning for invasive fungal rhinosinusitis. An MRI of the brain later revealed a subacute infarct in the left temporal lobe. Under ENT, the patient underwent extensive surgical debridement, during which diffuse necrotic tissue with visible fungal hyphae was observed. Although surgical fungal cultures remained negative a week later, mucormycosis can be difficult to grow from tissue cultures as the organism is a non septate fungus, and thus will die if the hyphae are disrupted. The patient received multiple retrobulbar injections of amphotericin. During his hospital stay, his leg swelling and weakness gradually improved. His leg pain responded well to gabapentin, suggesting it was secondary to diabetic neuropathy.

This case illustrates the severe complications of undiagnosed LADA, including invasive fungal sinusitis and advanced neuropathy, and the value of a thorough physical exam. It underscores the need for a high index of suspicion for invasive infections in patients with acute hyperglycemia and systemic signs of infection, as timely intervention is critical to improving outcomes.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 027
Category: Clinical Vignette
Residency Program: Corewell Health William Beaumont University Hospital
Presenter: Aagamjit Singh
Additional Authors: Nishant Aggarwal, MBBS; Fadi Odish, MD

Hiding in the Midgut: A Case of Small Bowel Diverticular Bleeding in an Elderly Female

Introduction

Diverticulosis in the colon is a common cause of lower gastrointestinal (GI) bleeding. Non-Meckel diverticula in the small bowel have been reported in the literature; however, they rarely cause significant bleeding. We present a case of an 88-year-old woman with a bleeding jejunal diverticulum that was diagnosed and treated with a push enteroscopy.

Case Description

An 88-year-old African-American female with a past medical history of colonic diverticulosis and atrial fibrillation on rivaroxaban presented with a 4-day history of melena. She reported having soft, black stools 2–3 times a day, associated with persistent epigastric discomfort and nausea. Her last dose of rivaroxaban was a day prior to arrival. She denied alcohol use, smoking, or use of non-steroidal anti-inflammatory drugs (NSAIDs). Her most recent esophagogastroduodenoscopy (EGD), performed 15 years earlier, had shown mild erosive gastritis and a duodenal polyp, which was identified as a benign Brunner's gland polyp on biopsy. She had a colonoscopy 9 years earlier, which was unremarkable except for colonic diverticulosis.

On arrival at the hospital, her blood pressure was 110/50 mmHg, and her heart rate was 60 beats per minute. She had a soft abdomen without tenderness. Her hemoglobin was 9.9 g/dL. Rivaroxaban was held, and she was given intravenous fluids and pantoprazole. She underwent EGD the next day, which showed no obvious bleeding source but revealed two large non-bleeding duodenal diverticula. She subsequently underwent colonoscopy, which showed old blood and multiple pan-colonic diverticula without any active bleeding. She continued to have hematochezia and blood loss anemia requiring transfusion, but remanded stable hemodynamically. A radionuclide bleeding scan was performed, which showed active bleeding from a source in the left upper quadrant. Additionally, a computed tomography angiography (CTA) scan of the abdomen localized the bleeding to the jejunum.

She underwent push enteroscopy 9 days from initial presentation, which showed extensive diverticulosis in the second part of the duodenum and the proximal jejunum. One of the jejunal diverticula was noted to have active oozing, which was managed with an endoscopic hemoclip to achieve hemostasis. Over the next few days, she did not have further bleeding, and her hemoglobin stabilized. Rivaroxaban was reintroduced and was well-tolerated prior to discharge.

Discussion

Non-Meckel small bowel diverticula are a rare cause of GI bleeding. Most of these are in the duodenum, with only 0.3–1.3% of the population having jejunal or ileal diverticula based on autopsy studies. Jejunal diverticula are mostly asymptomatic, with only 2% associated with bleeding. However, they may lead to life-threatening bleeding requiring embolization by interventional radiology (IR) and, rarely, surgery.

Our case highlights the importance of considering small bowel diverticular bleeding in a patient with overt GI bleeding without an obvious source on EGD and colonoscopy. In such cases, advanced imaging like radionuclide scans and CTA can help identify the source. Our case was also unique in that the patient’s jejunal diverticular bleeding was successfully managed endoscopically rather than requiring more invasive intervention, underscoring the role of hemostasis by push enteroscopy when the patient is hemodynamically stable.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 028
Category: Clinical Vignette
Residency Program: Corewell Health William Beaumont University Hospital
Presenter: Aiden Van Loo
Additional Authors: Mitchell Schwocho, Francisco Davila

Acne on the valve: A Case of Cutibacterium Acnes Prosthetic Valve Endocarditis and Aortic Root Abscess

Introduction

Infective endocarditis (IE) is a serious infection of the endocardium and the cardiac valves. Its incidence is on the rise, and this has been attributed to the aging population, healthcare-associated infections, and the growing use of intracardiac devices and prosthetic valves. IE is typically caused by gram positive cocci; although other more fastidious organisms can present in a subacute fashion. One such organism that is now becoming identified is Cutibacterium Acnes. It is a gram-positive anaerobe, most commonly known for causing acne. Given its ubiquity as skin flora, it can enter the blood stream and cause systemic infections. Here we present a case of Cutibacterium acnes endocarditis complicated by aortic root abscess.

Case

A 62-year-old male with history of bicuspid aortic stenosis status post bioprosthetic aortic valve with root repair (Bentall Procedure) 5 years prior, presented for evaluation of one week of fevers, chills, diaphoresis and acute onset confusion. His physical exam was significant for fever to 38.7C and an aortic systolic murmur without other stigmata. Inital studies were significant for leukocytosis of 25.4 with left shift and elevated troponins. ECG was non-ischemic but showed a 1st degree AV block, new from prior studies. Bedside echocardiography showed an aortic valve vegetation. Transesophageal echocardiogram confirmed the vegetation with an abscess involving the aortic annulus. The patient was initially started on IV vancomycin and cefepime; eventually doxycycline was added to cover fastidious organisms as cultures were slow to result. Blood cultures grew Cutibacterium acnes. Eventually the patient was taken to the OR for Redo-Bentall procedure which was complicated by the need for coronary artery bypass grafting with intraoperative coagulopathy and need for delayed closure. Intraoperative pathology was consistent infective endocarditis; although no infectious etiology was seen on gram stain. Following stabilization, the patient was ultimately discharged with 6 weeks of daptomycin, cefepime, and doxycycline.

Discussion

This case demonstrates an unusual causative organism of prosthetic aortic valve endocarditis and aortic root abscess. C.acnes is a fastidious bacterium that can take up to 14 days to grow, which can explain the limited identification in this case. Increasing case reports have demonstrated C.acnes to be a causative agent in culture negative endocarditis, especially in males. Besides involving the prosthetic aortic valve, there was also involvement of an aortic graft leading to an abscess. The patient underwent a Bentall procedure previously which involves the mechanical heart valve with placement of Dacron graft into a diseased aortic root. Given the synthetic nature of the graft, these are at higher risk for infections than native tissue. Treatment of aortic root abscess invariably involves repeat surgical repair which carries a 30-day mortality rate of 20-25%.

Conclusion

In patients with a history of cardiac valve replacement, who present with sepsis without a clear source, clinicians should consider IE and have a low threshold for imaging even with negative or atypical blood culture results. Organisms typically considered as normal flora, such as Cutibacterium Acnes can be the causative agents of culture-negative endocarditis in this population.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 029
Category: Clinical Vignette
Residency Program: Corewell Health William Beaumont University Hospital
Presenter: Lark Steafo
Additional Authors: Kateryna Strubchevska, Olena Strubchevska, Marko Kozyk, Shazil Mahmood, Steven Timmis

Double Trouble: A Case of Persistent Left-Sided Superior Vena Cava

A persistent left-sided superior vena cava (PLSVC) is a rare vascular anomaly where the left superior cardinal vein fails to regress during embryogenesis, resulting in an additional venous structure that drains into the right atrium, often via the coronary sinus. It is usually asymptomatic but may be discovered incidentally during imaging or procedures, but its presence can have implications for central venous access and pacemaker placement.

Our case features an 82-year-old male with a past medical history of coronary artery disease, remote esophageal cancer, hypertension, hyperlipidemia, and tobacco use disorder, referred to the emergency department from his primary care doctor's office asymptomatic bradycardia during a routine clinical visit. On arrival, he remained asymptomatic with notable vitals showing hypertension (150/60 mmHg) and bradycardia (heart rate in the 30s). ECG revealed a third-degree heart block, and his physical exam and laboratory findings, including complete blood counts, renal function, and cardiac markers, were unremarkable. Due to the high risk of deterioration, a temporary transvenous pacer (TVP) was placed via the right internal jugular vein, confirmed by chest X-ray, and he was admitted to the cardiac intensive care unit for evaluation by electrophysiology for permanent pacemaker placement.

Overnight, the patient accidentally dislodged the TVP wire while scratching his neck. A new TVP was inserted in the right internal jugular vein, but it began losing capture within hours, despite confirmation of correct positioning by chest X-ray and repeated threshold testing. The patient's complete heart block persisted, raising concerns of lead malfunction or impedance. Transcutaneous pacer pads were used as a backup, but the patient experienced a five-second episode of asystole and cardiac arrest. ACLS protocol was initiated, achieving return of spontaneous circulation within three minutes after one round of CPR and epinephrine. Following this event, a new TVP was successfully placed via the left internal jugular vein, restoring rhythm with overdrive pacing. Interestingly, a follow-up chest X-ray revealed the TVP wire's anomalous course, confirming placement through a persistent left-sided superior vena cava. The wire traveled via the left-sided SVC into the coronary sinus, then the right atrium, and finally into the right ventricle.

Recognizing a PLSVC is crucial due to its implications for central venous access, device placement, and procedural safety. It can alter the expected anatomy, leading to difficulties in advancing catheters or pacemaker leads and increasing the risk of misplacement or vessel injury. Failure to recognize PLSVC can result in procedural complications, such as arrhythmias, venous perforation, or inadequate pacing. Understanding its presence allows clinicians to tailor their approach, use appropriate imaging for guidance, and mitigate potential risks during interventional procedures.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 030
Category: Clinical Vignette
Residency Program: Detroit / Wayne County Authority Health
Presenter: Ebesoh Nkwenya
Additional Authors:

When Endocrine and Genetic Disorders Collide: Acromegaly with Recurrent Pituitary Macroadenoma and Familial Papillary Thyroid Carcinoma

INTRODUCTION

Acromegaly is an endocrine disease caused by GH-secreting pituitary macroadenoma, leading to elevated growth hormone (GH) and insulin-like growth factor 1 (IGF-1) levels [4]. Hormonal overproduction triggers abnormal cell growth, metabolic imbalances, and organ enlargement. Symptoms include facial, hand, and foot enlargement, thickened skin, and increased cardiovascular issues and cancer risks, leading to premature mortality. Elevated GH is linked to tumorigenesis, particularly thyroid and colorectal cancers [1, 2]. Early diagnosis and treatment, including surgery or pharmacological management, are vital. We present a 54-year-old male with acromegaly, recurrent pituitary macroadenomas, and familial cancer syndromes, highlighting the need for multidisciplinary management and genetic evaluation.

CASE PRESENTATION

A 54-year-old male with a complex medical history, including acromegaly diagnosed at age 37, presented with headaches, diplopia, panic attacks, bilateral extremity weakness, weight loss, erectile dysfunction, and fatigue. Past medical history includes premature birth. Family history includes first-degree relatives with papillary thyroid cancer, melanoma, basal cell carcinoma, squamous cell carcinoma, and colonic polyps.

Physical examination revealed features of acromegaly. IGF-1 levels were elevated at 595 ng/mL (reference range: 100–300 ng/mL), and MRI showed a 4 cm suprasellar pituitary macroadenoma. An echocardiogram indicated left ventricular hypertrophy, while bone density testing revealed osteoporosis, though bisphosphonate treatment was declined. Colonoscopy was unremarkable.

The patient underwent transsphenoidal resection, confirming an IGF-1-secreting pituitary macroadenoma and craniopharyngeal duct remnant. Postoperative panhypopituitarism required hormone replacement. Persistent IGF-1 elevation (595 to 776 ng/mL) necessitated somatostatin analogs, subtotal tumor resection, and radiation. Pegvisomant normalized IGF-1 levels (106 ng/mL), and MRIs showed stable residual tissue.

Complications included melanoma in situ, benign lung nodules, and gallbladder polyps. At age 46, thyroid nodules were identified, and total thyroidectomy confirmed Stage I papillary thyroid carcinoma, with no recurrence on surveillance imaging. Recently, he sustained an occipital skull fracture from a fall.

DISCUSSION

The patient exhibited symptoms indicative of pituitary mass effect, and subsequent evaluations confirmed a diagnosis of acromegaly caused by an IGF-1-producing pituitary macroadenoma. IGF-1, synthesized in various tissues including the liver, pituitary gland, and cartilage, is a mediator of growth hormone (GH) activity[8]. Acromegaly, comprising 30% of hormone-secreting pituitary adenomas, results from somatotroph cell transformation and excessive GH secretion[7]. Germline mutations in the aryl hydrocarbon receptor-interacting protein (AIP) gene are implicated in younger patients with a familial predisposition [5, 6], warranting genetic testing. A relationship between Acromegaly and Thyroid malignancy has been discovered and it is said to be due to excess IGF-1 inducing an antiapoptotic effect in thyroid follicular cells [10].

This patient's history of multiple neoplasms, including melanoma in situ, benign lung nodules, and gallbladder polyps, and notable family history of malignancies suggests a possible genetic predisposition to tumorigenesis. This presentation raises the possibility of MEN syndrome, Carney complex, or Lynch syndrome, despite the latter's lack of a direct association with pituitary adenomas.

This case underscores the importance of a multidisciplinary approach, integrating genetics, endocrinology, oncology, and surgery to unravel the underlying genetic mechanisms of complex presentations and optimize patient management

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 031
Category: Clinical Vignette
Residency Program: Detroit Medical Center/Wayne State University
Presenter: Ali Al-Ramadan
Additional Authors: Ishaq Khoury, Nashat Imran, Ali Awad, Abdallah Kheshman

Dobutamine-Induced Myoclonic Jerks in a Patient with Acute Decompensated Heart Failure

Introduction

Dobutamine, a β1-adrenergic agonist commonly used in acute decompensated heart failure, can occasionally cause rare neurological side effects such as myoclonic jerks. These involuntary movements, characterized by sudden, brief muscle contractions, are rarely reported in the context of dobutamine administration.

Case Presentation

A 72-year-old male with a history of right-sided systolic heart failure, coronary artery disease status post coronary artery bypass grafting, atrial fibrillation with pacemaker placement, hypothyroidism, thoracic aortic aneurysm, benign prostatic hyperplasia, and obstructive sleep apnea. He presented with progressive dyspnea and worsening lower extremity edema.

Physical examination and imaging revealed cardiomegaly, bilateral perihilar and lower lobe airspace opacities, cephalization of pulmonary vasculature, and pulmonary vascular congestion consistent with pulmonary edema. Electrocardiography showed no ischemic changes, and mildly elevated troponins. Previous right heart catheterization shows moderate pulmonary hypertension (mean pulmonary artery pressure 31 mmHg). Transthoracic echocardiography prior to admission demonstrated an ejection fraction of 55–60% and Grade 1 diastolic dysfunction.

Initial management included optimization of the patient's home medications—Entresto 24/26 mg BID, metoprolol succinate 25 mg daily, empagliflozin 10 mg daily, and spironolactone 25 mg daily—and up-titration of diuretic therapy with metolazone 2.5 mg three times weekly and intravenous furosemide 60 mg twice daily. Despite this regimen, the patient experienced diuretic resistance, prompting initiation of a dobutamine infusion at 5 mcg/kg/min on day 7 of admission.

Within 24 hours of dobutamine initiation, the patient developed sudden-onset, uncontrolled, involuntary jerky movements involving all four extremities, the trunk and abdomen, consistent with myoclonic jerks. The myoclonic jerks were severe enough to cause the patient vast discomfort. A thorough review of literature found few case reports suggesting that dobutamine was the likely culprit. As such the infusion was discontinued due to sufficient urine output and stable hemodynamics. However, this led to hypotension, thus the patient was started on norepinephrine at 0.05 mcg/kg/min.

The patient's myoclonic jerks resolved completely within 12 hours of dobutamine discontinuation. Subsequent management stabilized his hemodynamics, and no recurrence of myoclonic jerks was observed.

Discussion

Dobutamine-induced myoclonic jerks are a rare but significant adverse effect. The exact mechanism is unclear, but potential theories include catecholamine-induced neurotoxicity and central nervous system excitation mediated by β-adrenergic stimulation. Prompt recognition and discontinuation of the offending agent are crucial for symptom resolution.

This case highlights the importance of monitoring for neurological side effects during dobutamine therapy in ADHF patients. Clinicians should be aware of atypical neurologic adverse effects of dobutamine to modify treatment.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 032
Category: Research
Residency Program: Detroit Medical Center/Wayne State University
Presenter: Ali Al-Ramadan
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Morbidity and Mortality of Ondansetron, a Selective 5-Hydroxytryptamine Type 3 Receptor Antagonist, in Patients with Non-Congenital Long QT Syndrome: A Review

Introduction:

Ondansetron, a selective 5-hydroxytryptamine type 3 (5-HT3) receptor antagonist, is one of the most commonly prescribed medications for preventing and managing nausea and vomiting caused by chemotherapy, radiation, or surgery. While its efficacy is well-documented, concerns about its potential to prolong the QT interval have raised significant safety considerations. QT prolongation, which can lead to life-threatening arrhythmias like torsades de pointes, is a well-known risk in patients with congenital long QT syndrome. However, less attention has been given to the risk in patients without congenital QT abnormalities. This review explores the evidence surrounding ondansetron's cardiovascular risks in non-congenital long QT syndrome patients, highlighting mechanisms, clinical outcomes, and strategies for safer use.

Discussion:

Ondansetron acts by blocking 5-HT3 receptors, inhibiting the hERG potassium channel critical for cardiac repolarization. This mechanism, while effective for controlling nausea, can prolong the QT interval, increasing the risk of arrhythmias. Studies have demonstrated a dose-dependent relationship, with higher intravenous doses—such as the previously approved 32 mg dose—causing significant QT prolongation. The FDA has since restricted intravenous doses to 16 mg and recommended careful cardiac monitoring in high-risk populations.

Clinical evidence shows that even standard doses of ondansetron can lead to adverse cardiac events, particularly in patients with predisposing factors like electrolyte imbalances, use of other QT-prolonging drugs, or preexisting cardiac conditions. Case reports highlight instances of torsades de pointes following low doses, emphasizing the importance of individualized risk assessment. Despite these risks, ondansetron remains widely used in emergency and perioperative settings, often without sufficient cardiac evaluation.

To mitigate these risks, clinicians should adhere to FDA guidelines, correct electrolyte abnormalities prior to administration, and conduct ECG monitoring in patients with known cardiac risks. Educating patients on the signs of arrhythmias, such as dizziness or palpitations, is also essential for early intervention. For individuals at higher risk, alternatives like neurokinin-1 receptor antagonists may offer a safer option, as these drugs have shown minimal impact on cardiac repolarization in early studies.

Conclusion:

Ondansetron is a cornerstone of antiemetic therapy, offering significant benefits in managing nausea and vomiting. However, its potential to prolong the QT interval and cause arrhythmias in certain populations requires careful consideration. By identifying at-risk patients, adhering to dosing guidelines, and exploring alternative therapies when appropriate, healthcare providers can optimize safety while maintaining therapeutic efficacy. Balancing the benefits and risks of ondansetron use is crucial, particularly as its use continues to expand in various clinical settings.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 033
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Primary squamous cell carcinoma of the stomach: a rare entity - case report

Squamous cell carcinoma (SCC) in the gastrointestinal tract is rare. When encountered, SCC in the GI usually involves the esophagus or the anal canal, where squamous cells are normally found. This is also true for gastric cancers, where adenocarcinomas are the most common type of malignancies. However, very few case reports exists for SCC, with some estimates putting SCC as accounting for 0.04%–0.5% of all gastric cancer cases. Even more rarely, SCC occurs in the fundus as most reported cases involve the lesser curvature of the stomach. Here, we present a patient diagnosed with SCC in the fundus of the stomach.

Case presentation

A 78-year-old woman was referred to the hospital by her primary care provider for evaluation of anemia and weight loss. Initially, patient noticed decreased appetite and weight loss over prior 3 months, but she assumed the symptoms were a side effect of Jardiance, which patient started taking during the same period. Patient continued to lose weight after stopping Jardiance. Then, a routine blood test showed anemia of 7.1 compared to 10.2 three months earlier, for which she was referred to the hospital for evaluation. Further workup included upper endoscopy and colonoscopy via colostomy, which showed an ulcerative friable mass lesion in the fundus of the stomach. Multiple biopsies were taken for evaluation. CT thorax/abdomen/pelvis confirmed large enhancing mass in the fundus of the stomach, but with no evidence of metastases in the chest, abdomen, pelvis.

Pathology sections showed pleomorphic, atypical tumor cells with conspicuous nucleoli growing in a solid pattern. Immunostaining was done; tumor cells were strongly immunoreactive for p40 and CK7, focally and weakly immunoreactive for GATA3, and non-immunoreactive (negative) for CK20, PAX8, CD56, SOX10, and CDX2. Collectively, these findings support a diagnosis of SCC.

The case was discussed at the tumor board, and a PET scan was recommended. Staging PET confirmed the patient has localized gastric SCC and possible local nodes. However, there was no evidence of distant FDG avid metastatic disease, and no primary cancer outside the stomach was noted. Decision was made to treat patient with 6-week course of chemoradiation with carbo/Taxol, followed by surgery.

Discussion

Official recommendations regarding the diagnosis of SCC of the stomach are lacking. If squamous cells are seen in the stomach, metastasis from other sites, namely esophageal cancers, must be considered. Proposed diagnostic criteria include that the tumor is not in the cardia; the tumor does not extend into the esophagus; and that no evidence of SCC presents in any other organ. Whether SCC comes from the stomach or not, will affect treatment decisions. In our case, other possible primary malignancies were excluded, so we treated the patient per stomach cancer protocols.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

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An unusual case of isolated Epstein Bar Virus hepatitis

Introduction

Acute Epstein-Barr Virus (EBV) infection is a common viral illness, often associated with infectious mononucleosis. While EBV typically presents with fever, pharyngitis, and lymphadenopathy, its clinical spectrum can involve various organ systems, including the liver. Hepatic involvement, though frequently mild and transient, may present with significant biochemical abnormalities and jaundice. This report describes a unique case of acute EBV infection in a patient presenting with jaundice and splenomegaly but without lymphadenopathy or significant hepatomegaly. The diagnostic process and clinical course are highlighted, providing insights into the hepatic manifestations of EBV.

Case Description

A 32-year-old male with a history of hypertension presented with one day of yellowing of his eyes. He reported a four-week history of upper respiratory tract infection symptoms, including intermittent fever (38–39 °C) and a cough that started two weeks prior. The cough, initially productive, became nonproductive by the time of presentation. He denied alcohol or drug use, sick contacts, or unsafe sexual practices. Notably, the patient did not report sore throat or odynophagia during the initial evaluation.

On physical examination, the patient was afebrile and hemodynamically stable. Moderate tonsillar erythema was noted without edema or exudates. There was no lymphadenopathy. The abdominal examination revealed splenomegaly but no hepatomegaly.

Laboratory results revealed normal white blood cell count with elevated liver enzymes: ALT 491 U/L, AST 230 U/L, ALP 428 U/L, total bilirubin 4.84 mg/dL, and direct bilirubin 1.93 mg/dL. During hospitalization, ALT and AST trended down to 91 U/L and 251 U/L, respectively, while ALP remained elevated at 430 U/L. A comprehensive workup, including tests for HIV, hepatitis panel, ceruloplasmin, mitochondrial antibodies, smooth muscle antibodies, and viral serologies for varicella, mumps, and rubella, returned negative results. A Monospot test was positive, and EBV-specific serologies confirmed acute infection, with viral capsid IgM of 95.60 U/mL and IgG of 54.80 U/mL.

Imaging studies included a right upper quadrant ultrasound that demonstrated diffuse gallbladder wall thickening without evidence of calculous cholecystitis, diffuse liver parenchymal hypoechogenicity consistent with acute hepatitis, and splenomegaly. Magnetic resonance cholangiopancreatography revealed mild to moderate hepatomegaly and markedly enlarged spleen measuring 15x11x15 cm without evidence of focal abnormal signal or enhancing mass, and no biliary dilation or evidence of cholelithiasis or choledocholithiasis.

Interestingly, following the MRI findings of splenomegaly, further history revealed that the patient had experienced sore throat and odynophagia four weeks prior, which had resolved by the time of presentation. This retrospective detail, not initially disclosed, further corroborated the diagnosis of EBV infection.

Discussion

Acute EBV infection often presents with fever, pharyngitis, and lymphadenopathy, but hepatic involvement, including jaundice, is rare. This case highlights an unusual presentation with jaundice, elevated liver enzymes, and splenomegaly, without the typical lymphadenopathy or pharyngitis. The delayed disclosure of sore throat symptoms, revealed after imaging, was key to diagnosing EBV. This case underscores the importance of considering EBV in the differential diagnosis of acute hepatitis, particularly in young adults with systemic symptoms and jaundice. Early recognition of atypical presentations can avoid unnecessary invasive procedures and guide appropriate management.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 035
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Unmasking occult malignancy through cutaneous leukocytoclastic vasculitis

An 83-year-old female with a past medical history significant for hypertension, thrombocytosis, and coronary artery disease presented with a painful nodular rash, palpable purpura, and edema of her lower extremities ongoing for 2 to 3 weeks. She used topical ketoconazole cream for tinea pedis a week prior to symptom onset and started taking olmesartan 3 months ago. Her presenting rash included poorly defined erythema and edema of the left foot, violaceous bullae on the right knee, erythematous papules on the left knee, lichenified plaques on the bilateral feet, and palpable purpura of the bilateral lower extremities with diffuse tenderness. In addition to her rash, her presentation was notable for severe hypertension at 219/101 mmHg (without signs of end-organ damage) and borderline tachycardia at 98 bpm.

Her initial exam and history raised concern for cellulitis, prompting initiation of intravenous antibiotics (vancomycin), which were discontinued shortly thereafter. Due to suspicion for underlying vasculitis, skin perilesional and lesional punch biopsies were obtained. While awaiting histology, a lower extremity duplex ruled out DVT, and autoimmune workup (ANA, ENA, dsDNA, C3, C4, RF, anti-CCP, P-ANCA, C-ANCA) was unremarkable except for elevated inflammatory markers (CRP 36.8). Acute hepatitis panel and HIV were negative. CT angiography of the chest, abdomen, pelvis, and lower extremities, performed to evaluate systemic vasculitis, revealed a 7 cm right renal mass with prominent heterogeneous enhancement and small low-attenuation cystic or necrotic regions highly suspicious for malignancy. Imaging also noted atherosclerotic changes of the aorta and its branches but no evidence of vasculitis.

Pathology reports from the skin biopsies showed neutrophilic dermal infiltrate, cellular debris, and vasculitis of small vessels and capillaries. Thromboemboli were observed in the mid and upper dermis, with associated necrosis in some areas. These findings were consistent with leukocytoclastic vasculitis (LCV), with a lower likelihood of autoimmune origin given negative direct immunofluorescence studies. Due to the lack of systemic involvement, supportive measures including cold packs and elevation of the lower extremities were utilized, resulting in significant symptom improvement.

CT-guided biopsy of the renal mass revealed clear cell renal cell carcinoma, WHO/ISUP grade I. Given Stage I (T1bN0M0) of renal cell carcinoma, complete nephrectomy was performed as curative treatment. The patient's postoperative course was relatively uncomplicated, and she was discharged home with close follow-up.

Vasculitis as a paraneoplastic syndrome is rarely associated with renal cell carcinoma, occurring in only 8% of cases. LCV presents with erythematous spots and palpable purpura, primarily on the lower limbs. Workup includes a thorough history, infectious and autoimmune studies, and skin biopsy with direct immunofluorescence. While direct immunofluorescence may reveal immune complexes indicating an autoimmune cause, these were absent in our patient. Malignancy is implicated in ~5% of LCV cases, and in idiopathic presentations like ours, LCV may serve as a marker for underlying malignancy. Early recognition of malignancy-associated LCV facilitates prompt diagnosis, treatment, and improved outcomes. Routine screening for latent malignancy should be considered in patients with idiopathic cutaneous vasculitis, particularly those over 50 years of age.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 036
Category: Clinical Vignette
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Polymicrobial Septic Shock from Spontaneous Secondary Hydropneumothorax in End-Stage Necrotic Lung Cancer: A Case Report

Introduction

Spontaneous secondary pneumothorax is a known manifestation of lung malignancy. However, the rupture of lung cancer leading to spontaneous hydropneumothorax is considered rare, with an incidence ranging between 0.03% and 0.05% (1-3). We present a patient with known metastatic small cell lung cancer, not actively receiving treatment, who developed a spontaneous hydropneumothorax due to the rupture of necrotic lung cancer, complicated by polymicrobial bacteremia secondary to Pseudomonas aeruginosa and methicillin-resistant Staphylococcus aureus.

Case Presentation

A 62-year-old lady with left-sided small cell lung cancer (SCLC) metastatic to the right chest and brain was admitted after being found unconscious by her family. She was discovered to have an intracranial hemorrhage due to bleeding metastasis, requiring emergent craniectomy. She had previously received chemoradiotherapy four years prior, completing etoposide and carboplatin along with left chest and whole brain radiation. She declined further treatment due to radiation burns and was lost to follow-up for the next two years before presentation. Post-operatively, she did not regain her baseline mental status, remaining oriented only to self, but was extubated and transferred to the medical floor on post-operative day 2 where she was managed for ongoing dysphagia and encephalopathy while the family discussed her disposition goals.

On post-operative day 8, she developed acute respiratory distress and was found to be in hypoxic respiratory failure with oxygen saturation 70% on pulse oximetry on 15 liters of nonrebreather necessitating emergent intubation. She was noted to be in shock with leukopenia (white blood cell count of 26,000 cells per cubic millimeter) requiring norepinephrine. Repeat computed tomography of the thorax demonstrated ongoing fluid-filled necrotic masses bilaterally invading the lung parenchyma, with interim rupture of the right mass now in connection with pleural hydropneumothorax. A chest tube was placed returning frank pus. Blood and pleural fluid cultures both returned with growth of pan-sensitive Pseudomonas aeruginosa and methicillin-resistant Staphylococcus aureus, indicating a clear pulmonary etiology for septic shock. Her blood cultures remained positive on subsequent testing, however, the patient was not a candidate for any surgical source control by cardiothoracic surgery and was transferred to hospice.

Discussion

Very few case reports describe polymicrobial bacteremia as a complication of pneumothorax from a ruptured, necrotic malignant lung cancer. In our patient, not only did she have a pneumothorax, but also polymicrobial bacteremia. The severity of our patient's presentation suggests that further cancer-directed treatment would be palliative rather than curative, given the number of infected necrotic cancerous lesions. This case highlights an unfortunate complication of end-stage metastatic small cell lung cancer.

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2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 037
Category: Clinical Vignette
Residency Program: Detroit Medical Center/Wayne State University
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Broken Heart or Heart Attack? Unmasking Reverse Takotsubo Cardiomyopathy

Introduction:

Reverse Takotsubo cardiomyopathy (rare variant of stress or Takotsubo cardiomyopathy, also known as broken heart syndrome) is a medical condition characterized by transient regional wall motion abnormality affecting basal segments of left ventricle. This condition closely mimics myocardial ischemia and poses a diagnostic challenge as well as results in extensive and unnecessary diagnostic evaluation including ischemic and non-ischemic etiologies, emphasizing the importance of early recognition and accurate differentiation to optimize patient care.

Case Presentation:

A 60-year-old male with history of secondary adrenal insufficiency and hypothyroidism following pituitary adenoma resection presented with pre-syncope. On admission, he reported dizziness, however denied any chest pain or shortness of breath. On physical examination, he was hypovolemic and hypoglycemic with a blood glucose of 45mg/dl. His troponin was 0.07 ng/ml. Electrocardiogram (ECG) showed T wave inversion in leads II, III, aVF, V3-6 while Transthoracic Echocardiography (TTE) revealed combined systolic and diastolic heart dysfunction with decreased left ventricular ejection fraction (EF) to 30-35% with basal hypokinesia and relatively preserved apical contractility. Patient underwent coronary angiography the next day which demonstrated nonobstructive coronary artery disease with 10-20% ostial disease in left main and minor luminal irregularities of left anterior descending artery, left circumflex and diagonal branches. Patient was started on goal directed medical therapy (GDMT) with sacubitril/valsartan, metoprolol and empagliflozin and was scheduled for outpatient cardiology follow-up for further workup of non-ischemic cardiomyopathy with cardiac magnetic resonance imaging (MRI). Patient was re-admitted 1.5 months later for similar complaints. Bedside echocardiography revealed resolution of basal hypokinesia and normally contracting basal and apical region of LV with TTE showing normal left ventricular size and systolic function with EF approximately 55-60%, no regional wall motion abnormalities and grade I diastolic dysfunction. Review of previous TTE confirmed basal segment hypokinesis, with preserved apical function, compatible with reverse Takotsubo cardiomyopathy. Patient's cardiac function normalized following removal of stressors and GDMT was discontinued. Patient's pre-syncope was attributed to non-adherence to levothyroxine and hydrocortisone prescribed for hypothyroidism and adrenal insufficiency

Conclusion:

This case highlights the uncommon presentation of reverse Takotsubo cardiomyopathy which can mimic myocardial infarction on initial presentation. Recognition of this syndrome on 2D echocardiography is crucial, as it not only aids in differentiating this condition from acute coronary syndromes, but also plays a pivotal role in guiding management, prognosis and recovery.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 038
Category: Clinical Vignette
Residency Program: Detroit Medical Center/Wayne State University
Presenter: Abdallah Kheshman
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Unusal Presentation of Superior Mesenteric Artery Syndrome in a Patient with Metastatic Pancreatic Adenocarcinoma: A Multidisciplinary Approach to Complex Care

INTRODUCTION

Superior mesenteric artery (SMA) syndrome, also referred to as Wilkie's syndrome, is a rare gastrointestinal obstruction caused by the narrowing of the angle between the superior mesenteric artery and the abdominal aorta. This reduced angle compresses the third portion of the duodenum, leading to symptoms of upper gastrointestinal obstruction. Most cases are associated with conditions causing significant weight loss, including malignancies, anorexia nervosa, or chronic illnesses. The incidence is rare, ranging from 0.1–0.3%, with a higher prevalence in younger women. This case report discusses an unusual presentation of SMA syndrome in a 75-year-old female with metastatic pancreatic adenocarcinoma, highlighting the complexity of its management and the role of a multidisciplinary approach.

CASE DISCUSSION

The patient, a 75-year-old female with a known history of metastatic pancreatic adenocarcinoma, presented to the hospital with severe nausea, vomiting, and worsening abdominal discomfort. Her symptoms had been progressive over several days, accompanied by significant weight loss due to poor oral intake over the preceding weeks. On admission, she appeared hemodynamically stable but was tachycardic. Initial workup revealed hyponatremia, leukocytosis, and evidence of gastric pneumatosis on chest x-ray.

A contrast-enhanced CT of the abdomen and pelvis confirmed the diagnosis of SMA syndrome, showing a reduced aortomesenteric angle of 20.48° and significant dilation of the stomach and distal esophagus. Uniquely, the imaging also revealed diffuse pneumatosis of the gastric wall, esophagus, and urinary bladder, a finding rarely reported in SMA syndrome. The patient's acute encephalopathy complicated her clinical presentation and was attributed to multiple factors, including opioid-induced sedation, hyperammonemia from gastrointestinal bleeding, and potential nutritional deficiencies, such as Wernicke’s encephalopathy.

To manage her symptoms, a nasogastric tube was placed for gastric decompression, yielding high volumes of sanguineous fluid. She was treated with pantoprazole for gastrointestinal bleeding and lactulose to address hyperammonemia. However, her overall clinical state remained tenuous due to her advanced pancreatic cancer and poor physiologic reserve. Surgery was deemed non-viable given her extensive metastatic disease and limited likelihood of recovery.

A multidisciplinary team, including specialists from oncology, surgery, palliative care, and supportive care, engaged with the patient and her family to determine the best course of action. Discussions focused on her prognosis, which was estimated to be days to weeks, and her wishes for end-of-life care. With the patient’s consent, care was transitioned to a comfort-focused approach, prioritizing symptom management and dignity. She was transferred to hospice, where she passed peacefully within five days.

CONCLUSION

This case highlights the importance of recognizing atypical presentations of SMA syndrome, particularly in patients with underlying malignancies. The presence of diffuse pneumatosis involving gastrointestinal and genitourinary tracts is exceptionally rare, reflecting the complex interplay between her advanced cancer and SMA syndrome. Early recognition and a multidisciplinary approach were essential in optimizing her care. This case emphasizes the value of prioritizing patient-centered goals in managing advanced disease, balancing clinical interventions with quality-of-life considerations.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 039
Category: Clinical Vignette
Residency Program: Detroit Medical Center/Wayne State University
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A case of cytarabine-induced leukocytoclastic vasculitis

Cytosine arabinoside (ara-C) is a widely used chemotherapeutic agent. While it is generally well-tolerated, it is known to induce a range of adverse effects, particularly at higher doses and with prolonged courses of treatment. Dermatologic side effects, such as rashes and mucositis, are common.

However, more severe cutaneous reactions, including vasculitis, are less frequent. To date, there have been few reported cases of vasculitis specifically linked to single-agent ara-C therapy. Here, we present a case of a patient who developed leukocytoclastic vasculitis following treatment with ara-C.

A 66-year-old man with a history of type 2 diabetes mellitus, hypertension, and gout was admitted to a cancer center for induction chemotherapy for newly diagnosed AML. He was started on a 7+3 regimen planned to treat with 226 mg of cytarabine for 7 days followed by 136 mg of daunorubicin for 3 days.

On the second day of treatment with cytarabine, the patient was found to have developed a palpable, purpuric, maculopapular rash on his upper and lower extremities, as well as smaller purpuric macules on the face and lower back. There were no systemic manifestations. Initially, the rash was suspected to be caused by allopurinol which was a home medication he had been taking for his gout. However, the rash continued to progress after discontinuing allopurinol and dermatology was consulted on day 4 of treatment.

Initial workup, including infectious screening, hepatitis B and C serologies, and an autoimmune panel, was negative. Dermatology team raised concerns for leukocytoclastic vasculitis versus IgA vasculitis. A skin biopsy was performed on day 7 of treatment to confirm the diagnosis and exclude IgA vasculitis. Histopathology revealed a neutrophilic interstitial dermal infiltrate, cellular debris, and vasculitic changes in the small vessels. Direct immunofluorescence was negative, lowering the suspicion of autoimmune causes. These findings were consistent with drug-induced leukocytoclastic vasculitis (LCV).

Cytarabine was identified as the most likely causative agent. His rash began to resolve after completing the 7 day course of cytarabine and starting topical corticosteroids. He was discharged from the hospital having completing the 10 day course of induction chemotherapy. At his clinic follow up one week after discharge, his rash had fully resolved and steroids were discontinued.

The pathogenesis of cytarabine-induced vasculitis is thought to involve a direct toxic effect of cytarabine on endothelial cells, leading to vascular injury. Importantly, this condition is usually limited to the skin, and systemic vasculitis is not commonly observed in affected patients. Previous studies have suggested that higher doses and longer durations of ara-C therapy are linked to an increased risk of skin toxicity. However, our case demonstrates that lower-dose regimens can also cause vasculitis in susceptible individuals. This emphasizes the importance of prompt recognition and management of cutaneous manifestations, especially in patients during or after ara-C therapy. Healthcare providers should be vigilant when patients present with unexplained skin lesions, as early identification and reassurance can help alleviate concerns. While most cases are typically mild and self-resolving with supportive care, attentive monitoring is essential to ensure patient safety and comfort.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

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Immediate Device-Related Thromboembolism Following Watchman Implantation

Introduction

Atrial fibrillation is a common arrhythmia associated with an elevated risk of thromboembolic stroke which can be managed with oral anticoagulation or left atrial appendage occlusion devices such as Watchman device. While the Watchman device reduces stroke risk, complications such as device-related thrombus and embolism remain concerns. Here, we present a rare case of immediate thromboembolism following Watchman implantation and explore possible causes, including device-related and aortic embolism.

Case Presentation

An 86-year-old male with a history of paroxysamal AF, heart failure with preserved ejection fraction, coronary artery disease and gastrointestinal bleeding underwent elective Watchman implantation. During the procedure, heparin and propofol were administered. Postoperatively, the patient remained unresponsive, prompting a stroke code. Examination revealed nonreactive pupils, extensor posturing, and NIHSS of 29.

A CTA of the head and neck showed occlusion of the basilar artery and the right posterior cerebral artery, with matched perfusion defects consistent with infarction. The patient underwent emergent thrombectomy with the neurovascular team, which recanalized the basilar artery. Unfortunately, a right middle cerebral artery hematoma and hemorrhagic transformation developed, requiring decompressive hemicraniectomy and placement of an external ventricular drain. Despite intensive care, the patient's condition worsened, leading to complications such as ventilator-associated pneumonia and multi-organ failure. The family eventually chose terminal extubation.

Post-procedure TEE confirmed proper Watchman deployment with a small (<0.5 cm) posterior peridevice leak. No thrombus was observed on the device. However, spontaneous echo contrast in the left atrial appendage raised the possibility of transient thrombus formation.

Discussion

The Watchman device is an effective tool for reducing stroke risk, but it's not without potential complications like DRT and peri-device leaks. Research shows DRT occurs in about 3.7% to 6.6% of cases, often due to incomplete endothelialization. Similarly, peri-device leaks can leave room for residual blood flow and the formation of thrombi. While TEE is the go-to method for detecting thrombi, it has its limitations, especially when it comes to assessing endothelialization and leaks.

In this case, we also had to consider non-cardiac sources of embolism, such as carotid artery disease and aortic atheromas. Given the patient's significant atherosclerotic disease, these alternative sources complicated the picture and emphasized the need for a comprehensive approach to managing stroke risk in patients with atrial fibrillation and other comorbidities.

Treating thromboembolic events after Watchman implantation requires a personalized approach. Anticoagulation is still a key component of management, but it must be carefully balanced against the risks of bleeding.

Conclusion

This case highlights the complex challenges involved in managing thromboembolic complications after Watchman implantation. Complications like DRT, peri-device leaks, and atherosclerotic embolic sources all play a role and must be carefully considered. Better imaging techniques and individualized treatment plans are essential for enhancing patient care and achieving safer, more effective outcomes.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 041
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A Rare Presentation of Subacute Constrictive Pericarditis Secondary to Rhinovirus Infection: A Case Report and Review of the Literature

Subacute constrictive pericarditis is a rare and challenging diagnosis, particularly when caused by uncommon viral infections such as rhinovirus. This case report presents a 49-year-old female with no significant past medical history who developed subacute constrictive pericarditis secondary to rhinovirus infection. She presented with a one-month history of sharp, non-radiating chest pain exacerbated by lying supine and relieved by sitting up, accompanied by fever, chills, dyspnea, orthopnea, and palpitations. Despite initial treatment with ibuprofen, her symptoms persisted.

On examination, sinus tachycardia and hypertension were noted. Laboratory findings revealed elevated inflammatory markers, including CRP and ESR, along with leukocytosis. CT of the thorax showed a moderate pericardial effusion. Echocardiography identified hallmark features of constrictive pericarditis, including pericardial thickening, organized pericardial effusion, and hemodynamic compromise characterized by annulus reversus, septal shudder, and reciprocal filling patterns.

The patient was diagnosed with subacute constrictive pericarditis of likely viral etiology based on positive rhinovirus status and the absence of alternative infectious or autoimmune causes.

Treatment was initiated with high-dose NSAIDs, specifically ibuprofen, and colchicine to reduce recurrence risk. The lack of symptom resolution prompted the addition of corticosteroids, initially methylprednisolone, followed by prednisone. Rheumatology consultation ruled out autoimmune contributions, and infectious disease evaluation supported a viral etiology.

The patient's condition improved with the combined anti-inflammatory regimen, and colchicine was continued for a three-month course. Follow-up imaging revealed resolution of pericardial effusion, and no recurrence was noted during close monitoring. The case underscores the importance of advanced echocardiographic techniques in diagnosing constrictive pericarditis and highlights the critical role of a multidisciplinary approach in managing complex cases. Early recognition and appropriate treatment can prevent complications such as pericardial tamponade, which, while rare, can be life-threatening.

This case illustrates the challenges of distinguishing overlapping infectious and inflammatory processes in pericardial disease. It emphasizes the significance of personalized treatment strategies, ongoing follow-up, and timely surgical intervention when medical therapy is insufficient. A deeper understanding of the pathophysiology and tailored therapeutic options is essential for optimizing outcomes in rare cases of viral-induced subacute constrictive pericarditis.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

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"Unraveling the Enigma: Hyperthermia and Rigidity in a Diagnostic Labyrinth"

Case Presentation:

A 35-year-old male with type 2 diabetes mellitus and asthma visited a dental clinic for caries tooth extraction. He received regional anesthesia with lidocaine (72 mg) and articaine (72 mg). Shortly after injection, he developed anxiety, agitation, and elevated heart rate of 190 beats per minute, leading to EMS transport to the emergency department. Upon arrival, he exhibited generalized rigidity, hyperthermia with a temperature of 106°F, blood pressure of 180/100 mmHg, a respiratory rate of 30 breaths per minute, and oxygen saturation of 88% on room air. Adenosine (6 mg followed by 12 mg) and amiodarone infusion improved heart rate, but his airway was not protected, necessitating intubation with etomidate (20 mg) and rocuronium (100 mg). Due to muscle rigidity, tachycardia, tachypnea, and hyperthermia, malignant hyperthermia (MH) was suspected, and dantrolene (5 mg per kg) was administered. The MH Hotline suggested possible lidocaine toxicity, necessitating serial ECG monitoring. In the ICU, his hemodynamic status deteriorated, requiring dual pressor support with phenylephrine and vasopressin, and lipid emulsion therapy was initiated due to potential local anesthetic systemic toxicity. Initial chest X-ray showed infiltrates suspicious of aspiration pneumonia-induced sepsis. Empirical antibiotics, including piperacillin-tazobactam, vancomycin, and clindamycin, were administered pending pan-culture results. His $PaCO_2$ was elevated at 62 mmHg upon admission, temporarily improving before rising to hundreds with worsening ARDS and sepsis, necessitating increased ventilatory support and cisatracurium infusion. Renal function worsened from oliguria to anuria, necessitating hemodialysis. Liver functions deranged, with aspartate and alanine transaminase levels climbing from 33 and 35 to over 6000 and 3300, respectively. Platelet counts declined from 186,000 to 14,000 per microliter without evident thrombosis or bleeding. Despite no clear infection source beyond aspiration, total counts rose significantly from 11,700 to 17,000 per microliter, with abnormal coagulation parameters, D-dimer level >10,000, fibrin degradation products at 40, an INR of 1.7, and fibrinogen levels at 350, indicating sepsis-induced coagulopathy. Procalcitonin levels reached 197, while creatinine kinase levels peaked at 617, raising questions about MH. Cross-sectional imaging was not performed due to hemodynamic instability. Neck ultrasound showed diffuse subcutaneous edema without abscesses. Fungal cultures later yielded Candida parapsilosis, prompting fluconazole treatment. Despite all efforts, the patient succumbed.

Discussion/conclusion:

This case mentions the challenges with critically ill patients with concurrent conditions, such as malignant hyperthermia (MH), local anesthetic systemic toxicity, and sepsis. Lidocaine, typically safe for MH-susceptible patients, can trigger it in rare cases, as evidenced in few reports. The absence of severe hyperkalemia or creatine kinase elevation complicated the decision not to administer additional dantrolene. The presence of fever and rigidity goes against local anesthetic systemic toxicity (LAST); initial presentation resembles LAST, necessitating lipid resuscitative therapy. Furthermore, the presence of sepsis with Candida emphasized the significance of considering fungal infections in patients with rapid clinical deterioration, particularly after procedures. Invasive Candida parapsilosis infections can occur without prior colonization. Clinicians should be vigilant about early fungal culture and empiric antifungal therapy in sepsis with rapid deterioration and be aware of rare effects of lidocaine like LAST and MH.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 043
Category: Clinical Vignette
Residency Program: Garden City Hospital
Presenter: Sally Othman
Additional Authors: Sally Othman MD, MPD, Apoorv Tiwari MD, Kesava Achuta MD, Shayne Joseph Ms, Sujata Kambhalta MD, Chadi Saad MD

Olanzapine-Induced Severe Pancreatitis, Hyperglycemia, and Hypertriglyceridemia in a Young Female—A Rare but Life-Threatening Complication

Introduction Olanzapine, a second-generation antipsychotic widely prescribed for bipolar disorder and schizophrenia, has been associated with rare but serious adverse effects, including pancreatitis, hyperglycemia, and hypertriglyceridemia. Drug-induced pancreatitis accounts for approximately 0.1–2% of all acute pancreatitis cases(1). Among psychotropic medications, Olanzapine has been implicated in several case reports, though its exact incidence remains unknown. This case underscores the importance of recognizing these potentially life-threatening complications of Olanzapine.

Case Report A 29-year-old female with a history of bipolar disorder and schizophrenia presented to the emergency department (ED) with altered mental status. Her family reported a two-week history of lethargy, abdominal pain, polyuria, and polydipsia. Initially evaluated at an urgent care center, she was referred to the ED due to worsening shortness of breath (oxygen saturation 88% on room air). She required 15L of oxygen via a non-rebreather mask. Shortly after arrival, she experienced a generalized seizure that terminated spontaneously. Due to altered mentation, she was intubated for airway protection.

Laboratory evaluation revealed severe hyperglycemia (blood glucose >1400 mg/dL), acute pancreatitis (lipase 1065 U/L), and hypertriglyceridemia (triglycerides 1154 mg/dL). The patient had no prior history of diabetes, alcohol use, gallstones, or trauma. After ruling out other etiologies, including gallstones and alcohol use, Olanzapine was identified as the likely cause.

Her hospital course was complicated by prolonged ICU admission, acute kidney injury requiring dialysis, and a pulmonary embolism secondary to heparin-induced thrombocytopenia (HIT). She subsequently required a tracheostomy and PEG tube placement due to prolonged mechanical ventilation. Despite these severe complications, her condition gradually improved. She was discharged to a long-term assisted living facility. At follow-up, her kidney function fully recovered, and her tracheostomy and PEG tube were successfully removed.

Conclusion Olanzapine-induced pancreatitis, hyperglycemia, and hypertriglyceridemia, although rare, can result in life-threatening complications(2,3). Physicians should monitor patients on Olanzapine closely with periodic laboratory evaluations, including lipid panels and comprehensive metabolic profiles (CMP). Early recognition of vague or nonspecific symptoms, such as abdominal pain, lethargy, polyuria, and polydipsia, is critical to differentiating drug-induced complications from the underlying mental illness. Proactive monitoring and timely intervention can prevent severe outcomes and improve patient prognosis.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 044
Category: Clinical Vignette
Residency Program: Henry Ford Genesys Hospital
Presenter: Madison Brown
Additional Authors: Dr. Natalia Baj

Recurrent Pneumonia and Encephalopathy: Early Indicators of Metastatic Lung Cancer

With lung cancer being the most common type of cancer worldwide and the leading cause of cancer death, it is important for clinicians to pay special attention to not only common risk factors but presenting signs that can easily misdirect diagnosis. Often, patients will present with pneumonia symptoms, and a cancer diagnosis can easily be confused with an infectious one. This case report attempts to shed light on the importance of recognizing recurrent pneumonia as a possible presenting sign of lung cancer and encephalopathic changes as one indicator of metastatic disease.

A 69 year old female presented to the hospital for failure of outpatient pneumonia treatment. She tried two courses of antibiotics and steroids outpatient with no improvement to her symptoms. Primary complaints on arrival to the hospital were shortness of breath, dry nonproductive cough, fatigue, nausea/vomiting, chills, however, denied a fever. The patient reported ongoing episodes of pneumonia throughout her lifetime, with self-reported 10-12 occurrences of pneumonia since 20 years old. While in the hospital chest xray showed concerns for possible pneumonia, and she was treated with IV antibiotics. However, while in the hospital patient had an episode of worsening shortness of breath and tachycardia that prompted CTA Chest to rule out Pulmonary Embolism (PE). Imaging was negative for PE however, it showed a circumferential soft tissue nodular encasement of left lung and lymph node enlargement. Biopsy results found non small cell carcinoma favoring squamous cell carcinoma. Patient presented back to the hospital a week later for altered mental status requiring Intensive Care Unit admission. On lab work she had an acute kidney injury, hypercalcemia, elevated ionized calcium level, prior normal PTHrP, and leukocytosis. She was started on aggressive IV fluids and zoledronic acid for hypercalcemia. With improvement in her calcium level secondary to treatment, her mentation returned to baseline. Outpatient PET scan showed circumferential nodular pleural thickness, multiple mediastinal and left hilar lymphadenopathy, osseous lesions concerning for metastatic disease, and left lateral lower chest wall mass concerning for metastatic disease.

This case highlights the importance of recognizing anchoring bias and looking past prior diagnoses to find the possible root cause of a medical presentation. This patient presented with a history of persistent recurrent pneumonia, which failed outpatient treatment. She was initially started on pneumonia antibiotic coverage with an infectious workup completed. After she started showing signs of a possible pulmonary embolism, a CTA was done which showed no PE but did find circumferential nodular pleural thickness in the left lung with lymphadenopathy which led to the CT guided biopsy. This ultimately established a diagnosis of squamous cell malignancy. It is important to remember that recurrent pneumonia can lead to and be a sign of lung cancer. Additionally, it is important to recognize that encephalopathy especially in the setting of hypercalcemia can be related to not only PTHrP secretions, which is most commonly related to squamous cell carcinoma but also less commonly related to osteolytic metastases; like in the case of the patient.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 045
Category: Clinical Vignette
Residency Program: Henry Ford Genesys Hospital
Presenter: Mirna Yacoub
Additional Authors: Brown, M. Ramzan A. Blanchard, Z. Aboudan, M

Severe Life-Threatening Myelosuppression in Methotrexate Toxicity

Introduction:

It is well known that methotrexate (MXT) has been identified as an excellent therapeutic option for the treatment of inflammatory diseases, such as rheumatoid arthritis and psoriasis. Severe acute toxicity of MXT is rare, causing severe symptomatic manifestations of mucositis, pancytopenia and neutropenia. The ability to identify the serious unpredictable adverse findings of low-dose MXT can aid in establishing early rescue strategies to prevent serious morbidity and mortality of acute MXT toxicities.

Case presentation:

This case pertains to a 70-year-old female with a medical history of psoriatic arthritis (on MXT and Risankizumab) who presented to the hospital due to lethargy, generalized weakness and multiple falls. She also had numerous mouth ulcers lasting for a month. She was not able to tolerate oral intake. She was on methotrexate 2.5mg weekly for several months. Laboratory findings were significant for pancytopenia, neutropenia and acute kidney injury with uremia. She was vitally and hemodynamically unstable. She was admitted to critical care unit and required a total of 2-units of red blood cells and 4-units of platelets. A concern for possible thrombotic thrombocytopenic purpura was established, however, peripheral blood smear was negative for schistocytes. Due to her encephalopathy, lumbar puncture findings were negative for meningitis. Viral serology was negative for both herpes (HSV) and hepatitis. Bone marrow biopsy was obtained and showed negative findings for any bleeding disorders or malignancy. Given her neutropenia, the patient was managed using empiric coverage with cefepime for bacterial prophylaxis, acyclovir for HSV prophylaxis, noxafil for fungal prophylaxis and atovaquone for pneumocystis jiroveci prophylaxis. It was speculated that patient's presentation and lab findings were based on interactions between methotrexate and Risankizumab, which were held. After 1-week of her hospital admission, patient's mentation, mucositis, pancytopenia and neutropenia were improving gradually.

Discussion:

It is vital for physicians to be aware of the serious complications stemming from MXT toxicities, as they can be detected on time and can prevent morbidity and mortality. Patients who are on MXT therapy should have regular monitoring of their complete blood counts to avoid myelosuppression and renal function tests to avoid encephalopathy as MXT is mainly excreted by the kidneys. Misunderstanding the careful monitoring of MXT can lead to severe life-threatening adverse effects and increase the risk of morbidity and mortality.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 046
Category: Clinical Vignette
Residency Program: Henry Ford Hospital Detroit
Presenter: Jamie Therese Abad
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A Case of Severe Aplastic Anemia: Potential Link to Oxcarbazepine

Introduction: Aplastic anemia (AA) is a rare life-threatening hematologic disorder characterized by pancytopenia. It can be idiopathic or secondary to triggers, including infections, medications, autoimmune disorders, and clonal abnormalities. Patients often present with symptoms related to cytopenias, including fatigue, infections, and bleeding.

Early recognition and management are critical, as untreated severe AA carries significant morbidity and mortality. This case discusses an elderly patient who presented with progressive bruising and petechiae, found to have pancytopenia.

Case Presentation: A 70-year-old female with hypertension, hyperlipidemia and seizures presented with weeks of bruising and a petechial rash. She denied other symptoms and was hemodynamically stable. Laboratory testing revealed white blood cell count of 2.8 K/uL, hemoglobin of 10.8 g/dL, absolute neutrophil count of 1.00 K/uL, and platelets <10,000 K/uL. Reticulocyte production index was 0.2 (absolute reticulocyte count 11 K/uL and 0.3%). Liver function tests, B12, folate, iron, ferritin, LDH, and haptoglobin, were normal. Infectious workup including HIV, hepatitis panel, Parvovirus IgM, EBV IgM, were unremarkable.

Medication review revealed initiation of oxcarbazepine five months prior for seizure management. Given concern for drug-induced pancytopenia, it was discontinued, and she was transitioned back to brivaracetam, which she had previously tolerated. She received platelet transfusions and was discharged, then underwent an outpatient bone marrow biopsy.

While awaiting results, she returned with mucosal bleeding and headaches. CT head revealed scattered subarachnoid and parenchymal hemorrhages. Due to worsening anemia and thrombocytopenia, she required multiple transfusions and was empirically started on dexamethasone and antimicrobial prophylaxis while awaiting definitive diagnosis.

Bone marrow biopsy showed hypocellular marrow with trilineage hypoplasia, consistent with AA. Repeat biopsy confirmed aplastic/hypoplastic marrow without dysplasia. Flow cytometry showed no evidence of monoclonal B-cells, aberrant T-cells or plasma cell dyscrasia. She was started on anti-thymocyte globulin and cyclosporine. She was discharged on antimicrobial prophylaxis, eltrombopag, and cyclosporine with plans for twice-weekly platelet transfusions. Over the subsequent months, treatment was complicated by acute interstitial nephritis due to eltrombopag, leading to its discontinuation. Cyclosporine required multiple dose reductions due to side effects. Despite these adjustments, she remains pancytopenic and continues close follow-up with hematology.

Discussion: While certain medications are linked to AA, identifying a definitive trigger can be challenging. Among antiepileptics, carbamazepine is associated with hematological abnormalities due to toxic metabolites that damage hematopoietic stem cells, typically within 3-5 months of treatment, with greatest risk in the first year (1). Oxcarbazepine, a widely used alternative with fewer side effects and similar efficacy, has been linked to leukopenia, often in combination with other antiepileptics, but rarely pancytopenia as monotherapy. Our patient's presentation aligns with this timeline, suggesting oxcarbazepine, a structural analog, as a possible cause, despite its recognized adverse effects being rash and hyponatremia (2).

This case highlights severe AA with no clear etiology apart from recent oxcarbazepine exposure, raising concerns about its potential role in bone marrow suppression. It underscores the importance of a thorough medication review when evaluating unexplained cytopenias with prompt discontinuation of offending drugs.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 047
Category: Clinical Vignette
Residency Program: Henry Ford Hospital Detroit
Presenter: Omar Sami Abdelhai
Additional Authors: Angela Ishaq, Emmanuel Meram, Anointing Onuoha, Heidi Gunderson

Unmasking the Hidden Dangers of Vaping: A Case of EVALI and Interstitial Lung Disease

E-cigarette, or vaping, product use-associated lung injury (EVALI) has emerged as a severe and life-threatening consequence of chronic vaping, often presenting with acute hypoxic respiratory failure and complex pulmonary manifestations. We present a case of a 39-year-old woman with a seven-year history of heavy daily vaping, admitted for severe respiratory failure. Despite aggressive initial management for suspected community-acquired pneumonia (CAP) and noncardiogenic pulmonary edema, her respiratory status worsened, necessitating high-dose corticosteroids and further diagnostic workup. This case highlights the challenges of diagnosing EVALI in the presence of comorbidities and the role of systemic corticosteroids in reversing vaping-related lung injury.

The patient presented with hypoxic respiratory failure, alongside sepsis secondary to bacteremia caused by Fusobacterium nucleatum, traced to poor dentition and periapical abscesses. Initial imaging revealed bilateral ground-glass opacities (GGOs) with left-sided predominance, mild septal thickening, and consolidation. She was empirically treated for CAP with antibiotics (vancomycin, cefepime, and doxycycline), diuresed for suspected non-cardiogenic pulmonary edema, and started on a 4-day course of hydrocortisone. While her condition initially improved, she developed recurrent respiratory distress requiring readmission to the ICU.

During the second ICU stay, the patient was observed vaping in her hospital room, reinforcing the suspicion of EVALI. Her hypoxia worsened, requiring escalation to high-flow nasal cannula (HFNC) at 100% FiO_2. High-dose corticosteroids (500 mg IV solumedrol for three days followed by 65 mg daily) were initiated for presumed EVALI. Further imaging confirmed progressive bilateral GGOs, centrilobular nodularity, and peripheral opacities, consistent with vaping-associated ILD. Despite persistent productive cough with blood-tinged sputum, her oxygenation gradually improved, and she was weaned to lower HFNC settings.

The patient received aggressive supportive care, including diuresis with intravenous furosemide, systemic corticosteroids, and continued broad-spectrum antibiotics for ongoing infection concerns. A multidisciplinary approach involving pulmonology, infectious disease, and critical care teams was essential in optimizing her management. Repeat chest imaging showed resolution of pulmonary edema and improvement in GGOs, further supporting the diagnosis of EVALI. Despite her complex presentation, she demonstrated significant clinical recovery, including improved respiratory function and resolution of systemic symptoms. She was discharged with a prednisone taper, nebulized bronchodilators, and outpatient pulmonary follow-up for long-term management of vaping-related lung injury.

This case underscores the importance of early recognition and aggressive management of EVALI, particularly in patients with chronic vaping habits and overlapping comorbidities. Vaping can lead to severe pulmonary complications, including ILD and DAH, that require prompt diagnosis and corticosteroid therapy. Public health efforts to reduce vaping prevalence are crucial to preventing such cases, particularly in vulnerable populations with preexisting lung disease. Further research into the pathophysiology of EVALI and its long-term outcomes is essential to optimize treatment strategies and improve patient outcomes.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 048
Category: Clinical Vignette
Residency Program: Henry Ford Hospital Detroit
Presenter: Mustafa Ali
Additional Authors: Abena Osei (M3), Ciji Robinson (MD), Amita Bishnoi-Singh (MD)

Eosinophilic Granulomatosis with Polyangiitis Presenting as Failure to Thrive in Older Adults

Eosinophilic granulomatosis with polyangiitis (EGPA) is a type of antineutrophil cytoplasmic antibody (ANCA)-associated vasculitis with clinical manifestations affecting small vessels most commonly in the lungs and skin. The rarity of the disease can make identifying EGPA challenging in patients.

An 80-year-old woman with a past medical history of asthma, celiac disease, bilateral open angle glaucoma, chronic sinusitis with polyposis, allergic rhinitis, hypertension, and depression initially presented to an outside hospital with complaints of subacute generalized weakness, urinary symptoms, and altered mental status, diagnosed as failure-to-thrive. Prior to presentation, patient had been recently treated for pneumonia and sepsis in addition to having a recent dental cleaning. At outside hospital, she was found to have S. hominis, coagulase negative Staphylococcus and S. viridians bacteremia treated with ceftriaxone, type II non-ST-elevation myocardial infarction treated initially with heparin and aspirin, unremarkable echocardiogram, and a worsening acute kidney injury (AKI) with additional labs showing positive c-ANCA and MPO. Concomitantly, Patient's mentation worsened with brain MRI showing shower emboli of bilateral cerebellar hemispheres and left thalamus and chronic paranasal sinus disease. MRA of the neck and head showed beading, consistent with possible vasculitis. Thereafter, the patient was transferred to our hospital for further investigation and treatment. In addition to altered mentation, physical exam showed bilateral hypermetria, pronator drift on right with unremarkable breath sounds and no murmurs on auscultation. Our workup demonstrated negative repeat blood cultures, continued worsening AKI, elevated ESR, CRP, total IgE 327, MPO 84.0, and interestingly p-ANCA 1:80 while we found unremarkable c-ANCA 1:20. Urinalysis showed proteinuria and hematuria. Renal ultrasound was unremarkable. CT chest showed thickened bronchial walls and at least one dilated airway in right lower lobe. Renal biopsy was done and showed pauci immune crescentic glomerulonephritis. Thus, workup indicated a diagnosis of EGPA. Treatment started with three days of 1000 mg IV methylprednisolone followed by 1 mg/kg oral prednisone and taper as well as one infusion of rituximab inpatient, which she tolerated. Subsequently, the patient's AKI improved on discharge, and she felt improvement in fatigue.

This case illustrates the importance of having a wide differential for a presentation of failure to thrive in older adults. While more elderly patients may have failure to thrive in the setting of infection, malignancy, or organ failure, rare autoimmune diseases such as vasculitis need to be considered. This patient's history of celiac disease, chronic sinusitis with polyposis, and allergic rhinitis increased suspicion for an autoimmune disease such as EGPA. Prompt consideration of EGPA was vital to prevent further organ damage from EGPA.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 049
Category: Clinical Vignette
Residency Program: Henry Ford Hospital Detroit
Presenter: Ahmed Babwi
Additional Authors: Asem Ayyad, MD. Zaid Al-Jebaje, MD

Successful Unroofing Procedure for Anomalous Aortic Origin of the Right Coronary Artery (AAORCA) in a 52-Year-Old Male: A Case Report

Introduction:

- Context: Anomalous aortic origin of the right coronary artery (AAORCA) is a rare congenital condition associated with a high risk of sudden cardiac death due to myocardial ischemia.
- Objective: To present a case of AAORCA treated successfully with unroofing procedure emphasizing the importance of tailored surgical strategies for optimal outcomes.

Case Description:

- Patient Profile: 52-year-old male with a history of hypertension and hyperlipidemia.
- Symptoms: Presented with non-exertional chest pain (8/10 severity) starting 30 minutes before presentation.
- Previous Visits: Visited two EDs previously; workup including troponin levels and EKGs which showed no acute ischemia.
- Vitals: BP 149/84 mmHg, pulse 62 bpm, respiratory rate 20 bpm, oxygen saturation 98%.
- EKG Findings: LVH with repolarization abnormalities, ST elevation in V2, V3.
- Angiography: No obstructive coronary disease; RCA is likely anomalous with faint left-to-right collaterals.
- Initial troponin I of 10 ng/L, followed by 12 ng/L, and remained stable.
- CT Angiogram: Confirmed Anomalous right coronary artery with origin coming from the left coronary sinus at the ostium of the left main coronary artery, and courses between the aorta and pulmonary artery resulting in an interarterial proximal course.
- Surgical Intervention: Median sternotomy with unroofing of the proximal intramural course of the anomolous RCA.

Case Discussion:

- Prevalence: Anomalous RCAs from the left coronary sinus occur in 0.05%-0.1% of the population.
- Pathophysiology: Symptoms often result from compression of the RCA by great vessels or a slit-like orifice collapsing during exertion.
- Imaging Techniques: MRI and CT have replaced angiography for definitive diagnosis due to their excellent spatial resolution.
- It is recommended that surgery be offered to:
    - AAORCA with ischemic chest pain, syncope or a history of sudden cardiac death
    - Asymptomatic AAOLCA arising from the right sinus of Valsalva with an inter-arterial course
    - Selected Approach: Unroofing is chosen based on specific anatomical findings, with postoperative improvement confirming the efficacy of this approach.

Conclusion:

- This case illustrates the successful use of unroofing to manage AAORCA, emphasizing the importance of tailored surgical strategies to treat this condition.
- Comprehensive preoperative assessment and individualized surgical planning are crucial for successful management.

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2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 050
Category: Clinical Vignette
Residency Program: Henry Ford Hospital Detroit
Presenter: Madison Drallmeier
Additional Authors:

The Rise and Fall of a Midwest Tick-borne Disease: A Case of Anaplasmosis

Tick-borne diseases, such as Lyme disease, Anaplasmosis, Erlichilosis, and Rickettsiosis, have been on the rise in the United States, with annual cases doubling in the past two decades. Contributing factors leading to these rates include expansion of geographic distribution secondary to warm weather patterns as well as increased tick exposure via growing host populations and increased land development. With these diseases on the rise, it is important to obtain potential exposure history when interviewing patients and including these diseases in a dfferential. The following case describes a patient who presented with severe pancytopenia found to be caused by Anaplasmosis.

A 71-year-old male with multiple co-morbities presented to a local community hospital for one week of dyspnea and general malaise. Evaluation with a chest x-ray was suggestive of pneumonia, so he was discharged with a course of antibiotics. However, he returned the following day with significant respiratory distress requiring intubation and vasopressor support and transferred to an intensive care unit for treatment of septic shock. The patient eventually improved and was extubated, yet he continued to have persistent fevers without a clear etiology. Laboratory testing was notable for severe pancytopenia and he was transferred to a tertiary center for further evaluation.

Upon arrival to the tertiary hospital, hematologic and infectious workup was initiated. Infectious Disease was consulted and obtained further history from the patient, including that he lived near a state park in a heavily wooded area and enjoyed spending time outside. Additionally, his dog had a history of Lyme infection. While cultures, viral studies, and fungal studies were largely unremarkable, a peripheral smear did reveal ocassional cytoplasmic blue inclusions within neutrophils, which was morphologically consistent with anaplasma infection. PCR testing for anaplasmosis confirmed his infection and he was started on doxycycline. The patient clinically improved and his cell counts slowly increased.

Tick-borne diseases will likely continue to rise as climate change and land development increase human-tick interactions. Therefore, these diseases should be on the differential for patients with particular risk factors. It is imperative to obtain a thorough history, including exposure to certain animals (i.e. white tail deer) and activities that may result in contact with ticks. In this case, the patient's proximity to the woods and the fact that his pet was previously diagnosed with Lyme disease indicated increased risk with tick contact. This information along with extensive workup helped arrive to a diagnosis of Anaplasmosis and prompt treatment.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 051
Category: Research
Residency Program: Henry Ford Hospital Detroit
Presenter: Farah Fram
Additional Authors: Farah Haddadin, Mosa Fram, Zaid Alodetalah, Faris Haddadin, Ahmad Jabri

Gender and Socioeconomic Disparities in Patients with Atrial Fibrillation

Introduction: Atrial fibrillation (AF) is one of the most common arrhythmias in the general population and similar to other cardiovascular diseases, studies have shown gender and socioeconomic related disparities in clinical outcomes and the choice of treatment.

Objectives: The aim of this study was to investigate the socio-economic and gender-based differences in the management of AF and all-cause mortality.

Methods: This was a retrospective cross-sectional analysis of a large electronic health record (EHR)-based commercial database called Explorys. International Classification of Disease, Tenth Revision, Clinical Modification (ICD-10-CM) codes were used for disease diagnosis. Data was obtained until October 2019. Patients were stratified based on age, gender, insurance provider and type of AF therapy whether medical versus catheter ablation. The main outcomes were all-cause mortality and the type of treatment patient received.

Results: A total of 1.7 million patients were identified, of which 712,700 patients underwent catheter ablation. Female patients as compared to male patients were less likely to undergo catheter ablation for both paroxysmal AF (3.28% vs 4.65%) and persistent AF (15.63% vs 47.75%), respectively. Patients on Medicaid as compared to Medicare and private insurance were the least likely to receive catheter ablation (3.3% vs 46.5% vs 50.2%, respectively) and had higher all-cause mortality when compared to other insurance providers. Female patients had higher all-cause mortality as compared to male patients (10.64% vs. 7.82% for males; $p < 0.0001$) with the highest rate for female patients on Medicaid (Adjusted OR=1.5; 95% CI: 1.4-1.6).

Conclusion: In patients with AF, female gender and patients on Medicaid insurance had higher all-cause mortality and were less likely to receive catheter ablation. Further studies are needed to further delineate the gender and socioeconomic status related disparities in AF outcomes and care.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 052
Category: Clinical Vignette
Residency Program: Henry Ford Hospital Detroit
Presenter: Dawood Jamil
Additional Authors: Muhammad Memon, M.D, Omar Abdelhai, M.D, Mayar Helaly, MD

Fatal Outcomes of Concurrent Aortic Thrombus and STEMI in the Context of Uncontrolled Essential Thrombocythemia

Background:

This case highlights the challenges of managing patients with concurrent ST-elevation myocardial infarction (STEMI) and aortic thrombus in the setting of uncontrolled essential thrombocythemia (ET).

Case:

A 49-year-old male with a history of HIV and ET presented to the emergency department with chest pain and altered mental status. A CT was obtained, revealing a near-occlusive 4.7 cm thrombus in the distal aortic arch (blue arrow) with EKG demonstrating ST elevations in V2- V4 consistent with acute MI.

The patient started on heparin, and vascular surgery and interventional cardiology were consulted. They concluded the patient should undergo emergent percutaneous coronary intervention (PCI) prior to surgical intervention for his aortic thrombus. Multiple thrombectomy attempts were unsuccessful, and the patient arrested in the cath lab and expired.

Decision-Making:

ET is a myeloproliferative neoplasm in which the body produces excess platelets (PL), which can lead to thrombotic manifestations. Our patient presented with acute MI with simultaneous aortic thrombus and was found to have a PL count of 1,152 K/uL. We employed a multidisciplinary approach, agreeing that urgent PCI and revascularization took precedence over any surgical procedures to treat the aortic thrombus, as the risk of impending cardiogenic shock outweighed that of peripheral ischemia. Unfortunately, before coronary revascularization, the patient coded and couldn’t be revived.

Conclusion:

Aortic occlusion is an exceedingly rare condition with high morbidity and mortality, which, in our patient's case, likely occurred secondary to uncontrolled ET.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 053
Category: Clinical Vignette
Residency Program: Henry Ford Hospital Detroit
Presenter: Sisira Kavuri
Additional Authors: Alexis Faber, Arti Bhan

Vitamin D Supplementation in Sarcoidosis

Background

Sarcoidosis is a granulomatous disease that results in hypercalcemia in about 10% of cases. Here we present a case of a patient who was initiated on a multivitamin and presented with non-PTH mediated hypercalcemia, which then led to a diagnosis of sarcoidosis.

Case

A 28-year-old male presented to the emergency department with 2-month history of dyspnea and non-productive cough. He was febrile and hypoxic. Chest CT showed findings of chronic fibrotic interstitial process, mediastinal and hilar lymphadenopathy with superimposed infection. Further work-up revealed elevated alkaline phosphatase, normal calcium, and low 25-hydroxy vitamin D (25-D). Supraclavicular lymph node aspiration and bone marrow biopsy were both non-diagnostic. Two weeks later, he presented again with hypoxia, and at presentation had an elevated calcium level of >14 mg/dL, suppressed parathyroid hormone, normal 25-D, and acute kidney injury. 1,25-D levels were ordered, and hypercalcemia was initially managed with intravenous fluids (IVF), loop diuretics, and calcitonin, without improvement. He also received 4 mg of zoledronic acid along with high dose glucocorticoids. Interestingly, his 1,25-D level at initial presentation was not high. A repeat was obtained during his second presentation due to high suspicion for sarcoidosis, and was elevated at >200 pg/mL. On further questioning, patient revealed that between his two admissions, he began taking a multivitamin, which contained vitamin D3. An inguinal lymph node biopsy ultimately revealed non-necrotizing granuloma. This patient's full clinical presentation supported a diagnosis of sarcoidosis.

Discussion

Macrophages within the granulomas produce 1-alpha-hydroxylase, which converts 25-D to its active form, 1,25-D. This active metabolite increases serum calcium levels through intestinal absorption and bone resorption. This process occurs independent of PTH and without the negative feedback loop, which leads to hypercalcemia. Additional vitamin D supplementation can lead to severe hypercalcemia and can be a diagnostic clue towards a granulomatous process. The mainstay treatment for hypercalcemia in sarcoidosis includes IVF and steroids; if ineffective, bisphosphonates are also used.

Conclusion

In patients with sarcoidosis, 25-D levels can be low due to the increased conversion to its active metabolite. This case demonstrates that vitamin D supplementation should be avoided in patients with sarcoidosis as it can lead to severe hypercalcemia, even at low doses.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 054
Category: Clinical Vignette
Residency Program: Henry Ford Hospital Detroit
Presenter: Muhammad Memon
Additional Authors: Omar Sami Abdelhai

Unraveling the Mystery of Chest Pain: A Case of Spontaneous Coronary Artery Dissection in a Young Female

Coronary heart disease (CHD) in young females remains an underdiagnosed and undertreated entity, often due to biases in age, gender, and atypical presentations. One critical but underreported cause of acute coronary syndrome in this demographic is spontaneous coronary artery dissection (SCAD). SCAD, a significant cause of myocardial infarction with non-obstructive coronary arteries (MINOCA), predominantly affects young to middle-aged women, particularly those in their childbearing years. Its clinical recognition requires a high index of suspicion and familiarity with angiographic patterns, as early diagnosis is vital for optimal management.

We report the case of a 49-year-old female with a history of controlled hypertension who presented with sudden, severe, mid-sternal chest pain radiating to her neck. Initial electrocardiogram (EKG) revealed ST-segment elevations in leads V2-V4, while troponin levels were negative at the time of presentation. Bedside echocardiography demonstrated an ejection fraction (EF) of 43%, with severe hypokinesis of the mid-distal septal and anterior wall, concerning for acute myocardial ischemia.

Urgent cardiac catheterization confirmed the diagnosis of SCAD, with angiographic evidence of dissection in the left main coronary artery extending into the left anterior descending artery. The dissection created a hematoma that significantly compressed the left main lumen. Hemodynamic instability necessitated placement of an Impella device for ventricular support. However, the intervention was complicated by a large flow-limiting dissection extending from the common iliac artery into the common femoral artery, which required repair with two overlapping stents. Despite these complications, the patient was stabilized and managed with a combination of medical therapy and supportive care.

SCAD presents unique diagnostic and management challenges, particularly in women with few traditional cardiovascular risk factors. Its mechanism involves a spontaneous intimal tear or bleeding within the coronary artery wall, leading to intramural hematoma and luminal compression. The angiographic findings in SCAD can mimic atherosclerotic disease or other causes of coronary artery obstruction, underscoring the importance of maintaining a high level of clinical suspicion when evaluating chest pain in younger women.

The management of SCAD differs from traditional acute coronary syndromes. Patients with SCAD are typically treated conservatively with dual antiplatelet therapy (DAPT) and beta-blockers to reduce the risk of recurrence, which is estimated to be approximately 10%. Invasive interventions are reserved for cases of hemodynamic compromise, as seen in our patient, where mechanical support and stenting were necessary. However, interventions carry their own risks, including iatrogenic vascular complications, as occurred in this case. The long-term prognosis of SCAD is generally favorable with appropriate medical therapy and close follow-up.

This case highlights the critical importance of recognizing SCAD as a cause of STEMI in young to middle-aged women, emphasizing the need for heightened awareness and early diagnosis. SCAD often requires a tailored approach to management, prioritizing conservative strategies while balancing the risks of invasive interventions. Further research is needed to optimize the identification, treatment, and prevention of SCAD, particularly in women without traditional cardiovascular risk factors.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 055
Category: Clinical Vignette
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A Unique Case of Drug-Induced Liver Injury

Drug-induced liver injury (DILI) is a diagnosis of exclusion. Worldwide, DILI occurs at a rate of 13.9 to 24 cases per 100,000 people each year. While antibiotics are still the most common cause of DILI, increased access to the internet and social media have made certain medications more accessible to patients. Some of these medications can potentially be harmful to the liver and other organs. The type of drug can determine the pattern of liver injury, whether it is hepatocellular, cholestatic, or mixed. Diagnosis can be difficult due to the overlap of similar features between DILI and autoimmune hepatitis (AIH) due to similar histological findings and pattern of injury. This is a rare case of fendebazole – induced liver injury.

I present a case of a 46 y/o male with no PMH who presented with painless jaundice. He started a medication called “FENBEN” or fendebazole for a “parasite cleanse” and “anti-cancer” benefits at the beginning of 2024. Prior to hospitalization, he took a few pills throughout the month with last dose 2 weeks prior his presentation. He also worked as an automotive painter. He was found to have T bili of 15, AST 1415, ALT 1764, INR 1.34 with normal platelets. Extensive liver work-up was unremarkable aside from positive ANA 1:320 and Sm antibody (SMA) slightly elevated at 25. All imaging was unremarkable - normal liver without biliary dilation. He underwent a liver biopsy that showed necrosis, lobular inflammation and severe portal inflammation of lymphocytes with eosinophils, neutrophils and plasma cells - consistent with either DILI vs AIH. He was started on IV Solumedrol. He improved and was discharged with a Prednisone taper with hepatology follow-up.

Fenbendazole is an anti-parasitic medication used in dogs, but has gained attention in the media as a potential "anti-cancer" drug due to its ability to inhibit microtubule polymerization. However, its safety in humans has not been well studied. The first reported case of Fenbendazole causing liver injury appeared in the Journal of Gastroenterology in Oct 2023, and since then, only a few other cases of Fenbendazole-induced liver injury have been documented. In our patient, we observed positive ANA, and positive SMA, suggesting AIH. However, previous studies have shown that antibodies like SMA, ANA, and elevated IgG levels can be found in cases of DILI and are often grouped as drug-induced autoimmune-like hepatitis or (DI-AIH), however, cases of DI-AIH do not require life-long immunosuppression which is an important distinguishing factor. Although these effects have not been studied in relation to Fenbendazole, similar correlations have been observed in DI-AIH caused by drugs like nitrofurantoin and minocycline. Histologically, there is overlap between AH and DILI as both can show hepatocellular necrosis with lymphocytic infiltration, however, the diagnosis is based on the relationship between drug exposure and injury, exclusion of other causes of injury, and resolution of injury after removal of the offending agent. In our patient, steroids and cessation of the offending agent was most beneficial as steroids, however, our patient will likely not require lifelong immunosuppression.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 056
Category: Clinical Vignette
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A Rare Co-Presentation of Atypical Hemolytic Uremic Syndrome and Primary Ciliary Dyskinesia: A Case Report

Introduction: Platelets play a critical role in maintaining vascular integrity and regulating hemostasis. Thrombocytopenia, characterized by a platelet count below 150,000/µL, can arise from various causes, including decreased production, sequestration, or accelerated destruction of platelets. Hemolytic Uremic Syndrome (HUS) manifests as a triad of thrombocytopenia, anemia, and acute kidney injury. It can be triggered by infections, such as Shiga toxin-producing E. coli, or genetic anomalies affecting the alternative complement pathway. Atypical Hemolytic Uremic Syndrome (aHUS) is a rare form marked by microangiopathic hemolytic anemia, thrombocytopenia, and renal dysfunction, often leading to high morbidity and mortality due to dysregulated complement activation. Primary Ciliary Dyskinesia (PCD) is a genetically diverse disorder impacting motile cilia, resulting in clinical manifestations such as oto-sino-pulmonary diseases and organ laterality defects. This case study explores the unusual co-occurrence of aHUS and PCD, highlighting the complexities of diagnosis and management in such rare presentations.

Case report: A 20-year-old male with a history of PCD and a cystic fibrosis gene mutation presented with a one-week history of nausea, abdominal pain, and hematuria, alongside intermittent melenic stools. Physical examination revealed scleral icterus, and initial lab tests showed undetectable haptoglobin levels and a PLASMIC score of 6, indicating a high risk for thrombotic thrombocytopenic purpura (TTP). Despite initial suspicion of TTP, regular ADAMTS13 activity at 82% ruled out this diagnosis. Negative results from Shiga toxin stool tests confirmed aHUS. The patient's condition improved with plasmapheresis, evidenced by increased platelet counts and improved kidney function tests. Genetic and antibody testing for complement-mediated thrombotic microangiopathy returned negative results. Outpatient follow-ups showed continued improvement, negating the need for Eculizumab therapy.

Discussion: Atypical HUS, characterized by microangiopathic hemolytic anemia, thrombocytopenia, and acute renal failure, arises from excessive activation of the alternative complement pathway. While E. coli producing Shiga toxins can occasionally trigger aHUS, it is predominantly caused by genetic factors, autoantibodies, or idiopathic origins. The incidence of aHUS in the United States is challenging to determine due to its rarity. Literature indicates an annual incidence ranging from 0.23 to 1.9 per million population.

Treatment for aHUS typically involves C5 blockers like Eculizumab, an anti-complement C5 monoclonal antibody inhibiting complement activation. This case presents a unique scenario where the patient responded positively to plasmapheresis without requiring Eculizumab. Plasmapheresis, typically used for TTP, demonstrated efficacy in this aHUS case, suggesting potential as an alternative treatment modality. Further research is needed to understand the effectiveness of plasmapheresis in managing aHUS, as this case indicates its possible utility when conventional therapies are unavailable or contraindicated.

Conclusion: Atypical Hemolytic Uremic Syndrome (aHUS) poses significant risks, including progression to end-stage renal disease and high mortality. While complement blockers remain the standard treatment, this case demonstrates that plasmapheresis can be an effective alternative, particularly when Eculizumab is not used. This case emphasizes the need for individualized treatment strategies and further research into alternative therapies for aHUS, with the goal of improving patient outcomes in this rare but severe condition.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 057
Category: Research
Residency Program: Henry Ford Hospital Jackson
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Comparative Outcomes of Post-Operative Atrial Fibrillation and Pacemaker Implantation in TAVR vs. SAVR for Patients with Prior CABG: A Meta-Analysis

Introduction

Transcatheter Aortic Valve Replacement (TAVR) and Surgical Aortic Valve Replacement (SAVR) are established procedures for aortic valve disease. Patients with a history of Coronary Artery Bypass Grafting (CABG) present unique challenges in selecting the optimal approach. This meta-analysis aims to compare the incidence of post-operative atrial fibrillation and pacemaker implantation between TAVR and SAVR in this patient population.

Methods

A systematic review and meta-analysis were conducted following PRISMA guidelines. Studies comparing TAVR and SAVR outcomes in patients with prior CABG were included. The primary outcomes analyzed were the incidence of post-operative atrial fibrillation and pacemaker implantation. Odds ratios (OR) with 95% confidence intervals (CI) were calculated using a random-effects model. Heterogeneity was assessed using the I2 statistic. P value <0.05 was considered statistically significant.

Results

Post-Operative Atrial Fibrillation

The analysis included three studies with a total of 854 patients (406 TAVR, 448 SAVR). The incidence of post-operative atrial fibrillation was significantly lower in the TAVR group compared to the SAVR group (OR: 0.15, 95% CI: 0.09-0.27, P < 0.00001, I2 = 37%) (Figure 1).

Pacemaker Implantation

Ten studies with 15,790 patients (8,909 TAVR, 6,782 SAVR) were included for pacemaker implantation analysis. TAVR was associated with a higher risk of requiring a pacemaker compared to SAVR (OR: 2.41, 95% CI: 1.49-3.89, P = 0.0003, I2 = 84%) (Figure 1).

Conclusion

In patients with a history of CABG, TAVR is associated with a significantly lower incidence of post-operative atrial fibrillation compared to SAVR. However, TAVR is linked to a higher risk of pacemaker implantation. These findings suggest that while TAVR may offer benefits in reducing atrial fibrillation, careful consideration is needed regarding the increased likelihood of pacemaker implantation.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 058
Category: Clinical Vignette
Residency Program: Henry Ford Hospital Jackson
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Neuro endocrine Breast Cancer- Unusual case

Case

57-year-old female presented with a fall. CT Cervical-spine showed multiple metastatic osteolytic lesions, acute pathologic fracture at C2 level, partial collapse of the right middle and lower lobes secondary to narrowing of the right middle lobe bronchus from diffuse pleural-based nodular thickening and moderate to large right pleural effusion. The patient had an urgent C-spine repair and fixation, and further bronchoscopy showed malignant breast cancer cells with neuroendocrine cells.

She had a past medical history of breast cancer diagnosed 7 years prior. She had Estrogen and progesterone receptor-positive breast cancer which was treated with a lumpectomy with narrowly negative margins and positive nodes. She was given adjuvant radiation and finished 5 years of Tamoxifen with remission.

The patient was sent to rehab and started on Anastrozole. The patient however had a subsequent fall and returned with a T12 fracture, with an MRI demonstrating an increase in the size of vertebral and lung metastasis.

Discussion

Breast neuroendocrine cancers are uncommon. The breast, however, may also function as a secondary site. Positive immunohistochemical stains for CK7 and/or the presence of a ductal component in situ can support the mammary origin of neuroendocrine tumors, whereas negative stains for TTF-1, CDX2, and PAX8/PAX6 rule out the gastrointestinal, lung, and gastropancreatic/gastroduodenal tract origins, respectively.

According to pathogenesis, it originates from the differentiation of stem cells in both neuroendocrine and epithelial cells. The idea that cells originate from the differentiation of an epithelial progenitor cell is supported by the fact that neuroendocrine cells frequently have histological characteristics that are similar to breast tumors. Unlike other organs, such as the lung and gastrointestinal tract, breast cancer cells can express neuroendocrine markers, and benign neuroendocrine lesions of the breast have never been documented in the literature.

In terms of morphology, it develops in the fibrovascular stroma to form nests and trabeculae; solid-papillary formations, rosettes, and palisade cells are also discernible. Three criteria were established by WHO in 2003 to define NEBC: the expression of neuroendocrine immunohistochemical markers, including synaptophysin and chromogranin A, by more than 50% of malignant cells. excluding primary extra-mammary tumors, particularly those of the gastrointestinal and pulmonary systems. the detection of a concurrent component in the breast in situ. Invasive carcinomas with neuroendocrine differentiation were included because the WHO determined in 2012 that the 50% threshold of neoplastic cells expressing immunohistochemical neuroendocrine markers was arbitrary.

As of right now, neuroendocrine differentiation in breast neoplasms has no therapeutic significance. Nowadays, neuroendocrine cases are treated with the same therapeutic strategy used to treat various forms of invasive breast cancer.

The 2012 classification by the World Health Organization divides it into three subtypes: Invasive breast carcinomas with neuroendocrine differentiation, which is distinct from both NET and NEC; poorly differentiated neuroendocrine carcinomas or small-cell carcinomas (NEC); and well-differentiated neuroendocrine tumors (NET).

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

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Residency Program: Henry Ford Hospital Jackson
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Non-Structural Ventricular Tachycardia in a patient with Structural Heart Disease

A 48-year-old female with a history of uncontrolled hypertension, hypothyroidism, morbid obesity (BMI 45), and HFpEF (EF 55%, Grade 1 diastolic dysfunction, moderate LV enlargement) presented with chest pain, palpitations, and lightheadedness. The severe, central chest pain radiated to her back and neck, worsened with exertion, and was associated with nausea and vomiting. The episode lasted two hours and occurred after consuming two margaritas at a restaurant. Similar episodes occurred three and two years ago but were not recorded on EKG.

A prior left heart catheterization (1 year ago) showed non-obstructive arteries, and an echocardiogram a month ago revealed an EF of 55% with moderate Left Ventricular enlargement with Grade 1 diastolic dysfunction. She also has a significant family history of early cardiac death.

On presentation, EKG showed wide complex tachycardia with a very wide QRS (170 ms), left bundle branch block (LBBB) pattern, and inferior axis, highly suggestive of sustained monomorphic ventricular tachycardia (SMVT) originating from the right ventricular outflow tract (RVOT). Findings also included slurred intrinsicoid deflection with a maximum deflection index (MDI) of 0.70 (>0.55) in the precordial leads. The arrhythmia did not respond to 150 mg of Amiodarone but resolved with 200 J DC Cardioversion, converting to normal sinus rhythm.

Initial troponins were elevated (100-200s), and later downtrended, reflecting demand ischemia. Despite her structural heart disease, the LBBB and inferior axis findings indicated non-structural VT (From the RVOT). Maximum Deflection Index is calculated by dividing the time from onset of the QRS complex to the earliest point of maximum deflection (positive or negative) in the precordial leads by the QRS duration. MDI >0.55 suggested an epicardial origin, with her value of 0.70 supporting this diagnosis.

A cardiac MRI was scheduled to rule out Arrhythmogenic right ventricular dysplasia but was aborted due to significant arrhythmia and heart rate variability. A subsequent electrophysiology study was able to induce monomorphic ventricular tachycardia which did not require isoproterenol, and occurred with single ventricular extrastimuli. The study revealed an LBLI axis, V6 transition, and notching in inferior leads, pinpointing VT origin at the lower RVOT free wall, matching her clinical presentation.

Radio frequency ablation is a Class I recommendation for the chronic management of RVOT VT. During the study, she was externally defibrillated which was unsuccessful and the rhythm degenerated into VF requiring a Total of 5 shocks. An ablation was not attempted.

A single-chamber ICD was placed the following day, and the patient was started on Sotalol with close QT monitoring with no events until 3 months post discharge.

Interestingly enough, RVOT VT arises due to delayed after-depolarizations caused by catecholamine excess, with cAMP-induced calcium overload, and hence is also responsive to adenosine, verapamil, diltiazem, or vagal maneuvers in acute settings despite being a "Ventricular" Tachycardia.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 060
Category: Clinical Vignette
Residency Program: Henry Ford Hospital Macomb
Presenter: Mohammad Alali
Additional Authors: Mohammed Walji, MD. Ahmed Kunwer Naveed, MD. Tehrim Khan, MD.

Navigating Polymicrobial Bacteremia and Vascular Anomalies: A Challenging Case of Multiple Aneurysms and Persistent Infections

Introduction: Aneurysms, particularly in the context of infection, present unique challenges in diagnosis and management. Mycotic aneurysms, which are typically associated with bacteremia, require prompt intervention to prevent rupture. This case highlights a complex presentation involving multiple aneurysms and persistent bacteremia, ultimately leading to the diagnosis and management of MSSA and VRE bacteremia with concurrent vascular concerns.

Case presentation: A 76-year-old male with a history of COPD, hypertension, coronary artery disease (post-PCI), ventricular tachycardia (post-CRT-D implantation), and chronic back pain (post-spinal stimulator) presented with fatigue, abdominal pain, and shortness of breath. He was febrile, tachycardic, and had a markedly elevated white blood cell count consistent with septic shock, necessitating an ICU admission for hemodynamic stabilization. Initial management included IV fluids, Zosyn, stress-dose steroids, and BiPAP. Shortly after, the patient developed a diffuse urticarial rash and hypotension after Zosyn initiation, prompting treatment for an allergic reaction with epinephrine, Benadryl, and Pepcid. Thus, antibiotics were adjusted to vancomycin, cefepime, and doxycycline.

Initial blood cultures revealed MSSA bacteremia. Despite targeted therapy with nafcillin, blood cultures remained positive, prompting further evaluation. A transesophageal echocardiogram ruled out endocarditis, while lumbar spine MRI showed post-surgical changes without concern for discitis or osteomyelitis. New cultures later grew vancomycin-resistant Enterococcus (VRE), leading to daptomycin initiation for dual MSSA and VRE coverage.

Imaging revealed new, incidental findings of multiple aneurysms, including a 3x2.6 cm distal abdominal aortic aneurysm, multifocal saccular aneurysms involving the celiac and SMA, left renal artery, left internal iliac artery, as well as a 4.2 cm fusiform thoracic aortic aneurysm. Concern for mycotic aneurysms led to cardiovascular thoracic (CTS) surgery consultation, but no immediate surgical intervention was indicated. A comprehensive workup for aneurysm etiology, including tests for connective tissue disorders, and autoimmune conditions, was unremarkable aside from an elevated ESR and CRP.

The patient underwent successful removal of his biventricular ICD to address potential endovascular infection. During hospitalization, he developed a left groin hematoma requiring emergent surgical repair of a pseudoaneurysm of the left superficial femoral artery. Despite prolonged bacteremia and multiple complications, his condition improved with targeted therapy and supportive care. He was ultimately deemed stable and transferred to inpatient rehabilitation for continued recovery.

Conclusion: This case highlights the rare and complex intersection of polymicrobial bacteremia and multiple aneurysms, emphasizing diagnostic and therapeutic challenges. The presence of MSSA and VRE bacteremia raised suspicion for mycotic aneurysms, which, although uncommon, pose a serious risk for rupture. Multiple aneurysms, including those in the abdominal and thoracic aorta, were incidentally discovered, necessitating a thorough evaluation, yet no definitive infectious cause was identified. Persistent bacteremia and vascular complications required a multidisciplinary approach, focusing on potential sources, such as the removal of the biventricular ICD and repair of a pseudoaneurysm in the left superficial femoral artery. This case underscores the importance of distinguishing between mycotic and non-mycotic aneurysms in order to guide management. Mycotic aneurysms often require both antimicrobial therapy and surgical intervention, whereas non-infectious aneurysms may be managed conservatively or with elective repair based on size and symptoms.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 061
Category: Clinical Vignette
Residency Program: Henry Ford Hospital Macomb
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A presentation of rare Tick-Borne Illness in Michigan

It is well known that vector borne diseases are often transmitted through tick bites. In Michigan, it is common knowledge that the Blacklegged tick to transfer the vector borne illness , Lyme disease. It is important to keep in mind that these are not the only species that transmit disease and there is the potential to transmit even rare vector borne illnesses that are not endemic to Michigan. This case presents a potential instance of Tularemia in a Michigan resident. While tularemia is endemic to South Central U.S., we discuss the importance of the increasing incidence of zoonotic infections in the Midwest.

A 56 year old male presented to the hospital with a variety of symptoms including fatigue, chills, and worsening joint pain over a two-week period following a tick bite outside a grassy area around his cabin. He removed a tick off his back two days after he was outside in the grassy area and subsequently developed a circular rash on his back, followed by high fevers, chills, and malaise. On admission, his presentation was concerning for

sepsis. He was hypotensive, febrile and tachycardic. His had labs notable for Neutropenia and Thrombocytopenia After receiving a sepsis bolus, he was started on ceftriaxone and doxycycline. During hospitalization, his symptoms improved, although neutropenia required brief use of cefepime and neutropenic precautions. Hematology was consulted, and Lyme titers were negative. A peripheral smear was consistent with low platelets. He was transitioned to oral cefuroxime and doxycycline to complete therapy.

The tick was identified as a female, American dog tick, by the Michigan State University Pest and Plant Diagnostic Department. American Dog Tick is most often a vector for Rocky Mountain Spotted Fever (RMSF) and Tularemia, both rare in Michigan. Since Lyme disease was ruled out in this case, it was important to consider more rare Zoonotic infections less endemic to this area. RMSF was considered however was deemed unlikely due to inconsistent symptoms. Initial serological testing includes testing that detects antibodies of F. Tularensis Microagglutination test or ELISA. Confirmatory test is confirmed by paired serology; blood samples taken during the acute phase early in the infection and then in the Convalescent phase in 2 to 4 weeks. A literature review found that between 2021 and 2023, there were eight reported cases of tularemia in the Midwest, suggesting an increased incidence in more recent years. In the past, Tularemia has been most common in the South-Central United States. Further literature review also suggests that climate change may impact vector-borne diseases, which are able to rapidly adapt to changing environments.

This case demonstrates the importance of considering rare zoonotic infections, such as Tularemia, in patients who present with systemic symptoms following tick exposure. A literature review shows ,in more recent years the incidence of tularemia appears to be rising in the Midwest. It is important for clinicians to have awareness of the evolving epidemiology of vector-borne diseases, and to consider impact by climate change, it is essential for early diagnosis and effective treatment.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 062
Category: Clinical Vignette
Residency Program: Henry Ford Hospital Macomb
Presenter: Ricardo Melendez Rodriguez
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An Unusual Suspect: Case of Topiramate-induced Neutropenia

A 55-year-old female presented to our institution after a routine visit to her primary care provider, where lab work revealed severe neutropenia with an absolute neutrophil count (ANC) of 0.09 x 10^9/L. The patient, who had a history of migraines (for which she underwent a brain MRI) and hyperthyroidism treated with radioactive iodine in 2019, was asymptomatic, with no reported fever or infections. Lab results also demonstrated persistently elevated liver enzymes (transaminitis), for which a liver biopsy revealed acute hepatitis. Viral serology and an autoimmune panel were negative. An extensive neutropenia workup was conducted, including a peripheral smear, which was unremarkable. Bone marrow biopsy, cytogenetic testing, and fluorescence in situ hybridization (FISH) analysis also returned normal results. The transaminitis was attributed to drug-induced liver injury (DILI). The patient had recently been prescribed topiramate for migraine prophylaxis, and a review of her medication history revealed that the decline in neutrophil counts coincided with the initiation of this drug. Topiramate was identified as the likely cause of both the neutropenia and transaminitis. The medication was discontinued, and follow-up lab work demonstrated a gradual improvement in ANC.Topiramate is commonly prescribed for migraine prophylaxis and seizure management, with a generally favorable safety profile. However, serious hematological side effects, such as neutropenia, are exceedingly rare. This case highlights the importance of considering drug-induced neutropenia in patients with unexplained hematologic abnormalities. In this instance, topiramate was also implicated in drug-induced liver injury (DILI), emphasizing the need for careful monitoring of liver function and complete blood count in susceptible individuals. This case underscores a rare but serious adverse effect of topiramate. Clinicians should maintain a high index of suspicion for medication-induced cytopenias and liver injury in patients with unexplained neutropenia and transaminitis. Prompt recognition and discontinuation of the offending agent can lead to resolution of symptoms, as demonstrated by this patient’s recovery.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

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One in a million- Miller Fisher Syndrome

Background: Miller-Fisher Syndrome (MFS), an extremely rare subtype of Guillain-Barré Syndrome (GBS) is an acute demyelinating polyneuropathy. It typically presents with cranial nerve deficits, often manifesting as ophthalmoplegia, limb ataxia, and absent reflexes. MFS occurs in approximately 1-2 cases per 1,000,000 individuals. (1) Due to its unusual presentation, MFS has a broad differential diagnosis, including Lambert-Eaton Myasthenic Syndrome (LEMS), Myasthenia Gravis, Multiple Sclerosis, B1 deficiency, CNS inflammation/infection, and brainstem stroke. This case highlights the varied presentation of the disease, including delayed loss of reflexes, and the importance of anti-GQ1b antibody testing in confirming the diagnosis of MFS.

Case Description: A 63-year-old male presented with stroke-like symptoms, including sudden onset of double vision, impaired balance, vomiting, following a viral upper respiratory infection. The stroke workup yielded negative results. Cerebrospinal fluid analysis showed albuminocytologic disassociation, while the paraneoplastic panel in serum, infectious etiologies, and other autoimmune workups were also negative. Initially, the patient had deep tendon reflexes (DTR), which he lost over the first four days, starting from his biceps and progressing down to his ankles. Ganglioside GQ1b antibodies were elevated (specific level: >12800). During the hospital stay, the patient experienced worsening limitations in eye movements and deterioration in gait stability. Based on the clinical picture, results, and lab/imaging findings, all were suggestive and consistent with MFS. The patient completed a 5-day Intravenous Immunoglobulin (IVIG) course (2 g/kg) with gradual improvement in deficits and was deemed fit for discharge. The patient exhibited typical MFS/GBS progression, with symptoms peaking within 4-5 days of onset and gradual improvement following IVIG. Recovery reached ~80% by 4 weeks and near full recovery (~100%) by 8 weeks.

Discussion: Patients presenting with stroke-like symptoms involving eye movement, and gait disturbances have a broad differential diagnosis, especially when stroke has been ruled out. Recognizing the delayed full presentation and clinical nadir in GBS, where symptoms peak and stabilize, aids in diagnosis and guides neurodiagnostic studies. MFS is a rare subtype and should be at the back of the mind when the initial workup is negative, and testing for anti-GQ1b becomes extremely important. This case underscores the value of daily physical examinations. Identifying new findings during daily exams allows healthcare professionals to adjust care, improve outcomes, and achieve breakthroughs. Prompt use of IVIG or plasmapheresis should be initiated when clinical suspicion is high, and additional testing can later confirm diagnosis. The difference in prognosis between MFS and GBS is significant. MFS is a milder form of GBS, resulting in a lower likelihood of requiring ICU admission due to impending respiratory failure. Additionally, distinguishing between different variants of GBS helps advance research into autoimmune neuropathies, paving the way for new therapeutic approaches.

Conclusion: This case signifies keeping an open mind when seeing cases presenting with ophthalmoplegia, ataxia, and loss of DTR. It also highlights the importance of daily neurological examination, and appropriate disposition when dealing with acute autoimmune demyelinating polyneuropathies such as MFS and GBS.

1. Ooi, S. T., Ahmad, A., & Yaakub, A. (2022). Recurrent Miller Fisher Syndrome. Cureus, 14(6).

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

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Category: Clinical Vignette
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Presenter: Rajita Ramaraju
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Tirzepatide-Associated Diabetic Ketoacidosis in Type 2 Diabetes Mellitus: A Case Series

This report presents two unique cases of diabetic ketoacidosis (DKA) temporally linked to Tirzepatide use, representing a potentially serious and underrecognized adverse event. Tirzepatide is a novel dual incretin receptor agonist that targets GLP-1 and GIP receptors and has shown exceptional benefits in managing Type 2 Diabetes Mellitus (T2DM) and chronic weight management. Although gastrointestinal discomfort is the most commonly reported adverse effect, rare but significant complications, such as acute kidney injury, pancreatitis, and gallbladder disease, have been observed.

Case Presentations:

Case 1: A 35-year-old woman with a 4-year history of T2DM experienced euglycemic DKA one week after an increased dose of Tirzepatide. Her medical history included a prior DKA episode occurring within a week of her initial dose of the medication. She presented with severe nausea, vomiting, and abdominal pain, with investigations confirming DKA (pH 7.31, bicarbonate 9.9 mmol/L, glucose 178 mg/dL, beta-hydroxybutyrate 13.5 µmol/L, anion gap 31). Other triggers, including infection, trauma, and alcohol use, were ruled out. She was managed with standard DKA protocol and discharged after resolution.

Case 2: A 46-year-old man with a 23-year history of T2DM presented with hyperglycemic DKA after persistent gastrointestinal side effects from six months of Tirzepatide therapy. On admission, he exhibited severe nausea and vomiting, with labs revealing DKA (pH 7.44, bicarbonate 16.6 mmol/L, glucose 507 mg/dL, beta-hydroxybutyrate 7.7 µmol/L, anion gap 24). Extensive evaluation ruled out alternative precipitants, and he responded to standard DKA management protocols.

These instances highlight the potential for both hyperglycaemic and euglycemic DKA as an uncommon side effect of tirzepatide. This link could be explained by a number of mechanisms: 1. Decreased Caloric Intake: Starvation ketoacidosis may result from ongoing gastrointestinal side effects caused by tirzepatide. 2. Unmasking of Ketosis-Prone Diabetes: In some people with type 2 diabetes, tirzepatide may indicate an underlying propensity for ketosis. 3. In patients who are vulnerable, the combination of insulin deficiency and counterregulatory hormones may make ketogenesis worse.

Despite the fact that incretin-based treatments are not usually linked to DKA, tirzepatide's simultaneous activity on GLP-1 and GIP receptors may merit special attention. DKA has received minimal attention in clinical trial and post-market monitoring data, which have mostly concentrated on gastrointestinal and cardiovascular effects.

In conclusion, this study is the first to outline a possible connection between tirzepatide and diabetic ketoacidosis in patients with type 2 diabetes. It highlights the importance of keeping a close eye on patients receiving this treatment, particularly those who have decreased caloric intake or risk factors for DKA. To guarantee patient safety, more research into the causes and prevalence of this condition is necessary.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 066
Category: Clinical Vignette
Residency Program: Henry Ford Hospital Macomb
Presenter: Satya Sajja
Additional Authors: David Naimzadeh MD Subhi Sbahi MD Bianca Mannariat MD Madeha Khwaja MD Anuradha Sreenivasan DO

Chasing the high leading to low cardiac functioning: Noncompaction coexisting with non-ischemic cardiomyopathy in the setting of polysubstance abuse and Wolf Parkinson White syndrome in an otherwise healthy adult male

Introduction:

Left ventricular noncompaction (LVNC) is a rare myocardial disorder, which may be congenital or acquired, with prominent left ventricular (LV) trabeculae and deep intertrabecular recesses that communicate with the ventricular cavity. Diagnosis may be challenging but usually depends on morphological features noted on imaging, typically echocardiogram, with a prevalence of approximately 0.014% to 1.3% in adults. Wolff-Parkinson-White syndrome (WPW) is a preexcitation syndrome classically attributed to an anomalous conducting pathway with a prevalence of 0.1 to 0.3% in the general population. Patients with LVNC are at risk for developing arrhythmias, but the co-occurrence with WPW has not been well established and may be a rare finding. This case highlights one rare incidence of a 32-year-old male who presented with acute HFrEF in the setting of polysubstance abuse, LVNC on imaging, and WPW with prolonged QTc. During extensive workup for newly reduced EF, the patient was incidentally noticed to have a Chiari network and significant LV and RV apical trabeculations suggesting noncompaction. Concomitant polysubstance, especially amphetamine abuse contributed to structural remodeling, inducing a component of dilated CM.

Case Presentation:

We present an intriguing case of a 32-year-old male who was diagnosed with acute HFrEF secondary to polysubstance abuse (including testosterone, Adderall, cocaine, tobacco, and nicotine vape), coexisting with underlying WPW syndrome and non-compaction on imaging. Patient presented to the ED due to shortness of breath on minimal exertion, orthopnea, and dyspnea ongoing for 2 weeks. Review of systems was significant for new-onset fatigue with performing ADLs. Physical examination was otherwise benign. Routine workup confirmed sinus rhythm with LVH repolarization changes, delta waves, and prolonged QTc > 500 milliseconds in the setting of underlying WPW. Echocardiogram revealed EF of 10% with severe hypokinesis of the entire left ventricular wall, moderate to severe increase in LV cavity size, and moderate increase in the trabeculae in the LV and RV apex with concern for non-compaction, possible Chiari network. Cardiac catheterization was unremarkable for significant atherosclerotic disease. Guideline-directed medical therapy for non-ischemic cardiomyopathy with reduced EF was initiated, and extensive counselling regarding abstinence from stimulant use was done. Primary prophylaxis against sudden cardiac death was done by utilizing a wearable cardioverter-defibrillator. Cardiac MRI during outpatient workup noted severely dilated right and left ventricles with severe global hypokinesis (calculated LV EF of 17% and RV EF of 16%). Both late gadolinium enhancement on CMR and reduced EF on echocardiogram, which are present in this case, suggest worse prognostication in LVNC with a higher incidence of hard cardiac events.

Discussion:

In summary, this case highlights a rare amalgamation of findings: Non-compaction pattern of apical trabeculations on imaging, Adderall abuse leading to structural remodeling in the form of dilatation, presence of Chiari network as an incidental finding, however, may contribute to the occurrence of accessory atrioventricular pathway in the form of WPW syndrome and non-ischemic cardiomyopathy as evident by unremarkable cardiac catheterization. Although the association between stimulant-mediated dilatation in the setting of non-compaction has not been studied extensively, this case opens up potential to pursue further investigation.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 067
Category: Clinical Vignette
Residency Program: Henry Ford Hospital Macomb
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A rare cause of thrombocytosis- Heterotaxy!

Heterotaxy syndrome is a rare congenital disorder with an incidence of approximately 1 in 10,000 live births. It results from isomerism, a misalignment of the body's left and right axes during development, causing duplication of left-sided (left isomerism) or right-sided (right isomerism) structures and abnormal organ placement. Depending on the type, individuals may have asplenia or multiple accessory spleens, leading to variations in platelet counts. Asplenia reduces platelet sequestration, increasing platelet counts, while multiple accessory spleens may enhance clearance, lowering counts. Thrombocytosis, though uncommon, has been observed in heterotaxy syndrome, primarily due to asplenia or functional hyposplenia, compounded by low-grade inflammation stimulating thrombo-poiesis via cytokines like IL-6.

We present the case of a 58-year-old female patient born prematurely, who had experienced spinal meningitis with hydrocephalus during her neonatal period, requiring multiple VP shunt placements. She is also being treated for chronic SIADH and has cognitive impairments.

The patient initially presented to her primary care provider with a large hematoma on the right shin of the tibia, which took an extended period to resolve. Hematology was consulted due to the observation of chronically elevated platelet counts ranging from 400-500K since 2012. She had no significant history of bleeding disorders or menorrhagia.

The patient's family reported the absence of her spleen and situs inversus abdominus. Imaging, including abdominal ultrasound and CT scans of the chest and abdomen, revealed a centrally located liver, a biventricular heart positioned on the left, and evidence of situs ambiguous rather than thoracic situs inversus.

Comprehensive thrombocytosis workup, including iron panel, monoclonal protein evaluation, and molecular testing for BCR-ABL, JAK2, MPL, and CALR mutations, was negative. The patient was subsequently referred to cardiology for further evaluation of potential cardiac anomalies, a common association with heterotaxy syndrome.

In asplenia, platelet sequestration and clearance are impaired, increasing circulating platelet counts. Low-grade inflammation, common in heterotaxy, may also stimulate thrombopoiesis through IL-6. Imaging showed a small accessory spleen, likely providing limited immune protection and partial platelet clearance.

Despite asplenia, the patient has had no significant infections, suggesting the accessory spleen's role in maintaining some immune function. Her neonatal meningitis likely resulted from prematurity and NICU exposure rather than asplenia.

The absence of myeloproliferative neoplasms confirms the thrombocytosis is reactive and benign. However, long-term monitoring is essential, given the increased risk of thrombotic events.

Multidisciplinary care is vital for managing this complex condition and mitigating potential complications such as thrombosis. Regular follow-up ensures early identification and intervention, promoting better patient outcomes.

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2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 068
Category: Clinical Vignette
Residency Program: Henry Ford Hospital Macomb
Presenter: Ahmed Selim
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A diagnostic dilemma of a delayed ITP presentation, a rare adverse effect of nafcillin

Antibiotics induced ITP is a commonly known phenomenon. In this case with a rare cause, delayed onset, and a complicated presentation, nafcillin with the culprit. Nafcillin is a commonly used antibiotic for treating methicillin-sensitive Staphylococcus aureus (MSSA) infections. While antibiotics can induce immune thrombocytopenia (ITP), nafcillin is rarely implicated. We present a rare case of delayed-onset ITP induced by nafcillin, highlighting its unusual presentation.

Patient is a 59-year-old male with past medical history of anxiety, cervical spine stenosis, hypertension, hyperlipidemia, coronary artery disease presenting to the emergency department for electrolyte derangements.

Notable hospitalization approximately 1 month prior to presentation for low back pain of which patient underwent thoracic laminectomy for excision of dural lesion and lumbar laminectomy as well as bone biopsy due to findings of compression fracture to T11 and spinal stenosis from L2-L4. At that time, the patient had positive blood culture for methicillin-sensitive Staphylococcus aureus and was initiated on IV nafcillin with plans for total IV duration of 6 weeks (about 1 and a half months). The patient established intravenous access with peripherally inserted central catheter for outpatient administration of IV nafcillin.

Current presentation for electrolyte derangements demonstrates hypokalemia, hypophosphatemia, and hypomagnesemia. Following previous hospitalization, the patient has been experiencing decreased appetite and felt nauseous with intermittent diarrhea. The patient denied chest pain, shortness of breath, headache, vision changes, skin color changes, skin rashes, skin ecchymosis, fevers, chills.

Initial laboratory results showed electrolyte derangements listed above, and acute kidney injury with creatinine 2.16. The patient was noted to have atrial fibrillation/atrial flutter and was initiated on heparin for anticoagulation. Patient’s monitoring complete blood count demonstrated platelet count of168,000 on day 1 of hospitalization which decreased to a platelet count of 59,000 on day 2 of hospitalization. Laboratory testing for heparin-induced thrombocytopenia (HIT) was ordered and heparin anticoagulation was immediately stopped. HIT lab work demonstrated negative antibody to HIT panel. Peripheral smear demonstrated schistocytes and giant platelets and rouleaux formation. Patient's platelets trended to lowest value of 14,000. The patient was initiated on Solu-Medrol which began to gradually improve platelet counts. The patient's antibiotic was switched from IV nafcillin to IV cefazolin. Before the patient's discharge, platelet count improved to 269,000, and kidney function trended toward resolution of acute kidney injury. At the time of discharge the patient was continued on Eliquis for anticoagulation and scheduled to continue cefazolin to complete the IV antibiotic course as previously recommended for the patient’s MSSA bacteremia.

Nafcillin-induced ITP is an uncommon entity, and this report contributes to the limited literature on this topic. Our case highlights the rare occurrence of delayed-onset immune thrombocytopenia (ITP) induced by nafcillin.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 069
Category: Clinical Vignette
Residency Program: Henry Ford Hospital Macomb
Presenter: Harini Venkatesh
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Hypertensive Emergency in a Case of Prekallikrein Deficiency: Did ACE Inhibitor Monotherapy Fail to Ace the Game?

Introduction: Prekallikrein (PK) deficiency is a rare autosomal recessive clotting disorder, affecting 1 in 1,000,000 individuals, predominantly of African descent, associated with mutations in the KLKB1 gene located on Chr4q34-35. The diagnosis is often incidental and examined when PTT is prolonged, most commonly in the context of recurrent epistaxis and protracted perioperative bleeding. The condition alone is benign and does not require any treatment. However, it has been linked to a greater risk of hypertension, stroke, myocardial infarction and deep vein thrombosis. This case report describes hypertensive emergency triggering stroke-like symptoms in a patient with PK deficiency possibly related to the limited action of ACE inhibitors.

Case Description: A 62-year-old female with PK deficiency (activity < 15%, ref. range 55-207), incidentally diagnosed during pre-operative workup for knee arthroplasty, and previously well-controlled hypertension (< 130/80 mmHg) with amlodipine and lisinopril, developed sudden-onset double vision and tingling in her right upper extremity (NIHSS 2). Due to gingival hyperplasia, amlodipine had to be discontinued a few weeks before her presentation, inadvertently leading to higher blood pressure readings in spite of the maximum lisinopril dose. Blood pressure at the time was 220/120 mmHg with otherwise stable vitals. She was outside the therapeutic window for TNK and deemed ineligible for thrombectomy. CT & MRI neuroimaging revealed no acute abnormalities. Blood pressure management with IV antihypertensive therapy resulted in complete resolution of symptoms within 24 hours. At discharge, carvedilol was initiated in addition to lisinopril, with follow-up blood pressure readings documenting a return to her baseline.

Discussion: PK is involved in the coagulation cascade, inflammation and blood pressure regulation. It is the precursor for kallikrein that activates kininogen to kinins, like bradykinin. The latter is a potent vasodilator, leading to lower vascular resistance and blood pressure. Additionally, bradykinin may also affect blood pressure by reducing angiotensin II and aldosterone release, and counteracting the vasoconstrictor effects of angiotensin II by mediating nitric oxide generation through AT2 receptors which in turn enhances the effect of bradykinin. As a buffer, angiotensin II itself stimulates kallikrein formation and therefore bradykinin production. Multiple prior studies evaluating the relationship between PK and captopril demonstrated an increase in PK levels and a decrease in kininogen levels indicating high kininogenase activity. The magnitude of PK rise corresponded with the likelihood of blood pressure normalization. This was especially true with the addition of hydrochlorothiazide. PK deficiency, however, may restrict the above regulatory processes.

Conclusion: ACE inhibitors serve a dual function – blocking the conversion of angiotensin I to II and inhibiting the degradation of bradykinin. In individuals with PK deficiency, the vasodilatory effects of ACE inhibitors may be curbed by the reduced availability of bradykinin, despite minimal degradation. Hence, monotherapy with ACE inhibitors may not be adequate to achieve a target blood pressure in such patients and the addition of other antihypertensive agents must be considered.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 070
Category: Clinical Vignette
Residency Program: Henry Ford Hospital Warren
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Additional Authors: Javier Aguilar-Aragon MD, Benjamin Collins-Hamel DO

A Case of Newly Diagnosed Syphilis Presenting as Bell's Palsy Neurosyphilis in a Patient with HIV

Introduction

Syphilis, often dubbed "the great imitator," represents a spectrum of disease caused by Treponema pallidum. The spirochete is known to disseminate quickly, with literature suggesting central nervous system (CNS) invasion may occur within days of infection. Up to 30% of patients with early syphilis and 26% of patients with secondary syphilis show evidence of asymptomatic neuroinvasion on cerebrospinal fluid analysis. Symptomatic neurosyphilis often takes years or decades to develop. A significant risk factor for progression to symptomatic neurosyphilis is concomitant infection with human immunodeficiency virus (HIV). Here we present the case of a patient infected with HIV with no known history of syphilis who was diagnosed with Bell's palsy secondary to neurosyphilis.

Case Presentation

A 32-year-old male with a past medical history of HIV was admitted for workup of new onset left-sided facial paralysis & numbness and headache. The patient was diagnosed with HIV five years ago; he was previously taking Genvoya, but had not taken antiviral therapy in the two months preceding admission due to lack of access to a physician. MRI brain with and without contrast showed subtle enhancement within the bilateral internal auditory canal fundi suggestive of Bell's palsy; there was no evidence of intracranial masses, ischemia, or hemorrhages. Infectious workup revealed a reactive syphilis screen with an RPR titer of 1:256. HIV viral load was 22,100 copies/mL and absolute CD4 count was 354 cells/mm3. Herpes simplex virus 1 and 2 IgM & IgG antibodies, hepatitis B surface antigen & core antibody IgM, and hepatitis C antibodies were negative. The patient had no prior history of chancre, rash, fever, or malaise. Lumbar puncture showed a VDRL titer of 1:2. The patient was treated with IV Penicillin G every four hours while inpatient, which was transitioned to a two-week course of daily IV ceftriaxone upon discharge.

Discussion

Neurosyphilis has been reported to present as a variety of neurological complications, including meningitis, various cranial neuropathies, and cerebral infarction. Patients at the highest risk for developing symptomatic neurosyphilis include men who have sex with men (MSM) and patients coinfected with HIV. Diagnosis of neurosyphilis remains tricky in patients with HIV as these patients may have elevated CSF white blood cell counts and protein levels at baseline. As such, CSF VDRL titers remain the gold standard for diagnosis of neurosyphilis. When left untreated, neurosyphilis can lead to a variety of central nervous system manifestations, including cognitive impairment, personality changes, and tabes dorsalis. Severe cases of neurosyphilis can result in permanent disability and death. This case highlights the need to consider neurosyphilis as part of the differential when evaluating patient populations vulnerable to neurosyphilis even when there is no known history of syphilis infection to prevent catastrophic morbidity and mortality.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 071
Category: Clinical Vignette
Residency Program: Henry Ford Hospital Warren
Presenter: David LeRoy
Additional Authors: Elaine Ognjanovski DO, Silvia Menkes DO, Kristen Kenny DO, Cassie Konja DO

Neuro-Behçet's Syndrome: A Case Report

Behçet's syndrome is a systemic vasculitis that can affect several different organ systems, and often presents as recurring genital and oral ulcers, and uveitis. Neurological involvement is a rare complication of Behçet's syndrome and is associated with significant morbidity and mortality. Neuro-Behçet's syndrome (NBS) is a combination of neurologic manifestations in a patient with Behçet's syndrome, including movement disorders, myelopathic syndrome, intracranial hypertension, and a multiple sclerosis-like picture. Diagnosis of NBS can be challenging due to the wide range of clinical presentations. Although previous research has aided in advancing the understanding of the pathophysiology and treatment of the systemic Behçet's syndrome, there is a lack of randomized control studies involving the treatment of NBS. This case report describes a patient with Neuro-Behçet’s syndrome who underwent a complex hospital course requiring a multidisciplinary team approach to address various complications.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 072
Category: Clinical Vignette
Residency Program: Henry Ford Hospital Warren

Presenter: Brandon Huynh
Additional Authors: Dhillon, Gundip S., Kanitkar, Amaraja A.

Urinary Tract Infection & Beta-Blockade causing Bradycardia, Renal Failure, Atrioventricular Nodal Block, Shock, Hyperkalemia (BRASH) Syndrome

BRASH syndrome is an underrecognized clinical syndrome characterized by bradycardia, renal failure, AV nodal block, shock, and hyperkalemia that may lead to multiorgan collapse if not addressed. We present a 73-year-old female with past medical history of COPD, HFrEF, IDDM, post-ablative hypothyroidism who presented to the hospital from extended care facility for dyspnea, chest pressure, weakness. She had been recently discharged from the hospital for COPD exacerbation and restarted on her home carvedilol on discharge.

On physical exam, the patient appeared well-nourished, mucous membranes dry, alert and oriented to self and place. Initial vitals were significant for a heart rate of 50, SpO2 90% on home 3LNC. EKG obtained was significant for junctional rhythm with hyperacute T waves. Initial labs were significant for leukocytosis 16K, hyperkalemia 7.7 mmol/L, bicarbonate 21 mmol/L, blood urea nitrogen 125 mg/dL, Cr 6.88 mg/dL (baseline 0.78 mg/dL), TSH 7.39 microunits/mL, T4 0.5 ng/dl. Chest radiography obtained significant for increased pulmonary vascular congestion. Urinalysis obtained for urinary frequency symptoms preceding admission was obtained via straight catheterization as patient was anuric.

She was started on intravenous ceftriaxone for her urinary tract infection and medical therapy for hyperkalemia including two rounds of intravenous insulin, dextrose, calcium gluconate, sodium zirconium cyclosilicate with repeat labs six hours later significant for medically resistant hyperkalemia with potassium level of 8 mmol/L. Repeat vitals were significant for hypotension and bradycardia resistant to IV atropine. The patient had undergone emergent hemodialysis before transitioning to CRRT as her blood pressures could not tolerate hemodialysis despite intravenous fluid administration.

The patient was subsequently admitted to the intensive care unit where her repeat potassium was 7.5 mmol/L and intravenous dopamine was started for persistent bradycardia and mild hypotension. She had required continuous transcutaneous pacing with her intrinsic heart rate persistently in the 30-40's that was transitioned to transvenous pacing. Intravenous levothyroxine was also initiated in the event that mild hypothyroidism was a contributor to her bradycardia. Clinically, her hemodynamics began to improve with medical and renal replacement therapy, now hypertensive and no longer dependent on transvenous pacing. Her CRRT was transitioned back to hemodialysis. During her extended hospital course, her renal function recovered, electrolytes remained stable without need of further hemodialysis.

BRASH is a clinical syndrome often treated through supportive medical therapy and removal of offending agents. One notable characteristic of BRASH besides the constellation of symptoms is the disproportionate bradycardia and EKG findings to the severity of hyperkalemia. In our patient, her EKG lacked the classic peaked T waves, widened QRS, and prolonged PR interval seen in pure hyperkalemia. We suspect the patient’s urinary tract infection, dehydration, and beta-blockade with carvedilol were all contributing factors to her development of BRASH. Early recognition of this clinical syndrome is important as complications may include renal failure requiring hemodialysis and cardiogenic shock requiring vasopressor and inotropic support.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 073
Category: Clinical Vignette
Residency Program: Henry Ford Providence Southfield Hospital
Presenter: Rana Afram
Additional Authors: Yazan Omari, MD; Brian Nohomovich, DO PhD; Mark DeVore, MD

Breaking the Age Barrier: Early-Onset Esophageal Adenocarcinoma Linked to Family History

Background

Esophageal adenocarcinoma (EAC) is typically diagnosed in individuals aged 60–70 years and is associated with risk factors such as gastroesophageal reflux disease (GERD), Barrett's esophagus, and tobacco use. This case report highlights a rare diagnosis of EAC in a 36-year-old male with no traditional risk factors, emphasizing the importance of family history in risk stratification and diagnostic evaluation.

Case Presentation

A 36-year-old male with a history of hypertension and hyperlipidemia presented with two months of progressive dysphagia to solids, occasional dysphagia to liquids, and unintentional weight loss of 32 pounds. During his initial evaluation, he reported a paternal history of esophageal cancer but denied tobacco or e-cigarette use. His primary care physician initially prescribed pantoprazole for presumed GERD, but his symptoms persisted.

Subsequent esophagogastroduodenoscopy (EGD) on December 30, 2024, revealed Los Angeles Grade B esophagitis and a circumferential, fungating, ulcerated, and bleeding mass at the gastroesophageal (GE) junction. Biopsies confirmed poorly differentiated carcinoma with necrosis.

Endoscopic ultrasound (EUS) on January 10, 2025, identified a hypoechoic, circumferential, ulcerated mass invading the muscularis propria, staged as T3. Additional findings included an ulcerated mass in the gastric cardia and a gastric body polyp. Computed tomography (CT) of the chest, abdomen, pelvis, and neck showed mass-like thickening at the GE junction with mild inflammatory fat stranding, consistent with neoplasm. Molecular testing revealed negative HER2 and MET amplification but positive PD-L1 expression (CPS = 22).

Discussion

This case underscores the importance of thorough history-taking and prompt diagnostic testing in patients presenting with alarm symptoms such as dysphagia and significant weight loss. The patient's paternal history of esophageal cancer increased clinical suspicion and justified early invasive testing, ultimately leading to the diagnosis of advanced-stage EAC.

Although EAC is rare in individuals under 40 years, familial cancer syndromes and genetic predispositions can contribute to early-onset disease. This case highlights the value of family history in increasing the pretest probability of malignancy, even in the absence of traditional risk factors like smoking or Barrett's esophagus.

Diagnostic testing for EAC should prioritize early endoscopic evaluation in patients with alarm symptoms, especially those with a family history of esophageal or related cancers. In this case, initial EGD with biopsy enabled histopathological confirmation of malignancy, while EUS and imaging provided critical staging information. The patient's advanced stage at diagnosis reflects the lower clinical suspicion typically applied to younger populations, underscoring the need for heightened vigilance.

Conclusion

This case highlights the critical role of family history in diagnosing esophageal adenocarcinoma and emphasizes the need for timely evaluation of alarm symptoms, even in younger patients. Increased awareness of non-modifiable risk factors, such as familial predisposition, can enhance early detection and improve outcomes for this rare but aggressive malignancy.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 074
Category: Clinical Vignette
Residency Program: Henry Ford Providence Southfield Hospital
Presenter: Fred Ahmadi
Additional Authors: Saif Affas, MD

An Uncommon Culprit: Coxsackievirus as a Rare Cause of Transaminitis in Immunocompetent Adults

Introduction:

Coxsackie viruses, members of the Enterovirus genus, are well-known for causing self-limited conditions like hand, foot, and mouth disease and viral myocarditis. It is also known to be a rare cause of aseptic meningitis. However, their role in hepatic injury, especially in immunocompetent adults, is rare and underreported. While Coxsackie B virus has been linked to fulminant hepatic failure in pediatric patients, its association with liver dysfunction in adults remains uncommon, with limited cases in current literature. This report presents a case of acute transaminitis in an adult patient due to Coxsackie virus infection. This brings to light the importance of considering this rare etiology in viral-associated liver enzyme abnormalities.

Case Description:

A 50-year-old female with a history of Crohn's disease and GERD presented with a 10-day history of fever, chills, and headache. Shortly after presenting to the hospital, she also endorsed neck stiffness. She had been taking Humira for management of her Crohn's disease. On presentation, initial laboratory results revealed elevated liver enzymes, including AST (214 U/L), and ALT (325 U/L), as well as alkaline phosphatase (514 U/L), with normal liver chemistries within the last year. CBC and BMP were unremarkable. An inflammatory response was suggested by an elevated CRP (17.5 mg/dL). A comprehensive hepatitis panel, along with CMV IgM and EBV VCA IgM tests, were negative. ANA, AMA, ASMA were all negative. Imaging with MRCP revealed diffuse gallbladder wall thickening and mild hepatosplenomegaly. The patient denied using any herbal supplements, over-the-counter supplements or having any history of viral hepatitis. She denied alcohol or illicit drug use. There was clinical suspicion for meningitis and a lumbar puncture was ordered. CSF studies revealed lymphocytic predominance with normal protein and glucose levels. Serologic testing identified antibodies against Coxsackie B virus (types 1–4) at a 1:100 titer. She was treated with supportive care and her symptoms had largely resolved before being discharged home.

Discussion:

This case demonstrates that Coxsackie B virus infection can lead to hepatic injury, presenting as transaminitis in an immunocompetent adult. This patient presents with classic symptoms including headache and neck stiffness and there was clinical suspicion for meningitis. After excluding other common causes of liver dysfunction, such as choledocholithiasis, primary biliary cholangitis, drug-induced liver injury, and other viral infections, the diagnosis was supported by positive serologies for Coxsackie B virus and the patient's clinical presentation. This patient's symptoms were likely explained by aseptic meningitis caused by Coxsackie virus as well as concurrent hepatitis. This case also highlights that Coxsackie virus, although uncommonly, can cause aseptic meningitis. While the hepatic manifestations of Coxsackie virus infection are also rare in adults, this case again highlights the importance of considering this viral etiology when more common causes are ruled out. Awareness of this unusual presentation can prevent unnecessary diagnostic procedures and interventions.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 075
Category: Clinical Vignette
Residency Program: Henry Ford Providence Southfield Hospital
Presenter: John Bajouka
Additional Authors: Keyur Patel MD, Dylon Daoud DO

Cytokine Storm: A Harbinger of Major Cardiovascular Events

An 80-year-old female with a history of multiple myeloma, who was unvaccinated for influenza, presented to the emergency department with her son due to 2 days of lethargy, anorexia, diarrhea and altered mentation. She had diarrhea several months prior that resolved in 2 to 3 days, however its recurrence, loss of appetite, lethargy and mental status changes resulting in inability to perform activities of daily living prompted their visit to the emergency department. History of tobacco, alcohol use and illicit substance use was denied. On arrival at the emergency department, the patient was lethargic, disoriented, and minimally communicative. She was stable with a blood pressure of 123/67 mmHg, heart rate 102 beats/min, and oxygen saturation of 98% on room air. She had a single fever reading of 100.9 Fahrenheit. S1, S2 heart sounds and lung auscultation were normal. Admitting electrocardiogram was nonischemic. She had leukopenia (2.03 K/mcL), tested positive for Influenza B and was started on oseltamivir. 3 days into her admission she developed acute hypoxic respiratory failure with oxygen saturation as low as 75% on 2 liters nasal canula, tachycardia and tachypnea. Computed tomography (CT) to evaluate for pulmonary embolism identified diffuse ground glass opacification and consolidation suggesting multifocal pneumonia and cardiogenic pulmonary edema. Echocardiogram discovered a newly reduced ejection fraction of 30% with moderate to severe global hypokinesis. Broad spectrum antibiotics with vancomycin and cefepime for hospital acquired pneumonia were started, and diuresis was attempted with furosemide; two days later her alertness declined, and she developed acute onset left hemiparesis, left Babinski and right gaze preference concerning for new right hemispheric stroke. CT angiography confirmed occlusion of the inferior division of the right M2. She was intubated for airway protection, and repeat echocardiogram identified an acute reduction in ejection faction (15%) with severe global hypokinesis, and akinesis of the apical and anteroseptal walls. Repeat electrocardiogram identified 2mm ST segment elevations in II, III and AvF, with reciprocal depressions in V2 – V6, suggestive of inferior ST elevation myocardial infarction. High sensitivity troponin increased from 26 ng/L at admission to 1,279 ng/L. She developed fevers as high as 104.6 Fahrenheit. Her C-reactive protein rose from 57.9 mg/L to 193.8 mg/L; her ferritin rose from 1,926 ng/mL to 13,745 ng/mL. Hypotension, suspected to be due to mixed septic and cardiogenic shock, prompted vasopressor initiation. She developed anuric renal failure and transaminitis. High grade fevers, acute rise in inflammatory markers, shock and multiorgan dysfunction lead to the suspicion of cytokine storm. Ultimately, shock exacerbated by multiorgan failure, progressive acidosis and hyperkalemia resulted in the patient's death.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 076
Category: Clinical Vignette
Residency Program: Henry Ford Providence Southfield Hospital
Presenter: Wafaa Mansour
Additional Authors: Yazan Omari MD; John Bajouka MD; Mahmoud Assaad MD

Rare but Severe: Aortic Root Abscess in Immunocompromised Infective Endocarditis Case

Background

Infective endocarditis (IE) is often associated with risk factors such as IV drug use or non-virgin valves. Also, immunocompromised state is a major contributor. Aortic root abscesses, a rare but severe complication of IE, require timely diagnosis and surgical intervention as patients tend to be critically ill. This case highlights the diagnostic challenges of IE complicated by an aortic root abscess in an immunocompromised patient.

Case Presentation

A 66-year-old male with cancer-related immunocompromise presented to the emergency department with new-onset atrial fibrillation with rapid ventricular response (AF with RVR). Initial workup revealed normal sinus rhythm on EKG and positive blood cultures for Streptococcus salivarius. Due to his immune status and blood culture results, an ECHO was obtained and showed severe aortic insufficiency (AI) and a mobile structure subvalvularly, suggesting possible aortic vegetation. The patient was started on a prolonged course of IV antibiotics and discharged.

The patient was readmitted a few days after discharge with SOB, sweating and respiratory distress requiring intubation. The previous diagnosis of IE necessitated a Transesophageal echocardiography (TEE) which revealed highly mobile vegetations on the aortic valve and an aortic root abscess with perforation into the left atrium. Given the severity of the findings, a multidisciplinary team recommended urgent surgical intervention. The patient was transferred to a specialized medical facility for surgical intervention.

Discussion

Infective endocarditis is rare in patients without classic risk factors but should still be considered in immunocompromised individuals with unexplained cardiac symptoms. A low threshold to utilize DUKES criteria is appropriate in these clinical settings. This case is notable for the absence of typical IE risk factors such as recent dental procedures or prosthetic valves, which delayed the diagnosis. Aortic root abscesses, though rare, are a severe complication of IE that can lead to life-threatening outcomes without surgical intervention. Early imaging, including TEE, is crucial in diagnosing this complication and guiding treatment.

Conclusion

This case reveals the diagnostic challenges of infective endocarditis in immunocompromised patients without typical risk factors. Early detection, timely surgical intervention, and a multidisciplinary approach are critical for managing life-threatening complications like aortic root abscesses.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 077
Category: Clinical Vignette
Residency Program: Henry Ford Providence Southfield Hospital
Presenter: Yazan Omari
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Gastrocutaneous fistula after PEG tube, an innovative solution

A 69-year-old woman with a history of oral cancer and a percutaneous endoscopic gastrostomy (PEG) tube placement presented with persistent leakage and erythema around the tube site. This case highlights the diagnostic and therapeutic approach for managing a malfunctioning PEG tube complicated by the formation of a gastrocutaneous fistula, with a focus on the use of polyloop and hemostatic clip techniques.

Case Presentation

The patient presented with leakage and surrounding erythema at the PEG site. A CT abdomen revealed the gastrostomy catheter in a satisfactory position at the ventral wall of the inferior gastric body.

An initial esophagogastroduodenoscopy (EGD) on 11/12 revealed a non-intact gastrostomy tract in the gastric body with a leaking PEG tube. The tube was removed endoscopically, and a replacement externally removable PEG tube with a T-fastener was successfully placed. No gross lesions were noted during the examination of the stomach or duodenum.

Despite replacement, leakage persisted, and conservative management failed. On 11/20, a second EGD was performed to address the ongoing issue.

During the second EGD, an 8 mm gastrocutaneous fistula was identified in the gastric body. Argon plasma coagulation (APC) was used to prepare the tissue edges for closure. An over-the-scope clip (OTSC) was initially placed, but complete closure was not achieved.

To fully close the defect, four hemostatic clips were used to approximate the tissue edges. Finally, a polyloop was placed around the clips to secure the closure of the fistula. This innovative combination achieved successful defect closure with no bleeding or other complications. The gastrostomy site appeared intact with healthy mucosa, and the remainder of the stomach and duodenum was normal.

Discussion

The polyloop technique combined with hemostatic clips represents a novel and effective approach for the closure of a gastrocutaneous fistula. In this case, the initial use of an OTSC provided partial closure but was insufficient for complete sealing of the defect. The addition of hemostatic clips allowed for precise approximation of the tissue edges, ensuring a robust foundation for closure.

The placement of a polyloop around the clips added an extra layer of stability, reducing the risk of clip dislodgement and ensuring sustained closure of the fistula. Polyloop-assisted closure techniques are advantageous in cases of persistent leakage, as they enhance the mechanical strength of the repair while minimizing the risk of recurrence.

This approach is particularly beneficial for patients with complex fistulas or those with underlying comorbidities, as it offers a minimally invasive alternative to surgical intervention. The success in this case underscores the importance of tailoring endoscopic techniques to the individual patient's needs, leveraging innovative tools like polyloops and hemostatic clips for optimal outcomes.

Conclusion

The polyloop technique, combined with hemostatic clip placement, is a safe and effective method for managing challenging gastrocutaneous fistulas. This case highlights the value of advanced endoscopic interventions in the management of PEG tube complications and underscores the importance of multidisciplinary care in optimizing patient outcomes.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 078
Category: Clinical Vignette
Residency Program: Henry Ford Providence Southfield Hospital
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Case Report: Cutaneous B-Cell Lymphoma Presenting as a Bleeding Scalp Mass in an 81-Year-Old Patient

Cutaneous B-cell lymphoma (CBCL) is a rare form of non-Hodgkin lymphoma that primarily involves the skin. This case highlights an 81-year-old male presenting with a rapidly enlarging, bleeding scalp mass, later diagnosed as CBCL, emphasizing the importance of timely diagnosis and treatment.

Case Presentation

An 81-year-old male, with unknown PMH, presented with a profusely bleeding mass on the frontal scalp that required 2 pRBC transfusions. Patient was coherent and explained that over two years, the lesion had grown significantly in size and recently ulcerated. Upon examination, a fungating mass measuring approximately 12 x 7 x 10 cm was observed on the frontal scalp, accompanied by additional lesions on the right parietal scalp, left suboccipital region, and near the superior right parotid/external auditory canal. The patient required initial stabilization with compression and blood transfusion due to significant bleeding.

Diagnostic Evaluation

A CT scan revealed a large fungating scalp mass without evidence of osseous invasion and multiple additional lesions. Differential diagnoses included cutaneous T-cell lymphoma, squamous cell carcinoma, neurofibromatosis, and arteriovenous malformation. Biopsy of the frontal scalp lesion confirmed high-grade large B-cell lymphoma, with immunohistochemical staining positive for CD20 and BCL-6. PET-CT imaging excluded systemic involvement, confirming the diagnosis of primary CBCL.

Management

The oncology team recommended combined chemoradiation therapy due to the high-grade nature of the lymphoma and the lesion's extensive size. The patient was discharged in stable condition with plans for outpatient follow-up and treatment initiation.

Discussion

CBCL is an uncommon malignancy, often presenting with solitary or multiple skin lesions. While typically indolent, high-grade cases can manifest aggressively, as seen in this patient. This case underscores the importance of distinguishing CBCL from other conditions such as squamous cell carcinoma or cutaneous T-cell lymphoma through histopathology and immunohistochemistry.

The untreated progression of CBCL in this case illustrates the potential for significant tumor growth and complications, including bleeding and ulceration. Management strategies depend on disease severity and extent, with localized therapies like radiation preferred for low-grade lesions. High-grade CBCL, however, often requires systemic chemotherapy in conjunction with radiation.

This case also emphasizes the need for multidisciplinary care, integrating dermatology, oncology, and radiology to ensure comprehensive management. Regular follow-up is essential for monitoring disease progression, treatment response, and recurrence.

Conclusion

This case highlights the clinical and diagnostic challenges of CBCL, particularly in elderly patients. Early recognition, biopsy, and a tailored therapeutic approach are critical to preventing complications associated with advanced disease. Effective multidisciplinary management and close monitoring can optimize outcomes for patients with this rare condition.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 079
Category: Clinical Vignette
Residency Program: Henry Ford St. John Hospital
Presenter: Mohamad Besher Adi
Additional Authors: Bola Nashed, Mohamad Barawi

Ulcerative Colitis and Isolated Hepatic Aspergillus Versicolor Infection: A Diagnostic Challenge

Background:

Ulcerative colitis (UC) is a chronic inflammatory bowel disease that primarily affects the colon and rectum, often presenting with symptoms such as diarrhea, abdominal pain, and weight loss. Patients with UC are also at higher risk for extra-intestinal manifestations and complications, including hepatic involvement and opportunistic infections, particularly in those who are immunocompromised. This case highlights the diagnostic challenges in UC patients with systemic symptoms, such as fever, diarrhea, and liver abnormalities, and underscores the importance of a thorough investigation to identify underlying infectious etiologies.

Case Presentation:

A 57-year-old woman with a history of ulcerative colitis (UC), previously treated with mesalamine but not currently on therapy, presented with 1 month of progressive weakness, decreased appetite, and 2 days of diarrhea. She reported having intermittent episodes of diarrhea, which usually resolved spontaneously. Additionally, she had experienced intermittent fever for 1 month, with no clear cause identified. Her medical history was incomplete, and she was unable to recall specific details about her UC treatment. Notably, the patient had recently tapered steroids, which she believed she had stopped a month ago.

Upon admission, the patient was vitally stable but appeared mildly ill. Physical examination was benign overall. Initial laboratory tests revealed leukocytosis, anemia, and elevated liver enzymes (alkaline phosphatase 391 U/L, AST 41 U/L), along with elevated C-reactive protein (CRP) (256 mg/L), suggesting an ongoing inflammatory or infectious process. Stool tests were negative for pathogens like Clostridium difficile, but fecal leukocytes were positive, indicating an inflammatory colitis component.

CT chest abdomen and pelvis was unremarkable, showing no signs of UC complications such as toxic megacolon or abscesses. However, MRCP demonstrated mild liver cirrhosis with hepatic fibrosis and parenchymal leaks, raising concern for underlying liver pathology. Liver biopsy was performed, revealing caseating granulomas, which suggested an infectious etiology. PCR testing of the biopsy sample identified Aspergillus versicolor, a rare fungal pathogen typically seen in immunocompromised individuals. The patient was started on voriconazole as per ID recommendations.

Discussion:

This case highlights the difficulty in diagnosing infectious causes in UC patients with systemic symptoms. While UC flare-ups are common, the presence of caseating granulomas on liver biopsy led to the identification of Aspergillus versicolor, which was confirmed by PCR. Fungal infections, although rare, can occur in UC patients on steroids, and Aspergillus species are known to affect immunocompromised individuals. The patient's liver disease, likely related to cirrhosis and fibrosis, compounded the diagnostic challenge and required a multidisciplinary approach.

Conclusion:

In UC patients with unexplained fever and systemic symptoms, a comprehensive diagnostic work-up is essential. Aspergillus versicolor infection should be considered, particularly in immunosuppressed individuals. Early identification of fungal infections and appropriate treatment with agents like voriconazole can significantly improve outcomes in these patients. This case underscores the importance of differentiating UC flares from infectious etiologies and highlights the need for collaboration between gastroenterology and infectious disease specialists in managing complex cases.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 080
Category: Clinical Vignette
Residency Program: Henry Ford St. John Hospital
Presenter: Salar Brikho
Additional Authors: Jessica Caruso DO, Adrienne Yun MD, Christopher Cooper

Beyond the Usual Suspects: A Case of PID Caused by Dialister micraerophilus

Pelvic inflammatory disease (PID) is an infection of the upper genital tract in females that involves the uterus, fallopian tubes, and/or ovaries. Clinical features include lower abdominal pain, dyspareunia, dysmenorrhea, and menorrhagia. PID is diagnosed clinically, and a diagnosis is made in younger sexually active females with lower abdominal pain that have evidence of cervical motion, uterine, or adnexal tenderness on exam. While PID is typically a polymicrobial infection, 85% of cases are caused by sexually transmitted pathogens. Less than 15% of cases are caused by enteric or respiratory pathogens that colonize the lower genital tract. Inpatient treatment includes ceftriaxone, metronidazole, and doxycycline. We report a case of PID caused by an uncommon pathogen, Dialister micraerophilus.

A thirty-five-year-old female with a history of uterine fibroids, previous myomectomy, well-controlled HIV on antiretroviral therapy, and persistent severe menorrhagia. Her most recent CD4 count was 604. The patient presented with severe abdominal pain lasting one week and associated with nausea, vomiting, and decreased appetite. Notably, an outpatient uterine biopsy had been performed one week prior to the onset of severe pain. She endorsed a two-year abstinence from sex; last menstrual cycle started one week prior to admission. On presentation, vital signs were significant for tachycardia of 130 bpm and a fever of 38.7ºC. Physical exam revealed left-lower quadrant and suprapubic tenderness with palpable uterine masses. Cervical exam uncovered a small amount of yellow-green discharge and cervical motion tenderness. A computed tomography scan of the abdomen and pelvis with intravenous contrast revealed a bulky leiomyomatous uterus with massive bilateral hydrosalpinx. At this point, PID was diagnosed. The patient was started on ceftriaxone, metronidazole, and doxycycline. Given her recent biopsy and history of sexual abstinence, possible etiologies included instrumentation during the procedure and obstruction related to her large fibroids. A pelvic ultrasound revealed pyosalpinx. Blood cultures were negative. Urine gonorrhea / chlamydia / trichomonas PCR was negative. The patient's pain did not improve despite four days of empiric antibiotics; ultrasound-guided aspiration of the bilateral hydrosalpinxes drained almost seven-hundred milliliters of dark fluid, resulting in complete resolution of her symptoms. Anaerobic cultures from the fluid were positive for D. micraerophilus. On day 7 of admission, she discharged home with oral amoxicillin-clavulanate for an additional eight days. After discharge, the patient's symptoms fully resolved.

D. micraerophilus is a gram negative, non-motile, non-sporulating, anaerobiccoccobacillus that was first discovered in 2005. The Dialister species were originally isolated from the oral flora but recently identified in gynecological, soft tissue, and bone. Vaginal colonization with Dialister species has been associated with an increased risk of HIV acquisition. However, there are limited reports of invasive gynecological infections caused by this pathogen. These include a Bartholin abscess in 2017 and a pyometra with bacteremia in 2024. This report expands the known clinical spectrum of D. micraerophilus infections and emphasizes the need for further investigation into its role in gynecological disease. Clinicians must remember that while PID is often caused by sexually transmitted infections, many other organisms can colonize and cause infection.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 081
Category: Clinical Vignette
Residency Program: Henry Ford St. John Hospital
Presenter: Jessica Caruso
Additional Authors: Salar Brikho, MD, Leonard B Johnson, MD

An Unexpected Culprit: Septic shock originating from Paenalcaligenes hominis prostatitis

Intro: Acute prostatitis may present with sepsis and bacteremia. Typical pathogens include routine causes of urinary tract infections such as Escherichia coli. We present a case of septic shock and bacteremia in an elderly patient due to Paenalcaligenes hominis.

Case: A 77-year-old male with a history of obsessive-compulsive disorder presented after being found unresponsive during a wellness check with his last known normal visit one week prior. He was found soiled, disoriented, and nonverbal but followed simple commands. Upon presentation, he was hypothermic, hypotensive, and tachycardic. Laboratory workup revealed a leukocytosis of 12,100 x10^9/L, multiple electrolyte abnormalities, a creatinine of 6.85 mg/dL, and a lactic acidosis of 3.7 mmol/L. A CT scan of his abdomen and pelvis revealed prostatitis and seminal vesiculitis, a 4-centimeter intraprostatic abscess, and bladder wall thickening. He was admitted to the ICU, given intravenous fluids and empiric cefepime were initiated. His blood cultures grew two sets P. hominis, which was susceptible to cefepime. The patient initially improved and was able to be transferred out of the ICU. Unfortunately, on hospital day 10, the patient had a cardiac arrest of unknown etiology, and he was transitioned to comfort care.

Discussion: P. hominis is a gram-negative bacteria, first identified in 2006. There have only been two reports describing P. hominis in human pathogenicity since its identification. To our knowledge, this is the third case of P. hominis in humans. Previously it has been isolated in two documented cases including one case of bacteremia in an elderly patient. It has been identified in human wastewater and in a variety of animals. There have been few animal studies exploring the hypothesized complications of the bacterium, such as a study in mice linking it to dementia. We report this rare unique case to shed light on a potentially emerging pathogen. Further research is necessary to fully understand the virulence and origin of this emerging pathogen.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 082
Category: Clinical Vignette
Residency Program: Henry Ford St. John Hospital
Presenter: Rohan Chippada
Additional Authors: Dr John McGwire, Dr Paul Foloz

An Infiltrating Disease Causing Syncope

Introduction: Syncope is a common reason people go to the emergency department. There are a wide range of causes and the correct diagnosis will lead to the correct treatment plan. We present an uncommon cause of syncope, cardiac amyloidosis.

Case description:

An 81-year-old female with PMHX of CAD s/p PCI, sick sinus syndrome s/p pacemaker, atrial fibrillation not on anticoagulation, recurrent GI bleeds, COPD on 3L, hypertension and OSA presented to the hospital after recurrent syncope. Her vitals, physical exam, initial blood work was unremarkable. An echocardiogram was ordered and showed a moderate pericardial effusion and "bullseye appearance." Amyloidosis workup then began with electrophoresis which was positive for elevated kappa/lambda light chain ratio. PYP scan was suggestive/equivocal for ATTR amyloidosis. Cardiology wanted to get a cardiac MRI, and hematology wanted a bone marrow biopsy. She was stable for discharge with close follow-up for the cardiac MRI and bone marrow biopsy outpatient.

Discussion: Cardiac amyloidosis has variable clinical manifestations ranging from syncope and heart failure to myocardial infarction and stroke. Cardiac amyloidosis can cause syncope due to infiltration of the cardiac conduction system, pericardial effusion, or ventricular arrhythmias. 95% of cardiac amyloidosis cases are broken down into 2 categories: ATTR and AL amyloidosis1. The diagnosis of cardiac amyloidosis depends on the type of amyloidosis. The imaging workup includes echocardiogram with a "cherry on top or bullseye" appearance, cardiac MRI and cardiac scintigraphy PYP scan. The cherry on top appearance means the apex has more contraction/less strain then its surrounds. There are new treatments for ATTR with heart failure that target transthyretin, while treating AL cardiac amyloidosis is treating the underlying hematologic disorder while treating based on the clinical picture. Treatment is essential given that median survival is 5.5 years in AL amyloidosis. With early diagnosis, cardiac amyloidosis is potentially treatable.

Conclusion:

It is essential for physicians to understand the cardiac amyloidosis types, diagnostic workup, and treatment to avoid complications and even death.

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2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 083
Category: Clinical Vignette
Residency Program: Henry Ford St. John Hospital
Presenter: Emily Farmer
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A case of complicated pyelonephritis and bacteremia associated with Oligella urethralis

Oligella urethralis, formerly classified as Moraxella urethralis, is a rare gram-negative coccobacillus commensal to the urogenital tract. Two species comprise of the genus Oligella, including O. urethralis and O. ureolytica, with the former being less common. Although it is more commonly associated with infection in males, O. urethralis can lead to infection in both males and females. O. urethralis associated infections include urinary tract infection, bacteremia, septic arthritis, and peritonitis. O. urethralis is diagnosed through culture and most strains are susceptible to beta-lactam antibiotics. Due to the uncommon nature of this organism, there have been few reports in the literature of O. urethralis associated infections.

In this report we discuss the case of a 54-year-old female with a known history of recurrent urinary tract infections, nephrolithiasis, and a chronic indwelling Foley catheter who was brought to the emergency department with complaints of nausea and multiple episodes of emesis. During the discussed hospital course, the patient was found to have bilateral nephrolithiasis with right-sided ureteral obstruction and bilateral hydronephrosis. The patient was diagnosed sepsis secondary to complicated pyelonephritis in the setting of urinary obstruction with nephrolithiasis and bilateral hydronephrosis. This patient underwent emergent ureteral stent placement on admission and was started on intravenous antibiotics.

During her hospital course, the patient's urine culture and blood cultures were both found positive for O. urethralis, with the presumed source of bacteremia being from the urogenital tract. Of note, this patient had a known history of urine culture positive for O. urethralis on a prior admission one month before the current admission and had been taking prophylactic oral antibiotics for approximately three months prior to the current admission. During her hospital course the patient continued to receive treatment with intravenous antibiotics and was transitioned to an oral equivalent at discharge for an additional 14-day course. The patient was also provided instructions to follow up with Urology for continued management of ureteral stents as well as Infectious Disease as needed in the outpatient setting after discharge.

Due to the rarity of this organism, O. urethralis remains understudied and underrecognized in the literature. The purpose of this case presentation is to discuss the case of complicated bilateral pyelonephritis and bacteremia associated with O. urethralis. Our goal is to contribute to the overall recognition and knowledge of this organism, and to broaden the scope of knowledge for the diagnosis and treatment of O. urethralis associated infections.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 084
Category: Clinical Vignette
Residency Program: Henry Ford St. John Hospital
Presenter: Yassine Hamdaoui
Additional Authors: Puneet Razdan DO, Ronald Hertz DO

Bevacizumab-Induced Cardiomyopathy and Pulmonary Hypertension

Introduction

Bevacizumab is a monoclonal IgG antibody against vascular endothelial growth factor (VEGF), used as a regulator in tumor angiogenesis in many cancers such as breast, lung, and ovarian. Some of its significant adverse reactions are its cardiovascular effects, which frequently include hypertension, bleeding, and arterial complications. Less commonly, it can lead to congestive heart failure, occurring in ~4% of cases, and left ventricular diastolic dysfunction, affecting about 1% of patients. In addition to cardiomyopathy, some reports suggest that bevacizumab may contribute to the development of pulmonary hypertension (PH), which can further exacerbate heart failure. Recognizing and understanding patients with significant cardiac and pulmonary adverse reactions is crucial for early detection, enabling timely discontinuation of the drug if necessary and initiating goal-directed medical therapy to potentially reverse the disease process.

Case presentation:

A 70-year-old female with a history of stage-IV endometrial cancer with gastric metastasis, hypertension, diabetes, and CKD stage-3 presented with progressive shortness of breath and a two-week history of cough. On examination, breath sounds were diminished on the right, with bilateral basal crackles. Chest X-ray revealed a right-sided pleural effusion and laboratory results showed a pro-BNP of 21,000pg/mL and mildly elevated troponins.

The patient's cancer, refractory to previous regimens including carboplatin-paclitaxel and pembrolizumab, had been managed with letrozole and bevacizumab for the past 18 months. She was recently evaluated for worsening proteinuria, suspected to be secondary to thrombotic microangiopathy caused by bevacizumab; however, treatment with bevacizumab was continued due to the lack of alternative therapeutic options. Serial echocardiograms demonstrated a reduced ejection fraction of 40-45% with moderate global hypokinesis, grade-II LV diastolic impairment, worsening tricuspid regurgitation, and increased pulmonary arterial pressures, correlating with the timeline of bevacizumab initiation. A right heart catheterization showed a mean pulmonary artery pressure of 49, pulmonary capillary wedge pressure of 28, and pulmonary vascular resistance of 5. This confirmed combined pre-/post-capillary PH, likely secondary to left-sided heart failure (Group 2) versus pulmonary arterial hypertension (PAH). A nuclear perfusion scan excluded ischemia and prior coronary angiography showed patent vessels, leading to a diagnosis of bevacizumab-induced nonischemic cardiomyopathy with possible PAH. Bevacizumab was discontinued; however, given the lack of alternative treatments, consideration of continuing therapy despite its cardiotoxicity is needed.

Discussion

The exact mechanism underlying the cardiac effects of bevacizumab remains unclear; however, studies suggest it may involve reduced cardiomyocyte viability, increased cellular apoptosis, and promotion of mitochondrial dysfunction. Rare cases of PH associated with bevacizumab have been reported, and animal models suggest that VEGF receptor inhibition may cause thickening of the medial layer of pulmonary arteries. These rare but significant effects of bevacizumab should prompt clinicians to maintain a high index of suspicion for cardiac involvement and consider discontinuation to facilitate potential reversal of its effects. Further research is essential to better understand its cardiac effects and assess the utility of screening methods, such as electrocardiograms or echocardiograms. Implementing such screening tests could help mitigate or prevent serious complications, such as cardiomyopathy or PH as observed in our patient, prior to initiating therapy.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 085
Category: Clinical Vignette
Residency Program: Henry Ford St. John Hospital
Presenter: Alexander Johnston
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Craving for sugar: A case of neuroglycopenia caused by sulfonylurea toxicity

Introduction: When used appropriately, sulfonylurea agents promote euglycemia and are a treatment for diabetes mellitus. However, hypoglycemia can occur if clearance is impaired.

Case Description: A 74-year-old male presented with a chief complaint of altered mental status. Initial blood glucose was 33 mg/dl, and the patient received more than 1 amp of 50% dextrose (D50), but the patient's blood glucose continued to remain low. The patient was taking Glipizide 5 mg twice daily for diabetes mellitus. Initial vital signs upon arrival to our facility were significant for a blood pressure of 201/87 mmHg, respiratory rate of 26 breaths/min, heart rate of 76 bpm, temperature of 97.3 °F, and initially breathing on a 15 L/min nonrebreather. The patient underwent rapid sequence intubation as he was obtunded. Initial labs were significant for a BUN of 69 mg/dL, creatinine 8.38 mg/dL, bicarb 15 mmol/L, AGAP 18 mmol/L, and calcium 7.9 mg/dL. A lactic acid was within normal limits. An ethanol level was negative. An RUDS was positive for methadone and opiates. The patient had a past medical history of essential hypertension, hyperlipidemia, CAD status post CABG, congestive heart failure with preserved ejection fraction, EF 60-65% with grade II LV diastolic impairment, small bowel obstruction, non-insulin-dependent diabetes mellitus, chronic kidney disease stage IIIb, peripheral neuropathy on methadone, and Dilaudid, peripheral venous insufficiency, and glaucoma. CT head without contrast was negative for any acute process. The patient was admitted to our medical intensive care unit and continued to have persistent hypoglycemia. He was started on IV D10 LR maintenance fluid at 100 cc/hour but continued to be hypoglycemic and received multiple amps of D50. A c-peptide level and serum insulin level were elevated. Poison control was contacted. The patient was started on Octreotide 100 mcg subcutaneously once and then started on Octreotide 50 mcg subcutaneously every 6 hours x 24 hours in the setting of Glipizide intoxication due to impaired drug clearance in the setting of non-oliguric acute kidney injury.

Discussion: Sulfonylurea agents are commonly used to treat non-insulin-dependent diabetes mellitus by increasing insulin release but might also lead to hypoglycemia. Risk factors for hypoglycemia from therapeutic use include age over 65 years, taking multiple medications, frequent hospitalizations, use of agents with longer durations of action, and impaired drug clearance (i.e., renal or hepatic dysfunction). Hypoglycemia generally manifests with neurologic and autonomic symptoms. Among the most common are confusion, personality changes, diaphoresis, and tremulousness, but symptoms can be masked by co-ingestants. In a patient with a sulfonylurea overdose and symptomatic hypoglycemia, immediate treatment with octreotide in addition to IV dextrose instead of IV dextrose alone is recommended. In adults, the dose of octreotide is 50 to 100 mcg, administered by intramuscular or subcutaneous injection every six hours.

Conclusion: Hypoglycemia in the context of sulfonylurea use is sufficient to establish a clinical diagnosis of sulfonylurea poisoning. Careful attention and review of a patient's medication list can reveal the possibility of sulfonylurea poisoning.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 086
Category: Clinical Vignette
Residency Program: Henry Ford St. John Hospital
Presenter: Fanar Kajy
Additional Authors: Jansi Willoughby

Don’t forget to examine the skin!

Case presentation:

This is a 37-year-old male with a medical history significant for CVA, heart failure with preserved ejection fraction, hypertension, type 2 diabetes, obesity, ESRD on HD MWF, gout, and a sacral ulcer. He initially presented to the hospital for MSSA sepsis secondary to a right chest wall HD permacath infection. After treatment, he was discharged to inpatient rehabilitation.

The rapid response team was called due to hypotension 85/50 mmHg, hypoglycemia, altered mentation, diaphoresis, and tachycardia. He was transferred to the ICU and intubated due to an inability to maintain his airway. He was started on three pressors and a stress dose of steroids. Labs showed severe high anion gap metabolic acidosis with a pH of 6.79, pCO2 of 25 mmHg, and bicarbonate of 4 mmol/L. His lactic acid increased from 1.4 to 20.8 mmol/L, and WBC increased from 18.95 to 46.16 k/mcl in 24 hours. The D-dimer was elevated, but a CTA chest was negative for pulmonary embolism. A CT head showed a small old left cerebellar hemisphere infarction. He was known to have a decubitus ulcer and had previously undergone debridement. CT abdomen/pelvis revealed a large decubitus ulcer in the coccyx region with scattered gas in the gluteal muscles bilaterally, adjacent subcutaneous fat, and right ischiorectal fossa.

General surgery was immediately notified, and plans were made for debridement. The patient underwent debridement, revealing extensive necrotic soft tissue with tracking pus pockets. Infectious disease was involved, and the patient was covered with daptomycin and meropenem as his wound cultures grew Enterococcus faecalis, E. coli, and Citrobacter. Despite debridement and antibiotic treatment, the patient's condition continued to deteriorate, with lactic acid levels rising to 34.7mmol/L. A goal-of-care discussion was held with the family, and the decision was made to change the code status to comfort care. The patient passed away peacefully.

Discussion:

More than 500 to 1,000 instances of NF are identified each year in the United States, according to CDC [2]. There are two types of NF. Type I is polymicrobial, whereas type II is monomicrobial. Group A streptococcus (type 2 NF) is the most common cause of NF, and it can lead to streptococcal toxic shock syndrome (STSS), which is characterized by shock and multiple organ failures caused by a toxin produced by group A streptococcus.[2].

Symptoms of necrotizing fasciitis can appear very quickly - within a day - after a cut or other wound in the skin. The first and typical symptom of the disease is the rapid onset of severe pain in the infected area. The affected patients develop fever and chills, and the painful area may be red, slightly swollen, warm, and with overlying blisters. As the necrotizing fasciitis progresses, the inflamed area may turn black and blue, and it can be accompanied by shock due to low blood pressure. This leads to impaired consciousness, confusion, difficulty concentrating, cold sweats, and dizziness, or streptococcal toxic shock syndrome (STSS) [3]. If patients are not treated quickly enough, life-threatening internal organ damage can develop.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 087
Category: Clinical Vignette
Residency Program: Henry Ford St. John Hospital
Presenter: Larry Leitch-Casey
Additional Authors: Sam Saleh, DO; Brandon Yanik, MD

Bones, Stones and Groans: A Hypercalcemic Crisis in a Patient with Systemic Sarcoidosis and Underlying Primary Hyperparathyroidism

Introduction:

Hypercalcemia is a potentially life-threatening electrolyte disturbance, particularly when calcium levels exceed 14 mg/dL and severe symptoms, termed a hypercalcemic crisis, are present. The differential diagnosis of hypercalcemia is broad, but severe cases often result from primary hyperparathyroidism, malignancy, granulomatous diseases, or medications. Clinical manifestations can be subtle, including constitutional symptoms (fatigue, weight loss), musculoskeletal pain, gastrointestinal disturbances (nausea, vomiting, constipation), neurological symptoms (confusion, lethargy), and renal dysfunction (polyuria, nephrolithiasis). Hypercalcemic crisis demands emergent intervention and identification of the underlying cause to prevent recurrence and guide long-term management.

Case Presentation:

A woman in her 40s with systemic sarcoidosis presented to the hospital with persistent headaches and a history of weakness, anorexia, nausea, vomiting, abdominal pain, constipation, and weight loss over several months. Despite immunosuppression with steroids, hydroxychloroquine, and azathioprine, she had multiple recent hospitalizations for severe hypercalcemia. On presentation, she was hemodynamically stable, and initial labs revealed calcium of 16.4 mg/dL, low potassium (2.2 mg/dL), phosphorus (1.9 mg/dL), magnesium (0.8 mg/dL), and acute kidney injury with creatinine 1.77 mg/dL. Given severe hypercalcemia with significant symptoms, she was admitted for further evaluation.

Investigations included 25-OH vitamin D (19.8 ng/mL), parathyroid hormone (PTH) of 24.8 pg/mL, and 1,25-OH vitamin D of 90.1 pg/mL. The non-suppressed PTH and hypophosphatemia suggested a PTH-dependent cause of hypercalcemia, in this case primary hyperparathyroidism. Despite continuous fluids and calcitonin, minimal improvement was noted. A CT scan of the neck revealed two parathyroid adenomas, prompting partial parathyroidectomy. Intraoperatively, PTH dropped from 35.2 pg/mL to 14.3 pg/mL, and postoperatively, calcium normalized to 9.2 mg/dL, and PTH decreased to 7.1 pg/mL. The patient was discharged home with a prednisone taper for her sarcoidosis and follow-up with endocrinology.

Discussion:

The workup for severe hypercalcemia necessitates a thorough history, physical examination, and lab work to identify common causes, including primary hyperparathyroidism, malignancy, and granulomatous diseases like sarcoidosis. PTH levels help differentiate PTH-dependent causes (e.g., primary hyperparathyroidism) from PTH-independent causes (e.g., malignancy). Additionally, 25-OH vitamin D and 1,25-OH vitamin D levels should be assessed to rule out hypervitaminosis D and granulomatous diseases. Imaging studies such as ultrasound, nuclear medicine, or CT scans should be used to identify parathyroid adenomas.

Hypercalcemic crisis requires urgent management, including intravenous hydration, bisphosphonates, loop diuretics, calcitonin, or hemodialysis as a last resort. Parathyroidectomy is indicated when calcium exceeds 1 mg/dL above normal or when hypercalcemia leads to symptoms or complications like nephrolithiasis or renal failure. Surgery is also recommended if hypercalcemia is unresponsive to medical management and parathyroid disease is evident. Although rare, primary hyperparathyroidism can coexist with sarcoidosis, and failure to respond to usual therapies should prompt further investigation.

Conclusion:

Severe hypercalcemia, particularly in hypercalcemic crisis, requires prompt recognition and treatment. Clinicians must avoid diagnostic anchoring by considering alternative or concurrent conditions beyond the most apparent diagnosis, as seen in this

patient with concomiant sarcoidosis and primary hyperparathyroidim. This case highlights the importance of reassessing the clinical picture when a condition does not respond to standard therapies, as overlapping disorders can complicate diagnosis and management.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 088
Category: Clinical Vignette
Residency Program: Henry Ford St. John Hospital
Presenter: Yaqian Liao
Additional Authors: Kapila, Madhav Raj, DO

When it rains, it pours: thyroid storm complicated by Wernicke encephalopathy

Introduction

Overt thyrotoxicosis in pregnancy is rare, with a prevalence of 0.1% to 0.4%. Wernicke encephalopathy, a severe form of thiamine deficiency, is even rarer in non-alcoholics (0.04% to 0.13%). We present a case of a 30-year-old woman diagnosed with both thyroid storm and Wernicke encephalopathy, presenting with altered mentation.

History of Present Illness

A 30-year-old female with high-functioning autism and a previous uncomplicated pregnancy presented with altered mentation. She had been in her usual state the night before but woke up nonverbal with arm rigidity. Her family reported nausea and vomiting for the past month. Upon presentation, her vital signs showed tachycardia (157 bpm), blood pressure of 128/86 mmHg, and no fever. Examination revealed an inability to follow commands and increased muscle tone in both arms. Her initial NIHSS score was 25.

Investigations

A code stroke was called, but imaging showed no ischemia. An EKG showed sinus tachycardia without ischemic changes. Laboratory results revealed leukocytosis (12.46 k/mcL), elevated liver enzymes (AST 491 U/L, ALT 561 U/L), bilirubinemia (1.6 mg/dL), and elevated lactic acid (4.5 mg/dL). Abdominal ultrasound revealed gallstones and an intrauterine pregnancy at 13.4 weeks, confirmed by obstetric ultrasound and elevated beta-HCG (193,190 mIU/mL). Despite fluid resuscitation, the patient remained tachycardic and was admitted to the ICU.

Differential diagnoses such as preeclampsia (unlikely before 20 weeks without molar pregnancy) and HELLP syndrome (rare in the first trimester) were considered but excluded.

Management

The patient was initially treated for cholecystitis with ceftriaxone, and her altered mentation was attributed to sensory overload due to autism. However, she remained tachycardic and altered despite antibiotics. Further workup, including EEG, lumbar puncture with cultures, and tests for various infections, was unremarkable. MRI of the brain revealed no infarction but suggested Wernicke encephalopathy. Thyroid function tests showed low TSH (0.01 mU/L) and elevated free T4 (7.7 ng/dL), with negative thyroid autoantibodies, confirming thyroid storm. She was diagnosed with both thyroid storm and Wernicke encephalopathy, likely exacerbated by the increased nutritional demands of thyrotoxicosis. Treatment included IV thiamine, labetalol, propylthiouracil (PTU), and dexamethasone.

Outcome and Follow-Up

The patient's tachycardia and altered mentation improved, and she remained stable off PTU and labetalol. Her hospital course was complicated by a missed abortion. She was discharged on oral thiamine with normalized liver enzymes and thyroid function.

Discussion

Gestational transient thyrotoxicosis, due to elevated hCG in the first trimester stimulating thyroid gland, typically resolves spontaneously by 14 to 20 weeks. Treatment for thyroid storm involves thioamides, glucocorticoids, and beta-blockers. In Wernicke encephalopathy, prompt IV thiamine administration is crucial. In this case, her thyrotoxicosis likely worsened her gestational nausea and increased nutritional demands, leading to Wernicke encephalopathy.

Both conditions, though rare, should be considered in the differential diagnosis of altered mentation during pregnancy.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 089
Category: Clinical Vignette
Residency Program: Henry Ford St. John Hospital
Presenter: Alveena Majeed
Additional Authors: Leonard B Johnson, MD FACP

From Injection to Infection: Mycobacterium Neoaurum Bactermia in an Intravenous Drug User

INTRODUCTION:

Non-tuberculous mycobacteria (NTM) are a diverse group of bacteria within the Mycobacterium genus, distinct from Mycobacterium tuberculosis and Mycobacterium leprae. Among the lesser-known and rarely reported members of this group is Mycobacterium neoaurum, first isolated from soil in 1972. While it is an uncommon pathogen, M. neoaurum has been increasingly recognized as a cause of opportunistic infections.

CASE HISTORY:

A 66-year-old male with a history of intravenous drug use, recurrent skin abscesses and infections, and COPD presented with generalized fatigue, mild chest discomfort, shortness of breath, and a right upper arm abscess. On arrival, his oxygen saturation was 75% on room air, otherwise he was vitally stable. Physical exam revealed a cachectic-appearing male with a 5x4 cm abscess on the right upper arm.

Incision and drainage of the abscess was performed, and wound cultures grew Streptococcus viridans (AFB cultures were not sent). Blood cultures on day 6 identified NTM. The patient was treated with vancomycin for 6 days and discharged on Augmentin with outpatient infectious disease follow-up.

The patient returned three days later with continued shortness of breath and new abscesses. A chest CT revealed pleural-based masses and hilar adenopathy, with biopsy confirming a combination of squamous and small-cell carcinoma. Previous blood cultures identified the NTM as M. neoaurum. He was initially empirically started on trimethoprim/sulfamethoxazole but as his abscesses worsened, treatment was switched to doxycycline and ciprofloxacin for 15 days, resulting in resolution. Repeat blood cultures collected on admission were negative.

DISCUSSION/CONCLUSION:

Clinicians should remain vigilant and include NTM infections as an important differential diagnosis, especially in high-risk populations, as diagnostic results can take days to weeks. Risk factors include malignancies, immunosuppression, intravenous drug use, recurrent bacterial infections, prosthetic valves, and the presence of foreign bodies, such as pacemakers or catheters. The most common presentation is bloodstream infections, although less common manifestations can include skin and soft tissue infections, pulmonary infections, and, rarely, endocarditis. Mycobacterium neoaurum has shown susceptibility to multiple antimicrobial agents and responds well to treatment. A combination of antimicrobial drug therapy for at least 4 weeks, along with the removal of infected devices, is recommended to effectively eradicate the infection.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 090
Category: Research
Residency Program: Henry Ford St. John Hospital
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Effect of Teaching Hospital Status on Outcomes of Patients Admitted With Primary Diagnosis of Heart Failure - Analysis of the National Inpatient Sample 2017-2022

Heart failure is a significant public health concern in the United States, affecting 6.5 million individuals aged 20 and older, with over 960,000 new cases diagnosed annually. It accounts for approximately 8.5% of all heart disease-related deaths. While previous research has investigated the influence of teaching hospital (TH) status on outcomes for various conditions, its specific impact on heart failure outcomes remains unclear. This study aimed to evaluate differences in outcomes for heart failure patients admitted to teaching versus non-teaching hospitals (NTH).

The study analyzed the National Inpatient Sample (NIS) database from 2017 to 2022, comprising 41,065,286 admissions, of which 151,543 (0.37%) were for a primary diagnosis of heart failure. Among these, 62.5% were admitted to THs, while 37.5% were admitted to NTHs. The NIS is the largest all-payer inpatient database, representing 97% of the U.S. population. It uses a weighted probability sampling method to ensure representativeness based on hospital size, teaching status, urban/rural classification, and geographic region.

Survey-weighted logistic regression was used to analyze adverse outcomes, including mortality, cardiogenic shock, acute kidney injury, vasopressor use, gastrointestinal bleeding, sepsis, cerebrovascular accident, intubation, and cardiac arrest. Linear regression assessed predictors of hospital length of stay (LOS). Analyses adjusted for demographics, socioeconomic factors, hospital characteristics, transfer status, and clinical comorbidities, including coronary artery disease, hypertension, atrial fibrillation, chronic kidney disease, and Charlson Comorbidity Index scores.

The results indicated that patients admitted to THs faced significantly higher risks for adverse outcomes compared to those admitted to NTHs. Mortality was 15% more likely in THs (OR: 1.15, 95% CI: 1.078–1.228, $p < 0.001$), while cardiogenic shock and acute kidney injury were 241% (OR: 3.408, 95% CI: 3.102–3.745, $p < 0.001$) and 65% (OR: 1.651, 95% CI: 1.595–1.709, $p < 0.001$) more likely, respectively. Vasopressor use showed the highest risk, with a 307% increased likelihood (OR: 4.066, 95% CI: 3.115–5.308, $p < 0.001$). Other complications, including sepsis, cerebrovascular accident, and cardiac arrest, were significantly more likely in THs, ranging from 49% to 71% increased odds. LOS was also 1.58 days longer in THs (95% CI: 1.48–1.67, $p < 0.001$).

In conclusion, patients admitted to teaching hospitals for heart failure faced significantly higher risks for adverse outcomes and longer hospital stays compared to non-teaching hospitals. These findings highlight the need for further investigation into the contributing factors and the development of strategies to optimize care delivery and outcomes in teaching institutions.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 091
Category: Clinical Vignette
Residency Program: Henry Ford St. John Hospital
Presenter: John McGwire
Additional Authors:

When the Kissing Disease Breaks the Heart: Mononucleosis Myocarditis

Introduction: Myocarditis is inflammation of the cardiac muscle itself. Presentation and cardiac testing of myocarditis is variable. We present a case of mononucleosis myocarditis that resulted in a young healthy man leaving the hospital in a life vest.

Case description: A 34 year-old male with no PMHx presented to the hospital with 5 days worth of constant, sharp, substernal chest pain that radiated to the back and was not alleviated by any treatment or position. Patient complained of fever, chills, fatigue, dry cough, and shortness of breath. He was hemodynamically stable, unremarkable physician exam and EKG, with labs notable for multiple elevated troponins and transaminitis. CTA chest showed consolidation of the left upper lobe. An echo showed EF 30-35%. Infectious disease and cardiology agreed to start treatment for myocarditis with colchicine. Patient's infectious disease workup was positive for the mononucleosis screen with negative CMV IgM or IgG. He was discharged with colchicine and a life vest due to new onset HFrEF.

Discussion:

Clinical presentation of myocarditis can present in many different ways from mild chest pain to cardiogenic shock. There are different causes of myocarditis which are typically broken down into infectious and noninfectious. Most recently parvovirus B-19 has been associated with a significant percentage of patients diagnosed with myocarditis and dilated cardiomyopathy1. The diagnostic testing such as EKG can vary from normal to heart block. An echocardiogram is essential to assess LV function and rule out valvular pathology. Cardiac MRI has been increasing in popularity for aiding in diagnosis, especially contrast enhancement2. Treatment depends on the presentation which is variable from chest pain to arrhythmias. It is essential to note that NSAIDS are avoided and not effective in myocarditis which is standard of care for the treatment of pericarditis.

Conclusion: Mononucleosis is a rare cause of myocarditis that can lead to heart failure. It is important for physicians to understand the challenging methods of presentations, diagnosis, and treatment of myocarditis.

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2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 092
Category: Clinical Vignette
Residency Program: Henry Ford St. John Hospital
Presenter: AHMAD Muhammad
Additional Authors: Ahmad Muhammad, M.D., Yosra ElSayed, and Puneet Razdan, D.O., Michael Kern, M.D.

Cracked Heart: Cocaine and Mitral Stenosis, the Perfect Storm for Myocardial Ischemia

INTRODUCTION

Cocaine use is a significant cause of cardiovascular complications, including myocardial ischemia, primarily due to alpha-adrenergic-induced coronary vasoconstriction and increased myocardial oxygen demand. While cocaine-induced myocardial ischemia in the setting of preexisting coronary artery disease (CAD) is well-established, there is limited literature about its effects on other cardiac conditions, such as valvular heart disease. This gap is particularly important given the higher risk of valvular abnormalities in cocaine users. This case explores the potential impact of cocaine use on myocardial ischemia in a patient with severe mitral stenosis.

CASE PRESENTATION

A 39-year-old male with a history of non-ischemic cardiomyopathy, infective endocarditis with mitral valve replacement and tricuspid annuloplasty, atrial fibrillation on anticoagulation, and polysubstance use disorder presented with one week of worsening left-sided chest pain radiating to the neck and jaw, intermittent palpitations, and dyspnea. Physical exam revealed an S3 gallop, a 3/6 systolic murmur at the mitral area, and a loud P2. Urine drug analysis was positive for cocaine, which the patient admitted to frequent use during this period. Initial EKG showed ST-segment elevations in V1-V2. Patient was started on Aspirin, Atorvastatin, Heparin and Nitroglycerin. Emergent cardiac catheterization revealed no obstructive coronary lesions, and troponins returned normal. Repeat EKGS showed normalization of the ST-segment elevations, and cardiac telemetry captured intermittent ST elevations with spontaneous resolution. Transesophageal echocardiography revealed severe mitral stenosis of the bioprosthetic valve (diastolic gradient 19.31 mmHg) with mild regurgitation. He was counseled on substance use, and was discharged with plans for close follow-up for mitral valve replacement and substance use treatment.

DISCUSSION

Severe valvular heart disease leads to pressure or volume overload, eventually resulting in fibrosis, microvascular ischemia, and increased strain on the heart. In mitral stenosis (MS), myocardial ischemia can occur due to an imbalance between oxygen supply and demand, even without obstructive CAD. This imbalance may be worsened in cocaine users, whose vasoconstrictive effects and increased myocardial oxygen demand can exacerbate strain on an already compromised heart. Given the significantly increased risk of developing valve disease in cocaine users, the clinical implications of this interaction are significant.

While CAD is a well-established risk factor for myocardial ischemia due to its impact on coronary perfusion, particularly through the reduction in the cross-sectional area of diseased coronary segments, there is limited literature exploring how cocaine use interacts with other cardiac conditions, such as valvular disease. In our patient, cocaine-induced increases in myocardial oxygen demand, compounded by severe mitral stenosis, may have placed additional strain on the heart, potentially exacerbating ischemia. This emphasizes the need for further research to better understand how cocaine use affects patients with severe valvular disease, particularly regarding its potential to worsen ischemia. Such research could lead to improved management strategies for this population, including early screening for valvular disorders in individuals with cocaine use.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 093
Category: Clinical Vignette
Residency Program: Henry Ford St. John Hospital
Presenter: Krishan Parashar
Additional Authors: Dr. Leonard Johnson

Sporotrichoid lesions; an uncommon presentation of Staphylococcus aureus infection

Introduction

Sporotrichoid lymphocutaneous infection also known as nodular lymphangitis is an uncommon disease distinguished by inflammatory granulomatous nodules involving the lymphatic vessels. It can develop after cutaneous seeding and trauma. Pathogens include fungi, bacteria, and parasites with common infectious microbial agents include the fungi Sporotrhix schenckii, Nocardia brasiliensis, and Mycobacterium marinum. Staphylococcus aureus, though a common cause of bacterial skin infections, is rarely reported in the differential diagnosis of sporotrichoid lesions.

Case

A 53-year-old female with a history of gout, COPD, and chronic arthritis treated with intermittent steroids presented with a three-week history of multiple necrotic nodules extending from the right arm to the neck. She reported that she was outside in her yard when she brushed her arm on a bush and subsequently developed a red rash on her arm which progressed into a proximal spreading nodular eruption. She was admitted to the hospital, general surgery and Infectious Diseases were consulted. A wound culture was obtained and grew Staphylococcus aureus that was identified as methicillin-resistant (MRSA), she was started on vancomycin. Her blood cultures remained negative. A punch biopsy which revealed acute inflammation and necrosis of dermal collagen with tissue Gram stain positive for gram-positive cocci. She underwent incision and drainage of each abscess down to the fascia with intra-operative cultures confirming MRSA. The intra-operative fungal and AFB cultures were negative notably. She was discharged on oral Bactrim DS twice daily for duration of 2 weeks with outpatient follow-up with infectious disease.

Discussion

Staphylococcus aureus is a rare cause of sporotrichoid lymphocutaneous infections. Diagnosis of this condition is determined by thorough history, physical exam, and culture/pathology with exclusion of other pathogens. There are five prior cases described in the literature of sporotrichoid lesions being caused by Staphylococcus aureus. Of these cases two were healthy patients and the other three were immunosuppressed with either diabetes or transplant history. Our patient was notably on oral steroids for her arthritis with no prior formal diagnosis of rheumatoid arthritis. Staphylococcus aureus should be recognized as a possible pathogen on the differential of sporotrichoid skin lesions especially in patients who are immunosuppressed.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 094
Category: Clinical Vignette
Residency Program: Henry Ford St. John Hospital
Presenter: Grant Pellitteri
Additional Authors: John McGwire MD and Raghavendra Kamath MD

Syncope Unveiled: Cardiorenal Syndrome Type 1 and the Hidden Burden of Severe Aortic Stenosis

Intro - An 80-year-old male with multiple comorbidities, including heart failure, chronic kidney disease, and diabetes, presented with syncope, worsening shortness of breath, and a recent fall. His lab results indicated anemia, hyperglycemia, and renal dysfunction, and imaging revealed possible pleural effusion and lymphadenopathy. Echocardiography showed severe aortic stenosis, raising suspicion for cardiorenal syndrome type 1, where heart failure exacerbates renal dysfunction. Management focused on stabilizing cardiac and renal function, optimizing oxygenation, and addressing subjective complaints, highlighting the complex interplay of comorbidities in elderly patients.

Background - Over the past three months, the patient reported multiple episodes of vomiting, worsening shortness of breath, and a recent fall, which he attributed to potential loss of consciousness. He was admitted for a workup of syncope and acute on chronic hypoxemic respiratory failure. Upon presentation, the patient was stable with a blood pressure of 133/59 mmHg, tachypnea, and tachycardia. He was hypoxemic (82% on 4 L nasal cannula), which improved following an adjustment to the oxygen therapy. During hospitalization, pulmonology assessed the patient and determined he likely had underlying COPD from his extensive smoking history. Laboratory tests revealed anemia (hemoglobin 10.7 g/dL), hyperglycemia (random glucose 306 mg/dL), and significant renal dysfunction with a blood urea nitrogen of 61 mg/dL and a creatinine level of 2.7 mg/dL. Imaging studies demonstrated possible right pleural effusion, emphysema, cardiomegaly, and bilateral transverse process fractures at the L1 vertebrae. Additionally, enlarged right supraclavicular and mediastinal lymphadenopathy raised some suspicion for metastasis. A CT of the head and cervical spine was completed due to the patient's recent fall, and it revealed a right scalp hematoma but no intracranial abnormalities.

Discussions - Nephrology was consulted for nonoliguric AKI on CKD, started on diuresis with transition to torsemide p.o. Cardiology was consulted, and echo showed EF 55 to 60% with grade 3 diastolic dysfunction with moderate to severe aortic stenosis. Echocardiography revealed severe aortic stenosis, suggesting that the patient's symptoms may be related to cardiorenal syndrome type 1 (CRS type 1), where worsening renal function is secondary to acute decompensated heart failure. The patient was ultimately started on a low dose beta-blocker and was diuresed with resolution of his increased oxygen requirements.

Conclusion - Echocardiography revealed severe aortic stenosis, suggesting that the patient's symptoms may be linked to cardiorenal syndrome type 1, characterized by worsening renal function secondary to acute decompensated heart failure additionally these findings could have caused patient to syncopize. In light of the echocardiography findings, there is evidence that supports severe aortic stenosis causing both cardiorenal type 1 and syncope in individuals. This case highlights the importance of evaluating the interrelationships between cardiovascular, renal, and respiratory conditions, and how a chief complaint interweaves with the aforementioned systems-based relationships. In this context, echocardiography was an invaluable tool in diagnosing severe aortic stenosis and subsequently suggesting the presence of cardiorenal syndrome and the causation of the patient's clinical presentation of syncope.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 095
Category: Clinical Vignette
Residency Program: Henry Ford St. John Hospital
Presenter: Puneet Razdan
Additional Authors: Annie Savka, MD., Ahmad Muhammad, MD., Paul Kudla, MD.

One Pill Too Many – An Instance of Drug-Induced Acute Interstitial Nephritis

Introduction

Acute interstitial nephritis (AIN) is an inflammatory condition that causes decline in renal function and is characterized by interstitial edema via infiltration of immune cells such as T-lymphocytes and monocytes. It is commonly caused by drug reactions, autoimmune diseases, or infections, with antibiotics the leading cause in 30-50% of drug-related cases (1). The most common culprits include penicillins, cephalosporins, and sulfonamides such as trimethoprim-sulfamethoxazole (TMP-SMX). Studies show that patients 65 and older are more likely to have drug-induced AIN (DI-AIN) than other etiologies. If AIN is related to a drug allergy, it may present with a triad of rash, eosinophilia, and fever, though all three occur in only about 10% of cases (1). Renal biopsy is the gold standard diagnostic tool and is usually performed when diagnosis is unclear. Empiric treatment can be initiated if suspicion is high or if biopsy is contraindicated. Treatment involves discontinuing the suspected offending agent and may include a course of corticosteroids, particularly in cases of suspected DI-AIN.

Case Presentation

The patient was a 91-year-old African-American female with a history of CKD Stage-3b on metolazone and furosemide who presented with a diffuse body rash. She was diagnosed with a UTI outpatient and took her first dose of TMP-SMX, developing a diffuse, severely pruritic rash the following day. She experienced low-grade fevers (100.1°F) but had no dyspnea nor significant hypotension. Physical exam revealed a maculopapular rash covering over 70% of the body with no mucosal involvement nor lymphadenopathy. Labs showed an acute kidney injury with an up-trending creatinine peaking at 3.32 (baseline 1.4), CRP of 113, and a urinalysis with 4 RBCs, 7 WBCs, 1 epithelial cell, no casts, and no eosinophils. Given the rising creatinine, unremarkable renal imaging, and poor urine output despite fluid resuscitation, she was diagnosed with DI-AIN. After 48 hours of intravenous steroids followed by an oral taper, her symptoms significantly improved, with restoration of urine output and creatinine returning to baseline.

Discussion/Conclusion

This is a patient with a history of CKD who presented with a diffuse rash, low-grade fever, and acute kidney injury after one dose of TMP-SMX. Given her clinical presentation, it is likely she had DI-AIN. DI–AIN typically presents after 2 weeks of starting the offending agent, but it is not dose-dependent, as in our case which appeared after a single dose (3). Urine eosinophils were negative, however studies have shown a positive predictive value of 38%, making them unreliable (2). Given her marked improvement in symptoms and renal function after steroids, a biopsy was deferred, as the history and clinical data strongly suggested DI-AIN. Primary management of DI-AIN is stopping the offending drug, while the use of corticosteroids remains controversial due to the lack of supporting randomized trials. Nonetheless, the prognosis is good, with near full recovery of kidney function when the offending medication is stopped within two weeks. This patient's case aims to highlight the importance of recognizing DI-AIN, even after just a few doses, or in our case one dose, of the causative medication.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 096
Category: Clinical Vignette
Residency Program: Henry Ford St. John Hospital
Presenter: Sam Saleh
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Late Onset Non-compaction Cardiomyopathy: A Rare Cause of Heart Failure

Introduction

Non-compaction cardiomyopathy is a rare congenital disorder characterized by excessive trabeculations and incomplete myocardial compaction, which results in left, right, or biventricular failure. The prevalence of noncompaction cardiomyopathy is estimated to be 0.05% to 0.14% in all adult echocardiographic examinations. It usually presents with a range of symptoms, from being asymptomatic to severe heart failure, arrhythmias, thromboembolic events, and sudden cardiac death. This report presents a case of a fifty-six-year-old male with acute new-onset heart failure ultimately diagnosed with non-compaction cardiomyopathy.

Case presentation

A fifty-six-year-old male from Nigeria with no known medical history presented with one week of progressively worsening shortness of breath and lower extremity edema; He reported orthopnea, paroxysmal nocturnal dyspnea, lower extremity cramps, and an intermittent dry cough. Additionally, he reported intermittent, dyspneic, chest pain around his medial chest and bilateral mid-axillary regions. At the time of presentation, the physical exam revealed bibasilar lung crackles, jugular venous distention, and bilateral pitting edema. Laboratory workup only displayed an elevated B-type natriuretic peptide and was otherwise unremarkable; a chest x-ray demonstrated significant cardiomegaly. The patient was admitted to the hospital for suspected acute heart failure exacerbation and received intravenous diuresis. An echocardiography revealed an ejection fraction of 30-35% with grade III left ventricular diastolic impairment, basal to mid septal akinesis, and severely increased pulmonary artery pressure at 52mmHg. As there was no etiology for this heart failure, the patient underwent a left heart catheterization with no significant findings. Cardiac MRI was performed for further evaluation of the etiology of his heart failure showing severe left ventricular dilation and dysfunction with global hypokinesis, apical akinesis and increased trabeculation, suggestive of noncompaction cardiomyopathy. The patient was medically managed with diuresis, guideline-directed medical therapy and discharged with a wearable cardioverter defibrillator. Follow-up was arranged with cardiology for optimization, as well as genetic counseling for family screening.

Discussion

Non-compaction cardiomyopathy is a rare form of non-ischemic cardiomyopathy, especially in later life. Most common clinical features include congestive heart failure, arrythmias, and cardioembolic events. Transthoracic echocardiogram because of its widespread availability and low cost is usually the first-choice diagnostic modality, however cardiac magnetic resonance and cardiac computed tomography can also aid in diagnosis. In patients with heart failure, the prevalence of noncompaction cardiomyopathy is reported as 3-4%. No specific therapy guidelines are currently available, and management is based on addressing the clinical symptoms. Patients with heart failure and decreased left ventricular function are usually treated according to heart failure guidelines. ICD placement is usually indicated in patients with low ejection fraction for primary prevention of sudden cardiac death. Due to the high prevalence of familial cases and the association with genetic mutation, genetic testing is recommended for patients' relatives. This case report illustrates the importance of considering non-compaction cardiomyopathy in the differential diagnosis of heart failure, especially in the absence of other secondary causes of heart failure.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 097
Category: Clinical Vignette
Residency Program: Henry Ford St. John Hospital
Presenter: Ahmad Sater
Additional Authors: Brandon Yanik

Clozapine and the Silent Threat: Unveiling Rhabdomyolysis in Schizophrenia Treatment

Introduction:

Clozapine is an atypical antipsychotic used for treatment-resistant schizophrenia, it is often associated with serious side effects such as agranulocytosis, myocarditis, and seizures. A very rare yet potentially life-threatening complication is rhabdomyolysis. Rhabdomyolysis is characterized by muscle tissue breakdown with myoglobin release into the bloodstream, which can cause acute kidney injury. While the incidence is low, recognizing this life-threatening adverse effect is crucial for early intervention. We present a case of a young female with schizophrenia, who developed rhabdomyolysis following clozapine treatment, leading to an acute kidney injury.

Case Presentation:

A 31-year-old female with a history of schizophrenia presenting with dark urine, back and muscle aches. She was recently admitted to a behavioral center for schizophrenia treatment, where she was started with clozapine. Upon presentation to the hospital, she was tachycardic with a fever of 101.3 °F. Her laboratory results revealed leukocytosis of 21.21, hemoglobin 10.7. Creatinine elevated at 2.88 and peaked at 5.61 and significantly elevated creatine kinase at 114,906. AST 567, ALT 113. Urinalysis showed proteinuria and hematuria, with a protein/creatinine ratio of 0.7. Acute hepatitis panel was negative. CRP elevated at 258. TSH was normal. RUDS was negative. ANA negative. C3 and C4 were normal. A renal ultrasound showed a hypoechoic area on the right kidney suggestive of a cyst but did not indicate any obstructive pathology. Patient was initiated on IV fluids, resulting in an improvement in both CPK levels and creatinine.

Discussion:

Rhabdomyolysis is an extremely rare and uncommon adverse effect of clozapine with only nine cases documented in the literature. The pathophysiology remains unclear. It is thought to be associated with the drug's mechanism of action on neuromuscular function, either by direct muscle toxicity or disturbances in skeletal muscle metabolism. Clozapine-induced rhabdomyolysis often presents insidiously with symptoms of muscle pain, weakness, and dark urine due to the release of myoglobin from the muscle breakdown. Myoglobin is nephrotoxic and can lead to acute kidney injury.

The diagnosis is confirmed by elevated CPK levels and the characteristic findings of dark urine with hematuria and myoglobinuria. It is critical to distinguish this condition from other causes of acute kidney injury, including sepsis and dehydration. In this case, the absence of sepsis, along with the temporal relationship between clozapine initiation and symptom onset, pointed toward clozapine-induced rhabdomyolysis.

The management include discontinuing the offending drug, monitoring renal function, and supportive care to the kidneys by hydration and correction of electrolyte imbalances to prevent further renal damage. This patient was managed with intravenous fluids and renal monitoring, and her renal function improved gradually as her creatinine and CPK levels trended downward.

Conclusion:

Clozapine-induced rhabdomyolysis is a rare but serious complication of antipsychotic therapy. Early recognition and prompt discontinuation of the drug are key to preventing irreversible renal damage. Clinicians should be vigilant when prescribing clozapine. This case illustrates the importance of monitoring for muscle pain, weakness, and dark urine, as these can be the early signs of rhabdomyolysis, potentially leading to acute kidney injury if not addressed promptly.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 098
Category: Clinical Vignette
Residency Program: Henry Ford St. John Hospital
Presenter: Sara Shaban
Additional Authors: Samantha Itchon, DO; Paul Kudla, MD

Bilateral Facial Palsy as Primary Presentation of Sjögren's Syndrome

Sjögren's syndrome is a chronic autoimmune inflammatory disorder with an estimated overall incidence of approximately 7 per 100,000 person-years. The most common presenting symptom is typically dry eyes or mouth, although it can affect multiple organs and organ systems. Diagnosis is based on clinical symptoms, along with evidence of underlying autoimmunity which may include positive Anti-SSA or SSB antibodies. Neurological symptoms occur in approximately 20% of patients with Sjögren's syndrome. Of these cases, cranial nerve involvement is a rare manifestation as opposed to peripheral neuropathy.

This is a case of a 34-year-old female who presented to the hospital due to bilateral facial paralysis later determined to be facial nerve neuritis secondary to Sjögren's syndrome. Her bilateral facial weakness began acutely on the day of admission, initially with severe left-sided facial weakness/numbness and progressing to include the right side. She also endorsed persistent left-sided headaches at that time. Due to her initial presentation, code stroke was activated but found to be negative for acute cerebrovascular accident. She was immediately started on prednisone for concern of possible bilateral Bell's palsy. MRI of the brain was completed, which ultimately revealed abnormal enhancement of bilateral facial nerves. Due to the severity of her symptoms, further testing included a lumbar puncture which revealed elevated protein level and elevated IgG, but was otherwise remarkable, including negative culture. Due to these results, along with persistent symptoms, a course of IVIG was given. Upon further questioning, she also endorsed double vision and dry eyes for which ophthalmology was consulted and recommended the use of artificial tears. Rheumatology was later consulted who recommended further autoimmune workup which revealed a positive antinuclear antibody (ANA) and anti-SSA antibody, indicative of Sjögren's disease. In the context of dry eyes and bilateral facial nerve inflammation leading to bilateral facial palsy, it was determined that the likely diagnosis was Sjögren's disease related neuritis. Treatment was initiated with CellCept and prednisone taper, and she has since had close follow-up with rheumatology outpatient. Symptoms later improved with treatment and repeat MRI 6 weeks later showed persistent but decreased enhancement of bilateral facial nerves.

Bilateral facial palsy is exceedingly rare and typically raises concern for systemic disease, with the most common causes being due to infection or autoimmune disease. Due to this, it is important to maintain a broad differential when presented with such a case. Early involvement of multiple specialties, especially neurology and rheumatology, is warranted and may lead to a more expeditious diagnosis. Complete work-up is important as this ultimately guides treatment decisions. Early treatment can significantly improve morbidity in such patients.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 099
Category: Clinical Vignette
Residency Program: Henry Ford St. John Hospital
Presenter: Ahsun Siddiqi
Additional Authors: Yaqian Liao MD, Rahaul Dhaliwal MD.

Heart Failure in Hypertrophic Obstructive Cardiomyopathy in an Older Adult: A Clinical Challenge

Introduction

Hypertrophic obstructive cardiomyopathy (HOCM) affects about 1 in 500 people in the United States. It is an inherited myocardial disease characterized by left ventricular hypertrophy (wall thickness ≥15 mm) in the absence of a secondary cause. The clinical spectrum can range from asymptomatic cases to heart failure and sudden cardiac death. We present a case highlighting the challenge of managing heart failure in HOCM, particularly in an older adult.

Case Presentation

A 74-year-old female with a history of hypertension presented with chest tightness and shortness of breath for 2 days, worsened by exertion and lying supine. Family history was significant for an 'enlarged heart' in her father. Physical examination showed a loud systolic murmur on the left sternal border and bilateral basal crackles. Her EKG suggested left ventricular (LV) hypertrophy and her B-type natriuretic peptide (BNP) levels were elevated at 462 pg/mL. Chest x-ray showed interstitial pulmonary edema, vascular congestion, and large right pleural effusion with cardiomegaly. Transthoracic echocardiogram showed ejection fraction (EF) of 55 to 60% with increased LV wall thickness. There was severe mitral regurgitation with systolic anterior motion of the mitral valve and a narrow left ventricular outflow tract (LVOT). Transesophageal echo further specified a severely thickened ventricular septum overriding the LVOT. Based on the clinical picture and echocardiogram findings, she was diagnosed with hypertrophic obstructive cardiomyopathy and heart failure with preserved ejection fraction.

The patient was started on Metoprolol 25 mg twice daily; however, she had persistent dyspnea and required supplemental oxygen despite beta-blocker therapy. Thoracentesis was performed for pleural effusion. To address persistent symptoms, a discussion with the Cardiology team led to the addition of oral Furosemide 40 mg three times per week to carefully balance symptomatic relief for HF while avoiding volume depletion in the setting of HOCM. This led to remarkable clinical improvement and resolution of the patient's symptoms. She was scheduled for outpatient cardiac catheterization with subsequent septal myectomy for HOCM.

Discussion

This case contributes to the growing understanding of HOCM management in older adults, a population often underrepresented in literature. Heart Failure (HF) is a common clinical complication of HOCM, however, there is usually a significant difference in the clinical picture of HOCM-related HF and conventional CHF. HOCM-related HF almost always presents with mitral regurgitation and preserved EF, and signs of volume overload are usually absent. The treatment of HF in HOCM is primarily based on beta-blockers, which improve left ventricular filling without compromising outflow gradients. In patients with persistent symptoms despite beta-blocker therapy, diuretics can be used cautiously in low doses to alleviate symptoms. Aldosterone antagonists and angiotensin receptor blockers have not shown efficacy in HOCM-related HF. Surgical septal myectomy is the gold standard intervention for patients with HOCM who have progressive heart failure and disabling symptoms. HOCM-related HF has significantly decreased mortality and favorable prognosis as compared to conventional HF. Overall, this case emphasizes the importance of recognizing HOCM as a cause of HF with preserved EF and reinforces the importance of individualized care to enhance outcomes.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 100
Category: Clinical Vignette
Residency Program: Henry Ford St. John Hospital
Presenter: Evan Skwara
Additional Authors: Michael Yacoub (attending), Thejas Gowda

Is Large Pill Burden a Barrier to Recovery? A Review of Coxackivirus as culprit to myocarditis

With heart failure rates steadily increasing over the last decade, there is a noted global burden on the health care system, with majority of cases being discovered in the geriatric population above 65 years of age. With an incidence of less than 0.5% in those aged less than 20 years of age, per the National Institutes of Health, why is it important to keep heart failure in the differential for younger individuals and what are the leading causes?

Coxsackie virus often presents with a viral prodrome. This virus can affect vital organs such as the pancreas, kidneys, brain liver and heart.In neonates and children, coxsackie virus is the most common cause of viral myocarditis, however adults can still be affected.

A 19 year-old female with a past medical history of hypertension and iron deficiency anemia presented with a persistent nonproductive cough, dyspnea, epigastric pain, nausea, and vomiting. Initially she was tachycardic, tachypneic and hypertensive. Chest X-ray showed patchy bilateral airspace disease. Initial labs were significant for WBC 19.48 K/mcL and lactate 2.6 mmol/L. High sensitivity troponin trended from 60 to 25 ng/L with a pro-BNP of 12,243 pg/mL. Following initial evaluation, the patient's oxygen requirement increased rapidly to 12 L/min and she was transferred to the cardiac intensive care unit for close management. Respiratory viral panel, HIV, rheumatologic studies and drug screen were negative. She was started on community acquired pneumonia coverage with ceftriaxone and azithromycin. Echocardiogram revealed EF 30-35%, moderate global hypokinesis and grade II diastolic dysfunction. Coxsackie B was found to be positive with Type 1 to 3 having titers of 1:500 and Type 4-6 having titers of 1:1000.

Given the viral etiology, antibiotics were stopped. The multiple titer positivities are likely due to a heterotypic antibody response and cross-reactivity on viral serologies. The patient was started on Metoprolol, Entresto, Spironolactone, Jardiance and Furosemide due to the severity of heart failure. She was discharged with a life vest. She followed up with a cardiologist and repeat TTE completed 1.5 months after hospitalization showed a recovered EF to 55-60%, with mild concentric left ventricular hypertrophy.

Coxsackie virus can be very severe even in adulthood, but has good potential for recovery with the right management. Given the increasing rates of heart failure within younger individuals, it is important to be able to identify heart failure and the ethology for prompt initiation of guideline directed treatment to ultimate give the patient the best chance at recovery and remission. On review, the patient was ultimately readmitted with worsening symptoms in conjunction with a worsened ejection fraction when she stopped taking her medications. This highlights the importance of continuing guideline directed treatment and identifying causes for non adherence to limit complications for each patient.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 101
Category: Clinical Vignette
Residency Program: Henry Ford St. John Hospital
Presenter: Shahrzad Zavoshi
Additional Authors: Aye Thet, MD, Daniel Lebovic, MD, FACP

From Crisis to Control: Managing Hemorrhagic and Differentiation Syndromes in APML

Introduction:

Acute promyelocytic leukemia (APML), a subtype of acute myeloid leukemia (AML), represents about 10% of AML cases and poses significant clinical challenges despite treatment advancements. APML is characterized by the unique morphology of promyelocytes, life-threatening coagulopathy, and the specific balanced reciprocal translocation t(15;17). Although the combination of all-trans retinoic acid (ATRA) and arsenic trioxide (ATO) have significantly improved outcomes, early death rates still exceed 20% due to severe complications such as hemorrhagic syndromes and differentiation syndromes (DS). DS typically occurs 7-10 days after therapy initiation and results from cytokine release due to promyelocytic apoptosis. Early detection and treatment of DS are critical due to its high mortality rate.

Case Report:

A 38-year-old male with hypertension presented with a 2-3 week history of generalized weakness and easy bruising. Laboratory tests revealed severe anemia and thrombocytopenia, with a platelet count of 20, necessitating immediate transfusions. While in the emergency department, he developed a severe headache followed by multiple seizures. A CT scan revealed a subdural hematoma. Suspicion of APML was high as the peripheral smear showed promyelocytes with significant bilobed nuclei and hypergranular cytoplasm. ATRA was empirically initiated, and diagnostic tests, including peripheral blood flow cytometry, t(15;17) FISH , PML-RARA PCR test, and bone marrow biopsy was performed. Due to persistent thrombocytopenia and coagulopathy, neurosurgical interventions were initially unfeasible. The patient experienced worsening subdural hematoma with new bi hemispheric small punctate hemorrhages. Aggressive transfusions of platelets and cryoprecipitate were required until his platelet count reached 50,000, after which he underwent a left craniectomy, evacuation of the subdural hematoma, and placement of a subdural drain. While confirmatory tests for APML were pending, the patient developed high fevers, AKI , and hyperbilirubinemia on Day 8 of ATRA, raising concerns for differentiation syndrome. ATRA was discontinued, and dexamethasone 10 mg IV twice daily was initiated. Empirical antibiotics were given, but sepsis was ruled out with a complete workup. Following symptom improvement, ATRA was resumed. FISH for t(15;17) was positive, confirming APML, and ATO was added. The patient completed induction therapy with ATRA and ATO during the admission. Follow-up bone marrow biopsy revealed complete remission.

Discussion:

APML often presents with hemorrhagic syndromes due to hyperfibrinolysis, disseminated intravascular coagulation, and thrombocytopenia. Given the high early mortality associated with hemorrhagic events, and infections, APML should be managed as a medical emergency. Early recognition of APML and immediate initiation of ATRA and ATO improves remission and cure rates. Approximately 30% of patients receiving ATRA and ATO develop differentiation syndrome, which can deteriorate rapidly and be fatal. Clinicians must maintain a high index of suspicion for differentiation syndrome and be prepared to recognize and treat it promptly. Continuous advancements in understanding and managing APML are essential to improve patient outcomes.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 102
Category: Clinical Vignette
Residency Program: McLaren Greater Lansing
Presenter: Dania Baraka
Additional Authors: Khaleel I Quasem M.D, Michelle V Carrasquel Alvarez

HPV-Associated Oropharyngeal Squamous Cell Carcinoma Misdiagnosed as Neck Abscess: An Atypical Advanced Presentation

Introduction

"Human papillomavirus (HPV)-associated oropharyngeal squamous cell carcinoma (OPSCC) is a type of head and neck cancer that predominantly arises at the base of the tongue, soft palate, and tonsillar region, given the favorable environment of the oropharynx for HPV infection. This case report discusses an unusual presentation of oral cancer characterized by initial involvement of the right parotid gland and a necrotic neck mass due to extensive skin involvement. Lack of access to health insurance, and consequently, preventative measures such as HPV vaccination, were identified as factors contributing to the advanced presentation.

Presentation of Case

A 59-year-old male with no prior medical history presented to the outpatient internal medicine residency clinic due to an enlarging right-sided neck mass. Initially suspecting a dental abscess from a pulled tooth and due to lack of health insurance, he delayed appropriate evaluation until his mass turned necrotic and significantly difficult to conceal, impairing his work and social life. He then presented to the ER, where a CT scan revealed a 60 x 55 mm neoplastic mass in the skin and subcutaneous fat near the right parotid gland. Given the purulent-like appearance of the mass, he was prescribed antibiotics and instructed to seek outpatient care. An urgent referral to ENT surgery was made from our clinic, further escalating his care to a tertiary academic hospital. The patient underwent successful chemotherapy and radiation treatment for his malignancy, resulting in rapid improvement of the necrotic mass without ever needing surgical intervention.

Conclusion

The incidence of HPV associated with oropharyngeal squamous cell carcinoma has been steadily increasing in the United States, especially among younger individuals. This case underscores the need for urgent preventive measures such as vaccination efforts, tobacco cessation as well as early detection strategies that can be provided through improved access to primary care physicians.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 103
Category: Research
Residency Program: McLaren Greater Lansing
Presenter: Khaleel Quasem
Additional Authors: Michelle Carrasquel Alvarez MD, Dania Baraka DO

Late-Onset Spontaneous Pneumothorax in an Elderly Patient with Langerhans' Cell Histiocytosis and Pulmonary Hypertension

We present the case of an 82-year-old female with a history of atrial fibrillation, hypothyroidism, and Langerhans' cell histiocytosis who developed a late-onset spontaneous pneumothorax, 20 years after her initial diagnosis of Langerhans' cell histiocytosis. The patient presented withshortness of breath and was found to have a large left-sided pneumothorax with right-sided tracheal deviation. Despite initial stabilization efforts, her clinical status deteriorated, requiring ICU transfer and vasoactive support due to hypotension and worsening respiratory function. This case highlights the importance of considering spontaneous pneumothorax as a late complication in patients with chronic lung conditions and emphasizes the need for vigilance in older patients with pulmonary and cardiac comorbidities.

Case Presentation

An 82-year-old female with a medical history of atrial fibrillation, hypothyroidism, dyslipidemia, and Langerhans' cell histiocytosis presented to the emergency department with complaints of acute-onset shortness of breath. On arrival, she was hemodynamically stable and afebrile. Laboratory tests were significant only for mild anemia, with normal troponin, CRP, and coagulation studies. Electrocardiogram revealed sinus bradycardia with nonspecific T wave changes. Chest X-ray demonstrated a large left-sided pneumothorax with right-sided tracheal deviation, prompting immediate chest tube placement. The patient was subsequently admitted for management of spontaneous pneumothorax.

During her hospitalization, the patient developed hypotension after receiving sotalol, necessitating transfer to the ICU. Dopamine was started and later escalated to epinephrine due to persistent hypotension. Despite maximal medical therapy, her respiratory status worsened, ultimately resulting in respiratory arrest and severe bradycardia.

A transthoracic echocardiogram revealed elevated pulmonary arterial pressures and hyperdynamic systolic function with an estimated ejection fraction over 70%. CT imaging demonstrated coarse reticulation in the bilateral lung fields and tortuous pulmonary arteries, suggestive of underlying pulmonary fibrosis and pulmonary hypertension. Based on imaging and clinical findings, the patient was diagnosed with group 3 pulmonary hypertension secondary to interstitial lung disease.

Discussion

Spontaneous pneumothorax is an uncommon yet recognized complication of interstitial lung diseases, including Langerhans' cell histiocytosis. Typically, pneumothorax in such patients occurs within the first few years following diagnosis. However, this case demonstrates that spontaneous pneumothorax can manifest decades after the initial diagnosis, underscoring the need for clinicians to remain vigilant for this complication even in patients with stable or quiescent disease.

The pathophysiology of spontaneous pneumothorax in Langerhans' cell histiocytosis is thought to be due to cystic degeneration and fibrotic changes in lung parenchyma, which predispose patients to alveolar rupture. In this case, the combination of advanced age, underlying pulmonary fibrosis, and pulmonary hypertension likely increased the patient's susceptibility to pneumothorax, leading to significant respiratory compromise. Additionally, her cardiovascular comorbidities and the subsequent need for vasoactive support illustrate the complexities of managing such cases in elderly patients.

This case also highlights the role of echocardiography and CT imaging in identifying underlying cardiac and pulmonary abnormalities, which can guide management in patients with complex respiratory presentations. Given the patient's underlying pulmonary hypertension and interstitial lung disease, her pneumothorax is classified within group 3 pulmonary hypertension, which is associated with poorer outcomes and requires careful monitoring.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 104
Category: Clinical Vignette
Residency Program: McLaren Macomb
Presenter: Michael Boyle
Additional Authors: Arjun Chadha, Benjamin Xu, Elizabeth Brooks

Differentiating Cocaine-Induced Nasal Ulcerations from Granulomatosis with Polyangiitis

Cocaine is one of the most trafficked illicit drugs in the world; intranasal inhalation is the main route of administration. Given its vasoconstrictive properties, cocaine-induced midline destructive lesions (CIMDL) are the most common clinical presentation among habitual abusers, with a cited prevalence of 4.8%. Its presentation can be difficult to differentiate from other etiologies of sinusitis, notably granulomatosis with polyangiitis (GPA). We present a 55-year-old male with a history of cocaine use and recurrent sinusitis who was transferred to our facility for evaluation of pharyngitis and dysphagia. Urine drug screen on arrival was positive for cocaine. Maxillofacial CT imaging revealed severe pansinusitis with erosive changes of the nasal septal cartilage. Otolaryngology conducted flexible fiberoptic nasal endoscopy and laryngoscopy revealing necrotic-like mucosa of the posterior pharyngeal wall and soft palate. Biopsy resulted with ulcer exudate and fibrinous material without fungal or malignant evidence. Diagnostic rheumatological testing revealed positive PR3 antibodies, specific for granulomatosis with polyangiitis. Ultimately, the patient was referred to rheumatology for further evaluation. Our case highlights that one must consider the diagnosis of granulomatosis with polyangiitis even in cases where nasal septal changes could be easily attributed to chronic intranasal cocaine use.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 105
Category: Clinical Vignette
Residency Program: McLaren Macomb
Presenter: Julia Janecki
Additional Authors: Munajj Huq, DO, Tara Eastin, DO

Squamous Cell Carcinoma of the Lung Presenting as a Massive Necrotic Liver Mass

Introduction: Malignant hepatic lesions are classified into primary malignancy (such as hepatocellular carcinoma or cholangiocarcinoma), or hepatic metastasis. Hepatic metastasis is the most common malignant lesion of the liver and is most frequently associated with primary gastrointestinal (colon, stomach, pancreas), lung, and breast cancers. Necrotic liver masses may be associated with a solitary necrotic nodule, which is usually benign, or large and rapidly progressive hepatic tumors or metastasis. Here we present a case of a squamous cell carcinoma of the lung that was diagnosed based on the acute development of a substantially large necrotic liver mass on imaging.

Case Presentation: A 71 year old female with a past medical history of a pulmonary nodule, stage IIIb chronic kidney disease, and tobacco use disorder, presented to the outpatient internal medicine clinic for follow up of abnormal imaging findings. The patient had a history of a 1.3 cm right upper lobe lung nodule on screening CT chest without contrast performed six months prior. A few months later, the patient subsequently developed new onset hemoptysis and repeat CT chest without contrast demonstrated an increased size of the RUL nodule (3.1cm), increased size of a right adrenal mass, and the development of a centrally necrotic mass in the right hepatic lobe, measuring 6.5 x 10 x 9.3 cm. When the patient was evaluated in the clinic, she endorsed mild right upper quadrant abdominal tenderness to palpation, but had no significant elevation in liver enzymes or other laboratory values. Due to concerning CT findings, the patient underwent PET scan which demonstrated a cavitary hypermetabolic RUL lung mass (3.5 x 3.3 cm), a large intra-lobar necrotic mass spanning both the right and left hepatic lobes (10.0 x 7.1 cm), left iliac bone lesion, and a hypermetabolic right adrenal lesion. The patient was sent for hepatic mass biopsy which resulted positive for squamous cell carcinoma, suspected lung primary. Patient was evaluated by oncology and started on carboplatin, paclitaxel, and pembrolizumab along with palliative radiation therapy, with significant decrease in the size of lung and liver masses after six months of treatment.

Discussion: The etiology of large necrotic hepatic masses is not well discussed in the current literature. Our case demonstrates a significantly large necrotic liver mass that was found to be a metastasis from primary squamous cell carcinoma of the lung. This is an unusual presentation of hepatic metastasis given the rapid development and substantial size of the hepatic mass. On average, lung metastasis to the liver typically ranges from 1-3 cm in diameter. Additionally, the patient's response to six months of pembrolizumab treatment demonstrated impressive reduction in the size of the hepatic metastasis and warrants further investigation into use of the drug for treatment of late stage squamous cell carcinoma of the lung.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 106
Category: Clinical Vignette
Residency Program: McLaren Macomb
Presenter: Japjit Serai
Additional Authors: Alexander Von Roenn MD, Christian Dondonan DO, Robert Gemayel DO, Elizabeth Brooks DO

Case Report on a Rare Encounter: Non-Typhoidal Salmonella Presenting as Bacteremia and Bilateral Cellulitis in a Diabetic Patient

Background: Non-typhoidal salmonella typically presents acutely with gastrointestinal distress. Rarely, these infections can present extra-intestinally, likely secondary to gut translocation. It is exceedingly rare however for them to manifest with cellulitis, especially in a bilateral distribution.

Case presentation: A 35-year-old male with past medical history of diffuse adiposity, essential hypertension, neuropathy, and depression presented to the ED for evaluation of sudden onset, bilateral, lower extremity swelling, pain, and redness. The patient first appreciated these symptoms upon awakening 2 days prior, accompanied by night sweats. He mentions having burned his right medial lower leg on a motorcycle exhaust pipe a week prior but reported appropriate healing to the burn thus far. Of note, the patient owns a corn snake and was diagnosed with diabetes during this admission. He was ultimately found to have diffuse cellulitis of his bilateral lower extremities with subsequent blood cultures yielding a diagnosis of bacteremia secondary to salmonellosis.

Conclusions: A very small subsection of patients with confirmed salmonella infection develop bacteremia. Cellulitis is also an uncommon presentation for salmonellosis. Given this patient's recent burn wound and his exposure to reptiles; in conjunction with uncontrolled diabetes, we suspect the bacteria seeded the patient's bloodstream via the burn wound and was able to proliferate given his somewhat immunodeficient state. There remains the possibility that this patient, who claims rigorous adherence to hygienic handling of his reptile, was already a carrier of salmonella and that his burgeoning diabetes hampered his immune system to the point the bacteria was able to flourish and cause tissue breakdown in the dependent portions of his body.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 107
Category: Clinical Vignette
Residency Program: McLaren Port Huron
Presenter: Kairavi Shah
Additional Authors: P. Dileepkumar, MD MBA FACP; Moiz Ali, MD

Cryptosporidiosis in a Chemotherapy-Induced Immunosuppressed Patient: A Diagnostic and Therapeutic Challenge

Introduction:

Cryptosporidium spp. are protozoan pathogens that primarily infect the gastrointestinal epithelium of humans and animals, causing diarrhea through fecal-oral transmission [1]. In immunocompetent individuals, cryptosporidiosis typically results in self-limiting diarrhea [2]. However, in immunocompromised individuals, the infection can lead to severe, persistent symptoms [3]. Despite its prevalence, cryptosporidiosis is often underdiagnosed in immunosuppressed individuals due to overlapping clinical presentations with chemotherapy-induced toxicity. This case highlights cryptosporidiosis in a patient undergoing chemotherapy, emphasizing the diagnostic and therapeutic challenges.

Case Presentation:

A 62-year-old woman with small cell lung cancer presented with intractable nausea, vomiting, and watery diarrhea. Her symptoms developed approximately one week after completing the third cycle of chemotherapy with carboplatin and irinotecan, alongside immunotherapy with atezolizumab.

On admission, patient's blood pressure was 69/52 mm Hg and pulse rate was 113 bpm with laboratory investigation showing neutropenia(ANC 0.9 x 10^9/L). CT scan of the abdomen revealed ileal thickening and mild small bowel distension, suggestive of infectious or inflammatory ileitis. Stool cultures and Clostridium difficile testing were negative.

The patient was initially treated with intravenous hydration, cefepime, and metronidazole alongside G-CSF to address neutropenia. Despite these interventions, her diarrhea persisted. On day 6 of hospitalization, stool antigen testing confirmed the presence of Cryptosporidium spp.

She was treated with nitazoxanide 500 mg twice daily. Her diarrhea gradually improved and the patient was discharged on day 15 with complete resolution of symptoms.

Discussion:

Cryptosporidiosis is a significant cause of morbidity in immunocompromised patients. Infections in this population are often severe due to impaired T-cell immunity, which plays a critical role in controlling Cryptosporidium infection [4].

In this case, the diagnostic process was complicated by overlapping symptoms of chemotherapy-induced gastrointestinal toxicity. Irinotecan and Carboplatin combination is known to cause diarrhea [5]. Stool antigen testing, which confirmed the presence of Cryptosporidium spp., was essential for establishing the diagnosis. Advanced diagnostic tools, such as polymerase chain reaction (PCR) assays, can further improve detection rates, particularly in immunosuppressed patients where the parasite load may be low [6] [3].

Nitazoxanide is effective in treating cryptosporidiosis [1]. It works by inhibiting the pyruvate:ferredoxin oxidoreductase enzyme-dependent electron transfer reactions that are essential for anaerobic energy metabolism. In this case, the patient responded well to Nitazoxanide and it led to significant clinical improvement with resolution of symptoms.

This case emphasizes the need for heightened clinical awareness of cryptosporidiosis in immunosuppressed patients with diarrhea. Early diagnosis and targeted therapy can significantly improve outcomes.

Conclusion:

Cryptosporidiosis should be considered in the differential diagnosis of persistent diarrhea in immunosuppressed patients. Stool antigen testing and PCR assays are essential tools for diagnosis. Prompt treatment with nitazoxanide and supportive therapy with adequate hydration can lead to favorable outcomes, as demonstrated in this case.

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2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 108
Category: Clinical Vignette
Residency Program: Michigan State University Sparrow Main Hospital
Presenter: Lalitsiri Atti
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Mitral Valve Aneurysm as a Rare Complication of Mitral Valve Infective Endocarditis

Introduction

Infective endocarditis (IE) is a life-threatening condition that can lead to a range of complications, including valvular vegetations, abscess formation, and embolic events. However, mitral valve aneurysm (MVA) is an extremely rare sequela, occurring in <1% of IE cases. MVA is characterized by localized saccular outpouching of the mitral valve, which can progress to rupture, resulting in severe mitral regurgitation (MR) and hemodynamic instability. Here, we describe a case of MVA following Streptococcus anginosus endocarditis, emphasizing its diagnostic and therapeutic challenges.

Case Description

A 65-year-old female with a history of hypertension was admitted after being found unresponsive at home with left-sided weakness and facial droop. Initial evaluation raised concern for an acute stroke, and a CT angiogram confirmed a right middle cerebral artery occlusion. She underwent mechanical thrombectomy and was transferred to the ICU.

Given her febrile presentation, transthoracic echocardiography (TTE) was performed, revealing severe mitral regurgitation. A transesophageal echocardiogram (TEE) demonstrated large mobile vegetations on the anterior and posterior mitral valve leaflets. Blood cultures grew Streptococcus anginosus, confirming infective endocarditis.

A transcatheter mitral valve mass extraction using the Gen 3 180-degree AlphaVac catheter was performed, successfully debulking >80% of the vegetations. The patient completed a prolonged course of intravenous antibiotics. A follow-up TEE one month later revealed the development of an A2 scallop mitral valve aneurysm with persistent severe MR. Due to the risk of aneurysmal rupture and worsening MR, the patient was advised to undergo surgical mitral valve replacement upon completion of stroke rehabilitation.

Discussion

Mitral valve aneurysms are rare complications of IE, typically resulting from infectious destruction and weakening of the valvular tissue, leading to aneurysm formation. The primary risk is rupture, which can cause severe MR, systemic embolization, and hemodynamic collapse.

While conservative management may be appropriate for small, asymptomatic aneurysms, larger aneurysms or those associated with perforation or severe MR require surgical intervention. Current guidelines for IE management focus on valve repair or replacement in the presence of uncontrolled infection, abscess, embolic events, or heart failure. However, optimal timing for surgical intervention in MVA remains unclear due to its rarity.

In our case, the contribution of transcatheter mass extraction to aneurysm formation is uncertain. The mechanical removal of vegetations may have predisposed the valve to structural failure, highlighting the need for long-term echocardiographic surveillance following such interventions.

Conclusion

Mitral valve aneurysm is an exceedingly rare and serious complication of infective endocarditis. Early recognition through multimodal imaging is crucial to guiding appropriate management strategies. Given the risk of rupture, surgical repair should be strongly considered in patients with significant aneurysmal dilation or worsening MR. A multidisciplinary approach is essential to optimizing outcomes in these complex cases.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 109
Category: Clinical Vignette
Residency Program: Michigan State University Sparrow Main Hospital
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Non-Bacterial Thrombotic Endocarditis in a Patient on Apixaban with Acute Promyelocytic Leukemia: A Rare Association

Non-bacterial thrombotic endocarditis (NBTE), also called marantic or Libman sacks or thrombotic endocarditis, results from an underlying hypercoagulable and inflammatory state, leading to the formation of sterile platelet thrombi on the heart valves, most commonly mitral and aortic valves. It is often underdiagnosed and is commonly associated with advanced malignancy, followed by autoimmune conditions.

A 40-year-old male with a history of right lower extremity DVT, adherent to apixaban, presented to the emergency department with an acute onset of expressive aphasia, left-sided temporal headache, and right-sided facial droop. The electrocardiogram (EKG) showed normal sinus rhythm. A CT angiogram of the head and neck revealed a sub-occlusive thrombus in the proximal left M1 segment of the middle cerebral artery (MCA). An MRI of the brain demonstrated diffusion restriction within the left MCA distribution and left posterior cerebellar hemisphere, indicating acute ischemic stroke. Laboratory findings revealed pancytopenia, with both blood cultures and hypercoagulable workup returning negative. The peripheral blood smear showed no abnormal cells. 2D echocardiogram was unremarkable; however, given the suspicion of cardioembolic stroke, the patient underwent a transthoracic esophageal echocardiogram (TEE), which showed echo densities on mitral and tricuspid valves as well as chordae tendinea in the right ventricle, raising concern for vegetations. A bone marrow biopsy showed 55% blasts/promyelocytes of marrow cellularity, with t (15;17) detected in 79.5% of nuclei, and PMR/RARA fusion on FISH analysis confirming the diagnosis of acute promyelocytic leukemia (APL). Intravenous heparin was initiated for the left M1 thrombus and NBTE. The patient was then switched to warfarin, then dabigatran at discharge due to supratherapeutic INR. Induction chemotherapy with all-trans-retinoic acid (ATRA) and arsenic trioxide (ATO) achieved clinical remission in APL, with plans for outpatient consolidation therapy. The vegetation on TEE was attributed to either blood culture-negative endocarditis or NBTE. Broad-spectrum antibiotics (vancomycin and cefepime) were administered for immunocompromised status during hospitalization. The diagnosis of NBTE was made when his blood culture remained negative, and tests for fungal and atypical organisms returned negative. He was not a surgical candidate for cardiothoracic intervention due to his comorbidities. Serial TEE performed post-discharge every 3–4 months showed a gradual reduction in echo-densities on the mitral valve, tricuspid valve, and chordae tendineae, with complete resolution on the mitral valve by 3 months and on the tricuspid valve and chordae tendineae by 9 months.

This case highlights the importance of considering NBTE in embolic strokes despite anticoagulation, emphasizing the need for prompt investigation of underlying malignancies and autoimmune disorders. Although our patient had an embolic stroke on apixaban, no recurrent systemic embolism occurred after switching to dabigatran following APL remission. This signifies that addressing the root cause of embolization is crucial. However, not all cancer-associated NBTE cases have a favorable prognosis, as the persistent underlying cancer may continue to drive embolization, complicating outcomes. Further studies are warranted to determine whether anticoagulation with LMWH or unfractionated heparin is more effective than DOACs in preventing recurrent embolisms especially arterial thromboembolism, in such cases.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 110
Category: Clinical Vignette
Residency Program: Michigan State University Sparrow Main Hospital
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A Complex Case of Pancreaticopleural Fistula: Challenges in Diagnosis and Multidisciplinary Management

Pancreaticopleural fistula (PPF) is a rare and challenging complication of chronic pancreatitis, typically presenting with recurrent pleural effusions and respiratory distress. It is reported in approximately 0.4% of pancreatitis cases. Chronic inflammation leads to the formation of abnormal communication between the pancreas and pleura, allowing pancreatic secretions to accumulate in the pleural cavity, as evidenced by pleural fluid with elevated amylase levels.

We present the case of a 36-year-old female with a history of alcohol use disorder and chronic pancreatitis, complicated by three episodes of acute pancreatitis in the last eighteen months She presented to the emergency department with acute-onset severe back pain and dyspnea. On examination, she was tachypneic at 30 per minute and tachycardic at 130 beats per minute. Laboratory investigations revealed significant inflammatory markers, including leukocytosis (WBC 29.7 × 10^9/L, ANC 26.7 × 10^9/L), elevated C-reactive protein (24.2 mg/L), procalcitonin (230 ng/mL), and lactate (4 mmol/L). Imaging showed a large left-sided loculated pleural effusion with associated atelectasis, mediastinal shift, and multiple cystic structures in the left upper quadrant representing pancreatic pseudocysts. Cystic structures were located along the greater curvature of the stomach: 2.9 × 2.4 cm, immediately anterior to the spleen: 4.7 × 3.9 cm, anterior to the fundal region of the stomach: 3.5 × 2.1 cm, beneath the left hemidiaphragm: 2.8 × 1.7 cm.

Pleural fluid studies confirmed the pancreatic origin and revealed evidence of exudative effusion, with markedly elevated amylase (5137 U/L), elevated lactate dehydrogenase (LDH) at 3136 IU/L, and a total neutrophil count (TNC) of 5643. Endoscopic retrograde cholangiopancreatography (ERCP) revealed a pancreatic duct leak in the distal body and tail of the pancreas, and a 7-Fr × 12-cm pancreatic duct stent was placed. Her hospital course was complicated by a left multiloculated hydropneumothorax, empyema thoracis, and worsening multifocal pneumonia. These complications prompted video-assisted thoracic surgery (VATS) with decortication and fibrinolysis to manage the hydropneumothorax and empyema. Subsequent imaging revealed stable necrotic pancreatic collections, but the pancreatic stent failed to traverse the ductal leak; hence, evaluation by surgery was requested for distal pancreatotomy. Surgery deferred immediate distal pancreatectomy, favoring conservative management with bowel rest and medical therapy. The patient was discharged on antibiotics and pain management but was unfortunately lost to follow-up.

This case highlights the complexity of PPF management, emphasizing the importance of early recognition, advanced endoscopic interventions, and a multidisciplinary approach. It underscores the potential complications of PPF, such as empyema and recurrent hydropneumothorax, necessitating prompt surgical and medical interventions to optimize outcomes in critically ill patients.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 111
Category: Clinical Vignette
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Autoimmune polyglandular syndrome associated with chronic kidney disease

Autoimmune polyglandular syndrome (APS) type 2 is an extremely rare autoimmune disorder with a prevalence of 1:20,000 and caused by polygenic inheritance affecting at least 2 or more endocrine systems characterized by primary adrenal insufficiency, grave's disease/Hashimoto thyroiditis, and/or Type 1 diabetes. We present a case of a female admitted for adrenal crises who faced challenges with early diagnosis of APS and screening for other autoimmune conditions due to pre-existing comorbidities.

A 43-year-old female with a past medical history of Type 1 diabetes, CKD stage IV, Addison's disease, Graves' disease, and amenorrhea presented to the emergency department with generalized weakness, nausea, vomiting, diarrhea, and weight loss for almost 3 weeks. The ED labs showed AKI on CKD with creatinine 3.47 mg/dl (baseline of 2), hyperkalemia with a non-anion gap metabolic acidosis, blood glucose 36 mmol/L, TSH 0.01mu/ml, free T4 2.87 mcg/dl, positive TRAb and positive TSI, Hgb 8.6 g/dl with MCV 85, calcium 5.6 mg/dl, PTH 176 pg/ml with hypovitaminosis D 13.1ng/ml. She was immediately started on fluid resuscitation and IV dexamethasone for hypotension following which she was admitted to the ICU for hyperkalemia refractory to medical management and requirement of vasopressor for shock. She underwent emergent dialysis per Nephrology service. Additional evaluation for 21-hydroxylase antibodies was positive (21-hydroxylase antibodies are found in approximately 90 % of patients with autoimmune adrenalitis). CT scan of the Abdomen was remarkable for atrophic adrenal glands consistent with primary adrenal insufficiency.

During hospitalization, she received a stress-dose steroid. Vitamin D 2000 IU was given for secondary hyperparathyroidism. The patient also got concomitant propylthiouracil and methimazole treatment with metoprolol. The patient's condition improved significantly on day four of the ICU stay and was eventually discharged to home with a plan for follow-up with endocrinology by then she had fully recovered clinically and was back on the maintenance dose of Hydrocortisone and Fludrocortisone.

APS has a predilection for females in the age group of 30-40 years. It may also be associated with other endocrine and non-endocrine conditions. The diagnosis can often be overlooked in the context of the non-specific presentation of hyperthyroidism and Addison's disease which can lead to life-threatening conditions for which clinical vigilance is important. The diagnostic process includes a comprehensive approach for screening hormonal deficiencies and looking for autoantibodies in the pancreas, thyroid, and adrenal gland, screening for celiac disease, and assessment of HBA1C, fasting glucose, with transaminase. Treatment often focuses on the major components of APS-2 which include replacing the deficient hormones and treating individual disorders. The prognosis of APS is unclear however, studies have shown its mortality and morbidity are associated with complications arising from untreated individual disorders.

Clinicians should be aware that patients with PAS are significantly more likely to develop other autoimmune conditions. Early diagnosis is crucial to screening for additional poly-endocrinopathies and preventing life-threatening complications arising from multi-organ failure. Recent studies suggest that immune therapies may help prevent disease progression, but further research is needed to enhance treatment recommendations.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

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Metastatic Renal Cell Carcinoma Diagnosed 17 Years Post-Treatment: An Uncommon Site with Improved Survival Outcome

Introduction

Renal cell carcinoma (RCC) is a malignant neoplasm originating from the proximal convoluted tubules. It is the most common of all genitourinary tumors and its diagnosis is usually incidental finding. Metastasis of RCC is usually to lungs, liver or bones. RCC metastasizing to the pancreas and duodenum is very rare, occurring in only 1-2% of the cases. We present a 63-year-old male diagnosed with metastatic RCC in duodenum and pancreas 16 years after nephrectomy. It is a very unusual timeline of the disease presentation and this brings challenge in managing the advanced stage RCC.

Case Presentation

A 63-year-old male with a history of right renal cell carcinoma (clear cell subtype) diagnosed through CT abdomen and pelvis, had no evidence of malignancy was treated with nephrectomy in 2007 presented with one month of fatigue, exertional dyspnea, and intermittent melena. Initial labs revealed severe anemia (hemoglobin 5.6 g/dL). His physical exam showed pallor without other significant findings. An esophagogastroduodenoscopy (EGD) revealed a 5 cm actively bleeding duodenal mass distal to the ampulla. Biopsy confirmed metastatic clear cell RCC. CT imaging identified additional involvement of the pancreas. The patient underwent a Whipple procedure with pathology revealing RCC infiltration into the duodenal wall, pancreas, and surrounding structures. The postoperative course was complicated by septic shock, biliary and pancreatic leaks, and intra-abdominal abscesses, requiring ICU management and transfer to a tertiary care center for further treatment. Despite these complications, the patient responded well to surgical management and is scheduled for immunotherapy.

Conclusion

This case is a spotlight on RCC's unpredictable nature, particularly metastasis to uncommon sites, such as the duodenum and pancreas, even years after initial treatment. Interestingly, patients with metastatic RCC to the pancreas are known to have significantly better survival outcomes compared to those with isolated primary pancreatic cancer. The importance of long-term surveillance in RCC patients and the role of multidisciplinary care must be considered in managing rare metastatic clear cell carcinoma.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

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BCOR Mutation-Associated Immune Dysregulation: A Case of Refractory HLH Complicating Hypocellular Marrow and Autoimmune Enteropathy

Background:

Hemophagocytic lymphohistiocytosis (HLH) is a life-threatening hyperinflammatory syndrome characterized by uncontrolled immune activation and multiorgan failure. In adults, HLH often arises secondary to infections, malignancies, or autoimmune conditions, making diagnosis and treatment challenging. While primary HLH is linked to inherited cytotoxic pathway defects, secondary HLH may be influenced by acquired factors, including abnormalities in hematopoietic stem cells. Clonal hematopoiesis (CH) and conditions like clonal cytopenia of undetermined significance (CCUS) can create a bone marrow environment prone to immune dysregulation. Mutations in BCOR, a gene involved in transcriptional regulation, have been identified in marrow failure syndromes, myelodysplastic syndromes (MDS), and acute myeloid leukemia (AML). Such mutations may alter immune homeostasis and predispose to hyperinflammatory states like HLH.

Case Presentation:

We report a 64-year-old female with autoimmune enteropathy and refractory microscopic colitis who presented with fever, diffuse maculopapular rash, abdominal pain, and bicytopenia. She met five of the eight HLH-2004 criteria, including severe hyperferritinemia and elevated soluble IL-2 receptor and CXCL9, consistent with secondary HLH. Imaging revealed new hypodense liver lesions, and the initial bone marrow biopsy showed hypocellularity without hemophagocytosis or malignancy. Although she initially improved with HLH-directed therapy (dexamethasone and dose-reduced etoposide), a small bowel perforation and subsequent surgery necessitated a pause in immunosuppression, allowing HLH reactivation. A second bone marrow biopsy remained profoundly hypocellular, and next-generation sequencing identified a pathogenic BCOR mutation (p.Arg1163*). BCOR-associated clonal hematopoiesis can influence marrow stability and immune regulation, potentially contributing to refractory HLH. Despite resuming therapy, the patient progressed to fulminant liver failure and died 34 days after admission.

Conclusions:

This case highlights the complexity of managing secondary HLH in an adult with an underlying BCOR mutation and possible CCUS. Comprehensive genetic evaluation may uncover hidden predispositions that influence disease severity and treatment response. Identifying such factors could guide more aggressive or targeted interventions, including consideration of hematopoietic stem cell transplantation, and improve outcomes in similarly complex HLH cases.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 114
Category: Clinical Vignette
Residency Program: Trinity Health Ann Arbor
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When the heart Swings: Electrical Alternans on Telemetry as the Sentinel Sign of Malignant Tamponade

Introduction: Pericardial effusion with tamponade represents a medical emergency characterized by pathological pericardial fluid accumulation, impairing cardiac filling and output. Electrical alternans, defined as beat-to-beat variability in QRS amplitude, is a distinct finding in cardiac tamponade. We present a case where telemetry-guided EKG analysis prompted an urgent echocardiogram in diagnosing cardiac tamponade.

Case Discussion : A 69-year-old female with metastatic adenocarcinoma of unknown origin presented with dyspnea, hypoxia, and hypotension. On arrival, vital signs revealed tachycardia (115 bpm), hypotension (91/63 mmHg), and hypoxia (SpO_2 86% on room air). Physical examination revealed normal work of breathing and normal breath sounds but notable desaturations when talking. There was initial suspicion for Pulmonary embolism. However, Contrast-enhanced chest CT angiography was deferred due to acute kidney injury, prompting empiric anticoagulation. Continuous telemetry in the ED identified electrical alternans, confirmed by a 12-lead EKG, leading to urgent bedside echocardiography that revealed a large pericardial effusion with tamponade physiology. Emergent pericardiocentesis drained 1.8 L of malignant fluid, stabilizing the patient. Pericardial fluid cytology confirmed Mullerian adenocarcinoma, and she was subsequently discharged home in stable condition.

Conclusion: While echocardiography remains the diagnostic gold standard for cardiac tamponade, early recognition could hinge on correctly interpreting electrocardiographic (EKG) abnormalities and telemetry trends. Clinicians must maintain a high index of suspicion for cardiac tamponade in high-risk populations, particularly cancer patients with unexplained hemodynamic compromise.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 115
Category: Clinical Vignette
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Pure Androgen Secreting Adrenal Adenoma- A Rare Cause of Hirsutism

A 47-year-old female presented with a one-year history of progressive hirsutism, cystic acne, and amenorrhea. Laboratory evaluation showed markedly elevated DHEA-S >1000ug/dL, (19-231ug/dL), total testosterone 79 ng/dL (2- 45 ng/dL) and 17-hydroxyprogesterone 822 ng/dL (35 - 413 ng/dL); while further hormonal evaluation was unremarkable. A non-contrast CT scan revealed a 2.7 x 2.2 cm right adrenal mass with an attenuation of 44 Hounsfield Units (HU); PET imaging demonstrated focal FDG avidity, with an SUV max of 8.8, further raising suspicion for malignancy. Given the suspicious biochemical and imaging findings, the patient underwent an expedited open right adrenalectomy for definitive diagnosis and treatment. Pathologic examination confirmed an adrenal cortical adenoma with no evidence of malignancy. Postoperatively, androgen levels normalized, and the patient's symptoms gradually resolved.

Hyperandrogenism in females requires a thorough diagnostic evaluation. While polycystic ovarian syndrome (PCOS) is the most common cause, adrenal tumors should be considered, especially when androgen levels are markedly elevated. Pure androgen-secreting adrenal tumors are exceedingly rare entities and are very rarely reported in the literature. Typically, PET/CT has been described as having good diagnostic accuracy for characterization of adrenal tumors. In this case, the imaging findings were suspicious for a cancerous lesion. Non-Contrast CT findings in our case were inconsistent with the low attenuation (<10 HU) typical of lipid rich, benign lesions. PET imaging demonstrating an FDG avid lesion further contributed to the discordant imaging results and heightened suspicion for adrenal cortical carcinomas the underlying etiology.

Our case highlights that while imaging is essential for adrenal tumor characterization, it should not be relied upon by clinicians as the sole modality to differentiate between benign and malignant lesions. Histopathological confirmation is essential for accurate diagnosis of functioning adrenal masses.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 116
Category: Clinical Vignette
Residency Program: Trinity Health Ann Arbor
Presenter: Anh Pham
Additional Authors: Armeena Anis, Misha Aftab Khan, and Anupam Suneja

Recognizing Cerebral Venous Thrombosis as a Complication of Bacterial Meningitis

Introduction:

Community-acquired bacterial meningitis is associated with high morbidity and mortality rates due to various neurologic complications. Common manifestations of bacterial meningitis include seizures, cranial nerve palsy, sensorineural hearing loss, and cerebral infarcts, which are well-recognized by most healthcare providers. However, cerebral venous thrombus (CVT) is a rarer cerebrovascular complication of bacterial meningitis. To date, only one cohort study has investigated CVT as a complication of bacterial meningitis, finding that it mainly occurs in patients with ear, nose, and throat (ENT) infections.

Case presentation:

We report a 22-year-old male who presented with a high-grade fever, worsening right frontotemporal headache, and right eye swelling with mild purulent eye discharge. He was initially treated empirically with intravenous (IV) ceftriaxone, vancomycin, valacyclovir, and dexamethasone for presumed bacterial meningitis. A lumbar puncture revealed cloudy fluid with white count of 108 mm3, protein of 140 mg/dL, and glucose 45 mg/dL with no organisms on Gram stain. His nasal swab tested positive for enterovirus, which led to a revised diagnosis of possible viral meningitis. During hospitalization, he developed left upper extremity weakness. Computed tomography (CT) of the head revealed severe pansinusitis and a right frontal extra-axial hyperdensity. Subsequent magnetic resonance imaging (MRI) of the brain showed diffuse pachymeningeal enhancement without cerebral involvement with superior sagittal venous sinus thrombosis, confirmed by a CT venogram, prompting initiation of IV heparin. Blood cultures identified Streptococcus intermedius, likely originating from a recent right upper molar extraction and extensive pansinusitis as evident on imaging. Ceftriaxone was switched to IV penicillin for better central nervous system penetration. On day two, he developed generalized seizures and required intubation. CT head showed a right frontal subcortical venous infarction secondary to CVT. After emergent sinus surgery, he was extubated, but by day five, was found to have worsening mentation and seizures. He developed cerebritis, multiple abscesses with mass effect causing midline shift, and a new thrombosis in the right transverse and sigmoid sinuses. He subsequently underwent a craniotomy for abscess evacuation, with brain abscess cultures positive for Streptococcus intermedius. He was placed on an extended 8-week course of IV ceftriaxone and metronidazole. Follow-up imaging after ten days showed resolution of CVT.

Discussion:

The clinical manifestation of CVT is highly variable and can be difficult to differentiate with other common complications of meningitis. Our patient with bacterial meningitis with severe pansinusitis developed CVT as a complication. He exhibited focal neurological deficit, seizures, and worsening mentation, symptoms that have been described in a prior cohort study. In conclusion, in patients with bacterial meningitis with ENT infection that develop new or worsening neurological signs, CVT must be explored as a differential. Early identification of CVT and starting treatment with anticoagulation and surgical consultation can reduce mortality and improve patient outcomes.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 117
Category: Clinical Vignette
Residency Program: Trinity Health Ann Arbor
Presenter: Milan Terzic
Additional Authors:

A Novel Approach to Endocarditis - Harnessing The Power of Suction

32-year-old female with comorbidities of polysubstance use disorder was admitted for generalized fatigue, fevers and chills found to have infective endocarditis. On initial physical examination there was presence of a loud murmur over the left sternal border. Initial evaluation with a transesophageal echocardiogram noted a large 2.4 x 2.2 cm bulky vegetation on the anterior and posterior portions of the posterior tricuspid leaflet, causing severe tricuspid regurgitation. Blood cultures revealed Pseudomonas aeruginosa, Candida parapsilosis and methicillin sensitive Staphylococcus aureus. Despite treatment with micafungin, fluconazole, cefepime and meropenem, blood cultures persistently remained positive. Due to the patient's history of polysubstance abuse, cardiothoracic surgery was unable to pursue an operative approach. With growing concerns of source control, a novel approach using an angio - vac catheter was attempted. With the multidisciplinary approach of cardiothoracic surgery, interventional cardiology and active echocardiography, the tricuspid vegetation removal was achieved. This led to decreased vegetation size to 1.4 x 0.8 cm, negative blood cultures, improvement of the murmur and size of tricupsid regurgitation.

Percutaneous vegetation removal may reduce the need of open surgical removal in patients deemed poor surgical candidates.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 118
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Phlegmonous Gastritis Due to Presumed Helicobacter Pylori Infection

Introduction: Phlegmonous or purulent gastritis (PG) is a rare infection of the gastric wall. Patients may present with nonspecific symptoms and can develop rapid systemic progression with high mortality. Here, we present a case of acute PG that initially did not respond to antibiotic therapy and was empirically treated with quadruple therapy for presumed Helicobacter pylori infection. The patient recovered and did not need surgery.

Presentation: A 59-year-old female presented to the hospital with two days of intractable nausea, vomiting, epigastric pain, and inability to tolerate oral intake. She endorsed chronic constipation, and denied diarrhea, fever, chills, sick contacts, and had not eaten any unusual foods. She had no pertinent medical or family history. Home medications included a daily proton-pump inhibitor (PPI). Her leukocyte count was 20.2 x 109/L (normal 4-10). Abdominal computed tomography (CT) was notable for diffuse gastric wall thickening.

Patient Course: An upper gastrointestinal endoscopy (EGD) showed severe, unusual appearing mucosa with antral sparing. Biopsy revealed diffuse acute purulent gastritis with surface ulceration and erosion, crypt abscesses and pockets of neutrophils. It was negative for Helicobacter pylori, fungal organisms, virocytes, and malignancy. She was initially treated with ceftriaxone and twice daily intravenous proton-pump inhibitor. However, due to persistent symptoms and leukocytosis, a second EGD was performed, showing persistent acute gastritis with intense erythema and exudates in the gastric fundus and body, with an abrupt transition to normal-appearing mucosa in the antrum. She was taking a PPI prior to the biopsy, so we considered the possibility of a false negative H. pylori result. She was then empirically started on quadruple therapy (clarithromycin, metronidazole, amoxicillin, and PPI) for 14 days to treat H. pylori. At her follow-up appointment, her symptoms and leukocytosis had improved. She was scheduled for a repeat outpatient EGD to ensure endoscopic resolution.

Discussion: PG is a rare diagnosis characterized by pus and inflammation of the gastric submucosa. The most common causative pathogens are Streptococci, and antibiotics are the initial treatment of choice. In our case, no infection was isolated from the biopsies, but she improved after starting empiric treatment for H. pylori. PG carries a high mortality of up to 84%, so it is crucial to identify the diagnosis and treat promptly. If medical therapy fails, surgical intervention may be required.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 119
Category: Clinical Vignette
Residency Program: Trinity Health Ann Arbor
Presenter: Simna Vadakal
Additional Authors: Paul Zamarripa, Alycia Bellino, Diana Jodeh, Colin Holtze

An interesting case of Anaplasmosis

Background: Anaplasmosis is an obligate intracellular, gram-negative pathogen which is spread through tick bites from the ticks Ixodes scapularis in the northeast and Midwest and Ixodes pacificus in the Pacific northwest. This infection is most commonly seen in the spring or summer months.

Case presentation: A 70-year-old previously healthy Caucasian male who resided in Michigan presented with an acute upper GI bleed due to a bleeding duodenal ulcer found on EGD ultimately requiring admission to Medical Intensive Care Unit (MICU) for hemorrhagic shock requiring multiple blood transfusions. He later developed recurrent fevers of unclear etiology, initially concerning for a transfusion reaction. He subsequently developed worsening respiratory status with acute hypoxic respiratory failure requiring intubation. Infectious workup with blood cultures, respiratory cultures, and urine cultures were all negative. Imaging showed no infectious source. Additional history revealed recent travel to Lake Huron on a camping trip and development of a diffuse rash 1 month prior to presentation. A Karius test was sent and revealed Anaplasmosis. He was treated with doxycycline, had improvement in respiratory status, was extubated and made a full recovery. In the tick endemic area, clinicians should have a high index of suspicion for considering Anaplasmosis in the differential.

Conclusions

Tick-borne illnesses such as Anaplasmosis may lead to systemic life-threatening illness. Physicians should be aware of and consider tick-borne illnesses in the differential in patients presenting with recurrent fevers, rashes and a recent history of travel to tick-endemic areas.

Keywords

Anaplasmosis, tick-borne illness

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

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Endocrine Tug-of-War: Navigating Autoimmune Polyglandular Syndrome Type II

Autoimmune Polyglandular Syndrome Type II (APS-II) is a rare autoimmune disorder in which primary adrenal insufficiency (Addison's disease) coexists with autoimmune thyroid disease (e.g., Hashimoto's thyroiditis) and type 1 diabetes mellitus. APS-II affects approximately 1 in 20,000 individuals, with a higher prevalence in women, typically presenting in the third to fourth decades of life. Managing APS-II is challenging due to the risk that one endocrine treatment may exacerbate another.

A 33-year-old male with APS-II presented with a 2-day history of abdominal pain, nausea, vomiting, and poorly controlled blood glucose. He had increased his corticosteroid dose due to vomiting, fearing adrenal crisis. Despite this, his blood glucose remained high, peaking at 550 mg/dL, and laboratory results showed diabetic ketoacidosis (DKA) with an anion gap of 17 and beta-hydroxybutyrate of 5.2 mmol/L. The patient was admitted and received an insulin infusion along with corticosteroid management. DKA resolved overnight, and glycemic control improved. His insulin regimen was adjusted, and he was discharged with a steroid taper and follow-up with endocrinology.

This case highlights the complexities of managing APS-II, where corticosteroid treatment to prevent adrenal crisis can worsen hyperglycemia, precipitating DKA. The interaction between corticosteroid therapy and insulin requires careful monitoring and individualized treatment plans to balance adrenal insufficiency and glycemic instability. Clinicians must recognize these interactions and adjust therapy to avoid adverse outcomes.

Managing APS-II requires an understanding of the interactions between coexisting endocrine disorders. This case emphasizes the importance of individualized treatment, vigilant monitoring, and multidisciplinary collaboration to optimize outcomes for APS-II patients.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

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Trying to Escape the Storm: An Unlikely cause of Sympathetic Crashing Acute Pulmonary Edema

Thyrotoxicosis is a clinical state of elevated thyroid hormones, triiodothyronine (T3) and free thyroxine (T4), circulating throughout the body. There are many etiologies and presentations of thyrotoxicosis, symptoms are typically consistent with a hypermetabolic state. If thyrotoxicosis is untreated it can lead to thyroid storm. Elevated levels of thyroid hormone can lead to high output heart failure. In cases of acute hemodynamic changes, patients can present with sympathetic crashing acute pulmonary edema (SCAPE), which is a severe presentation of acute heart failure.

This case describes a 63-year-old woman presented to the emergency department via ambulance after sudden onset shortness of breath woke her from sleep. On arrival she was hypertensive, tachycardiac, tachypneic, and hypoxic. She was placed on BiPAP which provided her some relief. Labs revealed T3 thyrotoxicosis and a urine drug screen was positive for cocaine. Ultrasound of her heart and lungs revealed decreased systolic function and confirmed the suspicion for SCAPE. The patient was stable and comfortable with oxygen support. Her Burch-Wartofsky Point Scale was 80 points, highly suggestive of thyroid storm. Further chart review revealed a history of toxic multinodular goiter and she was not compliant with prescribed methimazole. Propylthiouracil (PTU) and IV hydrocortisone were initiated, but beta blockers were avoided in the setting of her recent cocaine use. She eventually transitioned to methimazole. Cardiology was consulted and noted that starting a low-dose beta blocker would be beneficial despite her history of cocaine use. The methimazole and hydrocortisone were tapered over the course of her hospital stay.

Sympathetic crashing acute pulmonary edema is a rare presentation for thyroid storm. It has been noted in only a handful of cases. Both thyroid storm and SCAPE are life threatening conditions which require rapid recognition and initiation of treatment. It is important to keep thyroid storm in the differential diagnosis in patient's presenting with SCAPE, especially when the patient has a history of thyroid disease. The BWPS can be a great tool to determine the severity of a patient's thyrotoxicosis, which directs how aggressive the patient needs to be treated. Another key takeaway from this case is that the use of beta blockers should still be considered in patients with a history of cocaine use. It is important to still weigh the risks and benefits, and decisions should be made on a case-to-case basis. Unopposed alpha stimulation is an uncertain phenomenon and previous cocaine use should not be an absolute contraindication to initiating a beta blocker.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 122
Category: Clinical Vignette
Residency Program: Trinity Health Grand Rapids
Presenter: Antoine Sassine
Additional Authors: Michael Essenmacher, DO

Management of Large Subcapsular Perisplenic Collections in the Setting of Pancreatitis

Introduction:

Splenic complications in pancreatitis are uncommon, with subcapsular hematomas being particularly rare, with previous studies reporting an incidence of only 0.4%. Due to their rarity, managing these collections remains challenging for healthcare providers. Various treatment approaches have been described in the literature, including observation, ultrasound-guided percutaneous drainage, splenic artery embolization, and splenectomy. We present the case of a 36-year-old female who developed symptomatic worsening of subcapsular perisplenic hematoma despite conservative treatment, which was successfully managed with CT-guided percutaneous drainage.

Case Description:

Patient with a history of alcohol use and pancreatitis, presented to the emergency department with acute onset left-sided abdominal pain, nausea, and vomiting. CTA and CT of the abdomen and pelvis with contrast revealed sequelae of acute on chronic pancreatitis, with new inflammatory pseudocysts in the pancreatic tail. The larger pseudocyst appeared to have ruptured and/or dissected into the splenic capsule resulting in multiple new splenic subcapsular fluid collections causing splenic parenchyma compression and medial displacement. General surgery and gastroenterology were consulted. Given the patient's hemodynamic stability, no intervention was recommended. The patient was managed conservatively with pain control and fluid resuscitation. Symptoms improved over the next few days, and the patient was successfully discharged.

The patient presented again to the emergency department with similar symptoms a few weeks later. Repeat imaging revealed enlarging subcapsular perisplenic collections, the larger of which measured 12 x 7.7 cm and showed new amorphous increased density, raising concern for blood products. Additionally, decreased attenuation within the spleen was noted, suggestive of either a pseudocyst dissecting into the spleen or a splenic infarct. A multidisciplinary team, including gastroenterology, general surgery, and interventional radiology were consulted to determine the next steps.

The patient remained hemodynamically stable with a stable hemoglobin, therefore surgical management was deferred due to concerns for devastating pancreatic event, as imaging continued to show peripancreatic inflammation. The decision was made to proceed with slow drainage of the subcapsular perisplenic fluid collection with the assistance of interventional radiology. An 8-French drainage catheter was placed into the perisplenic fluid collection under CT guidance, and approximately 80 mL of dark, old-appearing blood was aspirated. Fluid analysis revealed a lipase level greater than 30,000, consistent with pancreatic fluid.

The drain was left in place, and the patient was closely monitored over the following days for signs of worsening bleeding. Hemoglobin remained stable, and the patient's pain improved. Approximately 1L of total fluid output was noted during hospitalization. The patient was subsequently discharged in stable condition with plans for close follow-up with interventional radiology in the outpatient setting.

Conclusion:

Due to its rarity, the management of splenic hematomas following acute or chronic pancreatitis remains controversial. Decision for conservative approach or surgical intervention is dependent on multiple factors including the patient's hemodynamic status, symptoms, as well as size and grading of hematoma. Rapid identification and intervention are critical to ensure an optimal outcome.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 123
Category: Clinical Vignette
Residency Program: Trinity Health Livonia
Presenter: Mujtaba Abdellatif
Additional Authors: Mujtaba Abdellatif MD, Anukul Karn MD, Fatima Abuzaid MD, Sarmad Pirzada MD, Amro Al-Omari MD, Mu'ath Abdeen MD, Samrath Brar MD, Bazigh Naveed MD, Preeti Misra MD

Uncommon Pathogen: A Case of Gleimia europaea Causing Necrotizing Fasciitis Following COVID-19

Necrotizing fasciitis (NF) is a rapidly progressing, life-threatening soft tissue infection characterized by extensive tissue death, often involving the fascial plane, muscles, and subcutaneous tissues. Common pathogens include Group A Streptococcus, Clostridium perfringens, Staphylococcus aureus (including MRSA), and Vibrio vulnificus, which produce toxins that contribute to tissue necrosis. The incidence is relatively low, with 1,000 to 1,500 cases annually in the U.S., but NF carries a high mortality rate of 20-50%. Early recognition, aggressive surgical debridement, and broad-spectrum antibiotics are critical for improving patient outcomes in this rapidly progressing infection. The following case discusses a rare causative pathogen of NF, Gleimia europaea, which has been described in COVID-19 immunocompromised patients with NF.

67-year-old female with a complex medical history, including chronic kidney disease (stage IV), uncontrolled type 2 diabetes mellitus with neuropathy, hypertension, malignant melanoma with lung metastases, and chronic venous insufficiency, presented to the emergency department (ED) with altered mental status. She was found on the floor in her bathroom by her sibling, unable to recall the event. Initial workup revealed severe hypoglycemia with a blood sugar of 25 mg/dL, which improved after dextrose administration. The patient was afebrile, hemodynamically stable, and saturating well on room air.

Evaluation revealed a right buttock abscess and a history of fever a week prior, for which she had been prescribed amoxicillin. The abscess had been self-managed with neosporin. Laboratory findings showed leukocytosis (24.6), a baseline creatinine of 1.9, and a positive COVID-19 test, although the patient was asymptomatic for the virus. CT imaging revealed chronic pleural effusions due to metastatic melanoma.General surgery consulted, revealing a 2.3 x 0.6 x 1.0 cm right buttock abscess on ultrasound. Intraoperative findings showed extensive cellulitis, induration extending to the right medial thigh, and necrotic tissue with foul-smelling fascia and subcutaneous tissue. Despite initial debridement and broad-spectrum antibiotics, the patient's white blood cell count continued to rise, necessitating a second debridement two days later.

Infectious disease consultation resulted in a change to vancomycin, ceftriaxone, and metronidazole. Although blood cultures were negative, intraoperative cultures grew Gleimia europaea, a rare pathogen formerly known as Actinomyces europaeus. This microorganism, typically resistant to many antibiotics including metronidazole and piperacillin-tazobactam, was susceptible to vancomycin. Prior reports indicate its association with subcutaneous infections after COVID-19-induced immunosuppression.

This case highlights the need to consider rare pathogens in immunocompromised patients, especially those with a history of COVID-19, when traditional treatments fail to resolve infections. The patient's comorbidities, including uncontrolled diabetes and malignancy, likely contributed to the severity of her condition and delayed pathogen identification. The identification of Gleimia europaea reflects an evolving infectious disease landscape in the post-COVID-19 era, emphasizing the importance of vigilance in treating complex infections.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 124
Category: Clinical Vignette
Residency Program: Trinity Health Livonia
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Gadolinium-Induced Anaphylactic Shock in a Liver Transplant Candidate

Introduction

Gadolinium-based contrast agents (GBCAs) are commonly used to enhance the quality of magnetic resonance imaging, aiding in the detailed visualization often necessary for accurate diagnosis. Acute allergic-like reactions to GBCAs are uncommon, occurring in approximately 0.1% of patients, with anaphylaxis being rare within this subset. We present an extremely rare case of a gadolinium-associated anaphylactic reaction in a patient with alcoholic cirrhosis. This prompts us to study the effects of repeated contrast exposure in transplant candidates and review the literature on alternative imaging modalities.

Case Description/Methods

A 41-year-old male with a past medical history of alcoholic cirrhosis with recurrent ascites, alcoholic neuropathy, chronic kidney disease stage II/IIIa, psoriasis, and alcohol use disorder in remission for a year, presented to the emergency room with respiratory distress and altered mental status after an MRI with gadolinium contrast. The patient was intubated and sedated with fentanyl and dexmedetomidine, initially required a norepinephrine drip for pressure support, and received IV antibiotics for spontaneous bacterial peritonitis prophylaxis. The patient was extubated the next day. Blood and urine cultures resulted negative. The temporal association with contrast administration strongly suggested gadolinium induced anaphylactic shock.

Discussion

Liver cirrhosis may heighten the risk of severe allergic reactions due to compromised immune function and increased vascular permeability. Additionally, the supine position required for MRI could exacerbate respiratory issues in patients with significant ascites, compounding their risk of adverse outcomes. Although rare, exposure to contrast agents can cause anaphylactic reactions, highlighting the need for cautious use in this subset of patients. Liver transplant candidates frequently undergo extensive evaluations using contrast-based imaging to monitor the progression of their liver disease and confirm their transplant eligibility. However, there is a growing need for research into safer imaging alternatives, such as ultrasound. To fully leverage the benefits of ultrasound, more protocols need to be developed and standardized to ensure its effective implementation in clinical practice.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 125
Category: Clinical Vignette
Residency Program: Trinity Health Livonia
Presenter: Juma Bin Firos
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To Shock or Not to Shock: A Near Miss in Low-Flow Atrial Fibrillation

Introduction: Emergent electrical cardioversion (ECV) in patients with reduced ejection fraction carries significant risks, including brady-arrhythmic events and acute pulmonary congestion. Heart failure with reduced ejection fraction (HFrEF) creates a prothrombotic state through blood stasis from low flow conditions, endothelial dysfunction, and increased inflammatory markers. Patients with reduced EF are less likely to achieve spontaneous cardioversion with conservative management strategies, indicating a higher likelihood of requiring ECV.

Case Presentation: A 51-year-old male with recent ST-elevation myocardial infarction and atrial fibrillation on anticoagulation presented to the outpatient clinic with worsening dyspnea. His medical history was notable for severe left ventricular dysfunction. He had previously maintained sinus rhythm on amiodarone following his STEMI but discontinued the medication. During the clinic visit, he reported orthopnea, exertional dyspnea, and persistent atrial fibrillation despite being on beta-blocker and appropriate anticoagulation. Physical examination revealed conversational dyspnea, elevated jugular venous pressure, without peripheral edema. Due to his symptoms, he was referred to the emergency department where he was found to be tachycardic with hypotension. Laboratory studies showed elevated cardiac biomarkers, and chest radiography demonstrated pulmonary vascular congestion. Given his highly symptomatic rapid atrial fibrillation and severe left ventricular dysfunction, emergent electrical cardioversion was initially planned. However, after achieving partial rate control with oral beta blockers, the strategy was modified to a more measured approach with TEE-guided cardioversion. This proved to be a crucial decision as the pre-procedure transesophageal echocardiogram revealed a large thrombus in the left atrial appendage, necessitating cancellation of the cardioversion.

Discussion: This case highlights the critical importance of TEE screening before cardioversion in high-risk patients, particularly those with severe left ventricular dysfunction. The severely reduced EF of 10-15% creates profound blood stasis in the left atrium and left atrial appendage, significantly increasing thrombogenic risk despite anticoagulation. The combination of severe systolic dysfunction, atrial fibrillation, and prior medication non-compliance created optimal conditions for thrombus formation despite the patient being on anticoagulation at presentation.

Conclusion: TEE-guided assessment prior to cardioversion in patients with severe left ventricular dysfunction is crucial for identifying contraindications and preventing potentially catastrophic complications. The case demonstrates how severely reduced EF compounds the thrombogenic risk of atrial fibrillation through low flow states, emphasizing the importance of thorough pre-procedural evaluation and optimal medical therapy in this high-risk population.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 126
Category: Clinical Vignette
Residency Program: Trinity Health Livonia
Presenter: Anukul Karn
Additional Authors: Cameron Rubino, Rachel Weberman-Stone

A Case of Probable Sporadic Creutzfeldt-Jakob Disease Associated with Negative RT-QuIC Assay

Introduction:

Sporadic Creutzfeldt-Jakob Disease (sCJD) is a prion disease clinically characterized by rapidly progressive mental deterioration and myoclonus. It is hypothesized to originate from the spontaneous posttranslational modification of prion proteins, resulting in protease resistance and aggregation. The real-time quaking-induced conversion (RT-QuIC) assay performed on cerebrospinal fluid (CSF) is the most sensitive (87–91%) and specific (98–100%) diagnostic test. In cases with a negative RT-QuIC, a diagnosis of probable sCJD can be established based on clinical presentation, exclusion of other causes, imaging findings, and CSF analysis.

Case Description:

A 54-year-old woman with no family history of neurologic disorders presented with one month of recurrent facial and right upper extremity myoclonus, accompanied by a postictal state. Before these episodes, she was fully oriented and functionally independent in her daily activities. Physical examination revealed dysmetria and weakness in the right upper extremity.

The initial workup was negative for structural, toxic, or metabolic causes. EEG demonstrated left-hemisphere lateralized periodic discharges, indicative of cortical irritability. MRI with diffusion-weighted imaging revealed T2 hyperintensities in the left hippocampus, thalamus, and insular cortex, which had progressed over the prior month. Despite therapeutic doses of three antiepileptic drugs and a trial of high-dose intravenous corticosteroids, intermittent episodes of myoclonus persisted.

Lumbar puncture revealed mildly elevated CSF protein and significantly elevated 14-3-3 and total tau proteins. However, the RT-QuIC assay was negative. The CSF sample showed normal glucose and nucleated cell counts and tested negative for myelin basic protein and oligoclonal bands. Additional tests for Toxoplasma, JC virus, NMDA receptor antibodies, viral encephalitis, and paraneoplastic panels were also negative.

During her hospitalization, the patient became disoriented, unable to ambulate, and incapable of maintaining adequate oral nutrition. After multiple hospitalizations for similar presentations over three months, her family elected to pursue hospice care. The National Prion Disease Pathology Surveillance Center has offered a no-cost autopsy at the time of death.

Discussion:

This case highlights the importance of incorporating clinical criteria and brain imaging alongside CSF protein markers to improve the diagnostic accuracy of sCJD. The 14-3-3 protein has a sensitivity of 92% and a specificity of 80%, while the total tau protein has a sensitivity of 90% and a specificity of 79–94%. Although false positives for these markers have been reported in various other neurologic conditions, alternative etiologies were effectively ruled out based on the patient's CSF analysis.

While the specificity of 14-3-3 and total tau proteins is lower than that of RT-QuIC, prior cases of confirmed sCJD have been reported following a negative RT-QuIC result. These false negative cases have been identified to have a more indolent disease course. Definitive diagnosis of sCJD requires neuropathologic confirmation, such as a brain biopsy demonstrating spongiform degeneration or plaques positive for misfolded prions.

Establishing a probable diagnosis early in the disease course enables physicians to prepare patients and their families for the rapid disease progression and to contribute to the growing body of literature on this rare condition.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 127
Category: Clinical Vignette
Residency Program: Trinity Health Livonia
Presenter: Bakht-Awar Khan
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COVID-19: A trigger for ANCA Associated-Vasculitis?

Introduction:

Anti-neutrophil cytoplasmic antibody (ANCA)-associated vasculitis is a group of autoimmune diseases that cause necrotizing inflammation on small to medium sized blood vessels. The pathogenesis is multifactorial involving genetic predisposition, environmental factors and uncommonly via infections. Infections caused by Staphylococcus Aureus and Gram negative bacteria are the common culprits as they undergo molecular mimicry and cause the immune system to target self antigens which leads to ANCA production. However, we present a unique case in which ANCA associated vasculitis was induced in a relatively healthy male via COVID-19.

Case Presentation:

A 67 year old male with a past medical history of recent COVID-19 infection, prior mitral valve endocarditis with bovine mitral valve and normocytic normochromic anemia presented to emergency department with black tarry stools, generalized malaise, fatigue and dyspnea. He was found to be anemic with a hemoglobin of 4.5 and also have bilateral lung consolidations with concern for atypical pneumonia. He completed a course of antibiotics and received a total of 7 units of packed RBCs to increase his hemoglobin to 7 which led to transfusion related acute lung injury and with his worsening acute hypoxic respiratory failure, he was sedated/intubated and transferred to the ICU. A Bronchoscopy revealed diffuse alveolar hemorrhage which resolved after lavage. Of note, his creatinine on presentation was elevated at 5.76 (baseline 1.2) which didn't improve during his ICU course. His autoimmune workup was positive for antinuclear antibody (ANA) and a slightly low C4 of 16. Anti-glomerular basement membrane (GBM) and P-ANCA were negative with C3 and IgG being normal which suggested possible microscopic polyangiitis. Furthermore, a renal biopsy was performed and revealed pauci-immune focal crescentic and necrotizing glomerulonephritis. He was treated with cyclophosphamide and stress dose steroids followed by Prednisone taper. Despite severe renal dysfunction and respiratory failure, the patient showed significant improvement, avoiding renal replacement therapy and achieving extubation within four days.

Case discussion

Cyclophosphamide and rituximab were possible treatment options based on the RAVE trial however, it was decided that cyclophosphamide would be the better option even though rituximab was non-inferior and had fewer side effects especially after considering the severity of the patient's condition (profound renal failure, pulmonary hemorrhage, pulmonary renal syndrome and being ventilated). The PLEXIVAS trial showed that in severe ANCA-associated vasculitis, plasma exchange did not reduce incidence of death or ESRD. Therefore the patient did not receive plasma exchange, and was rather given a stress dose steroids IV solumedrol followed by steroid taper. PLEXUS trial supports that reduced dose regiment glucocorticoid was non inferior to standard dose in respect to death or ESRD.

This case illustrates COVID-19 as a potential trigger for ANCA-associated vasculitis, a rare but serious autoimmune condition. Prior cases have been reported of ANCA-associated vasculitis following COVID-19 vaccination and COVID-19 infections, the specific etiology is unknown. Clinicians should remain vigilant for post-COVID-19 autoimmune phenomena, as delays in diagnosis can result in poor patient outcomes.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 128
Category: Clinical Vignette
Residency Program: Trinity Health Livonia
Presenter: Bazigh Naveed
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Beyond the Lungs: A Unique Presentation of Neurosarcoidosis

Introduction

Neurosarcoidosis is a rare chronic inflammatory disease affecting the central or peripheral nervous system. It is associated with symptoms such as confusion, myelopathy, and neuropathy, with "brain fog" frequently reported among affected patients. The incidence of neurosarcoidosis is estimated at 20 per million and occurs in approximately 5% of patients diagnosed with sarcoidosis, commonly present at the time of initial diagnosis. Here, we present a unique case of neurosarcoidosis that developed several years after the initial diagnosis of sarcoidosis.

Case Presentation

We present the case of a 60-year-old female with a past medical history of cervical and lumbar radiculopathy status post L2-L3/L4-S1 fusion, as well as sarcoidosis. She was diagnosed with sarcoidosis three years prior, following the evaluation of a persistent chronic cough. A mediastinoscopy performed at that time revealed necrotizing granulomatous inflammation, confirming the diagnosis. Computed tomography (CT) imaging also identified pulmonary nodules measuring up to 6.7 mm, which remained stable on subsequent imaging studies.

The patient presented to the hospital with nonspecific symptoms, including headaches, tinnitus, "brain fog," and generalized weakness. An outpatient bone scan revealed heterogeneous uptake in the cervical and thoracolumbar spine. Notably, the patient had not undergone routine cancer screenings, raising concerns about potential metastatic disease. Magnetic resonance imaging (MRI) of the cervical, thoracic, and lumbar spine demonstrated multiple foci of abnormal signal intensity. Furthermore, MRI of the brain revealed calvarial enhancing lesions in the frontal and bilateral parietal bones.

Neurology recommended a lumbar puncture, which was negative for meningitis and other inflammatory or infectious diseases. A paraneoplastic panel and testing for oligoclonal bands were also negative. However, cerebrospinal fluid (CSF) analysis revealed elevated protein and IgG levels, consistent with a diagnosis of neurosarcoidosis. The patient was started on prednisone 20 mg daily and discharged with outpatient follow-up. At her three-week follow-up visit, the patient reported significant improvement in her symptoms. She was referred to a specialized sarcoidosis clinic for ongoing management.

Discussion

Neurosarcoidosis is a diagnosis of exclusion in patients presenting with symptoms such as confusion, "brain fog," and neuropathy. The diagnosis relies on imaging studies and CSF analysis to rule out a broad range of inflammatory and infectious etiologies that may present with similar symptoms. While neurosarcoidosis is typically identified at the time of initial sarcoidosis diagnosis, this case is unique because the patient developed neurosarcoidosis three years after her initial diagnosis.

This case underscores the importance of maintaining a broad differential diagnosis when evaluating patients with sarcoidosis who present with nonspecific central or peripheral nervous system symptoms. Early testing and diagnosis of neurosarcoidosis are critical to initiating prompt treatment with Steroids. Although the response to treatment varies among patients, this case demonstrates the potential for significant symptomatic improvement with early intervention.

Conclusion

This case highlights the importance of vigilance in monitoring patients with sarcoidosis for delayed manifestations of neurosarcoidosis. Prompt diagnosis and treatment can lead to significant symptomatic improvement, emphasizing the need for early and comprehensive evaluation of patients presenting with nonspecific neurological symptoms.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 129
Category: Clinical Vignette
Residency Program: Trinity Health Livonia
Presenter: Seema Sharan
Additional Authors: Durga Yerasuri, MD

WHEN BONES LEAK CALCIUM: A RARE CASE OF ISOLATED BONE MARROW SARCOIDOSIS

Introduction:

Hypercalcemia is primarily caused by primary hyperparathyroidism or malignancy, however, if the patient doesn't have either then other causes of hypercalcemia should be evaluated for including sarcoidosis. Sarcoidosis is a granulomatous disease commonly affecting the pulmonary system with hilar lymphadenopathy with maximum prevalence in Scandinavian countries, especially in Sweden, and Canada with 140-160 per 100,000 individuals whereas in the US prevalence is around 50-100 per 100,000 individuals. It can also have extrapulmonary manifestations usually involving skin, eyes, liver, spleen, heart, and bone. This case presents an isolated bone marrow sarcoidosis which is extremely rare and the exact prevalence for the same is hence, unknown.

Case presentation:

80-year-old male with Stage III CKD and prior knee arthroplasty, scheduled for revision surgery, was found to have hypercalcemia and anemia during pre-surgical risk assessment. At the endocrinology clinic, he reported polyuria and dry mucous membranes but denied herbal tea, alkaline water, or supplement use. His previous serum calcium levels were normal, but the current one was elevated. PTH RP was normal, iPTH was low, and CT chest showed no granulomatous disease or hilar lymphadenopathy. Vitamin D was normal, but 1,25-dihydroxy vitamin D was high-normal, which is unusual for advanced CKD. At his first visit, worsening kidney function, likely due to nephrogenic diabetes insipidus caused by hypercalcemia. He was sent to ER for IV hydration. Repeat labs showed elevated ionized calcium, elevated angiotensin-converting enzyme (ACE), and high-normal 1,25-dihydroxy vitamin D. The elevated ACE levels raised suspicion for sarcoidosis, though no clear evidence was initially available. He was also being evaluated by oncology for MGUS, detected on protein electrophoresis, included a bone marrow biopsy. Surprisingly, it revealed granulomatous tissue, confirming sarcoidosis and explaining his response to prednisone. With treatment, his calcium and ACE levels improved. He later received Plaquenil with a prednisone taper for sarcoidosis management. He is currently asymptomatic with normal calcium levels on daily low-dose prednisone.

Discussion:

Bone marrow sarcoidosis is a known condition, though it typically manifests after multiple extrapulmonary systems are involved. In this case, the patient exhibited symptomatic hypercalcemia with a clear chest CT scan and anemia. The patient was undergoing malignancy evaluation and, thus, had a bone marrow biopsy, which confirmed the diagnosis of sarcoidosis. The only indicator pointing towards sarcoidosis was the ACE1 enzyme production. It's crucial to maintain a high index of suspicion for sarcoidosis in cases of hypercalcemia, anemia, and elevated ACE1 enzyme levels, especially when the cause remains unidentified after negative CT scans. Bone marrow biopsy, though not the standard diagnostic tool for sarcoidosis, could be considered to prevent underreporting of bone marrow sarcoidosis. While not standard for diagnosing sarcoidosis, clinical suspicion is warranted as it's the third most common cause of granulomatous disease, following infection and malignancy.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 130
Category: Clinical Vignette
Residency Program: Trinity Health Oakland
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A case of Diabetic Amyotrophy triggered by underlying Infective Endocarditis.

Introduction:

Diabetic Amyotrophy or Diabetic Lumbosacral Radiculoplexus Neuropathy (DLRNP - diabetic amyotrophy) is a rare form of neuropathy in approximately 1% of the diabetic population and the initial presentation of diabetes in 21% patients with diabetes. It is more commonly seen in men with Type II Diabetes Mellitus and in patients with shorter exposure to hyperglycemia [1]. One of the theories of pathophysiology for Diabetic Amyotrophy is thought to be disruption of microvasculature due to immune dysregulation[3]. Infection, underlying neoplasms, trauma and immunization are noted possible triggers [2]. The treatment for this condition is supportive and revolves around stricter glycemic and trigger control [3].

Case report:

40-year old man with recently diagnosed Type II Diabetes mellitus, came to the emergency department with progressive bilateral lower and upper extremity weakness, cough and abdominal pain. Weakness started with pain in lower back and thighs, gradually involved entirety of bilateral lower extremities and went on to involve upper extremities to a point where his ADLs were impaired. He reported significant unintentional weight loss but no sweats or fever.

On initial examination he had asymmetrical bilateral lower and upper extremity weakness along with areflexia and wasting of thigh muscles. Cardiac auscultation revealed Grade III/IV early diastolic murmur best heart in left lower sternal border. Rest of the exam was unremarkable. Labs were suggestive of Diabetic Ketoacidosis, Complete Blood count showed leucocytosis of 21.3k with bandemia 15%, ESR was >130, blood culture showed Methicillin Sensitive Staphylococcus aureus. CT chest, done in view of persistent cough, showed multiple lung nodules. CT abdomen with and without contrast showed a large lobulated retroperitoneal abscess.

In view of bilateral upper and lower extremity weakness and areflexia, the patient was initially thought to have Chronic inflammatory demyelinating polyneuropathy (CIDP), therefore an Electro-myelogram was done which showed severe axonal peripheral motor and sensory neuropathy of lower extremities and upper extremities to a lesser extent which was predominantly sensory with absent F waves. Given the lack of conduction block or temporal dispersion, CIDP was unlikely.

DKA was treated, optimum antibiotic therapy with cefazolin was initiated and abscess was drained following which patient's weakness showed resolution, hence lumbar puncture was deferred. TTE and TEE were suggestive of native Aortic valve endocarditis with severe Aortic regurgitation. Patient received 12 weeks of IV cefazolin and Rifampin and eventually underwent TAVR.

Conclusion

CIDP is one of the most sought-after differential diagnoses for clinical presentation of subacute weakness with areflexia and wasting, but a broader differential in a diabetic patient is warranted. An indolent infective or inflammatory process in an immunocompromised host can trigger Diabetic Amyotrophy.

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2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 131
Category: Clinical Vignette
Residency Program: Trinity Health Oakland
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Pembrolizumab induced Hemophagocytic Lymphohistiocytosis: A case report

Introduction

Pembrolizumab, a programmed death(PD)-1 inhibitor, improves the anti-tumor activity of T lymphocytes. Pembrolizumab has become the standard of care for patients with metastatic triple-negative breast cancer(TNBC). A very rare, reported toxicity of pembrolizumab is hemophagocytic lymphohistiocytosis (HLH). We present HLH induced by pembrolizumab in a patient with metastatic TNBC.

Case Presentation

A 62-year-old woman with metastatic TNBC, on pembrolizumab and doxorubicin/cyclophosphamide chemotherapy presented with fever/chills, generalized weakness, dyspnea, epigastric pain radiating to back, bilateral leg pain, and cough with expectoration. One month prior, the patient had survived acute pancreatitis with septic shock. Physical Examination: Normal; temperature: 100.3 F. Laboratory evaluation: Procalcitonin 49.03, negative viral panel. Empiric antibiotics started. The infusion port was removed as a potential source of infection. Increasing liver enzymes, and white cell count occurred. Infectious disease was consulted, and she was continued on vancomycin and cefepime. Temperature reached up to 103 F. CT abdomen Pelvis: Unremarkable. CT chest: Pulmonary edema with left lower lung consolidation with air bronchogram. Because of worsening renal failure, the patient was started on hemodialysis. The patient became encephalopathic (Glasgow Coma Scale < 7) and hypotensive, requiring intubation and vasopressor support. CT head: Sub-arachnoid hemorrhage of the left frontal lobe; started on seizure prophylaxis. The patient became afebrile, with no leucocytosis, negative cultures, and infections were ruled out. Toxicology screen was negative.

Then, the patient developed thrombocytopenia, coagulopathy, and anemia. Disseminated intravascular coagulation(DIC), thrombotic microangiopathy(TMA), and HLH were considered. The patient received supportive care with transfusions. Hematology-Oncology consultant recommended high-dose dexamethasone given the possibility of HLH. The elevated inflammatory markers and ferritin along with organ dysfunction, suggested HLH. Triglyceride levels and interleukin-2(IL-2) receptor levels ordered to support the diagnosis. A literature search showed one case report of pembrolizumab-induced HLH. A bone marrow biopsy was done which showed hemophagocytosis. IL-2 receptor level elevated at 10231.9. The patient satisfied criteria for HLH. The patient received 3 doses of immunoglobulins in addition to dexamethasone. The patient showed improvement and was transferred to the medical floor, but again had declining blood counts, leading to the addition of tocilizumab. Hypotension developed again requiring vasopressor support. The family subsequently opted for comfort care, and the patient expired.

Discussion and Conclusion

HLH is a hyper-inflammatory state that can lead to dysfunction of multiple organs, and can be difficult to differentiate from TMA, vasculitis, Cytokine Release Syndrome (CRS), and malignancy-associated adverse effects. HLH is extensively studied in pediatric literature, from which diagnosis is extrapolated, and frequently associated with genetic mutations, thus limiting the applicability of similar guidelines and management strategies in adult patients. Scoring systems (H-score, optimized HLH inflammatory (OHI) index), have been developed to assist in diagnosis. We must have a high index of suspicion for HLH in patients receiving chemotherapy, with/without immunotherapy, especially with worsening cytopenia, declining clinical status, or symptoms of a hyper-inflammatory state. Prompt diagnosis and treatment, such as high-dose steroids or intravenous immunoglobulin (IVIg), with or without etoposide, have demonstrated benefits and can prevent severe consequences, including death.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 132
Category: Clinical Vignette
Residency Program: Trinity Health Oakland
Presenter: Chetna Hirani
Additional Authors: Dr Umashankar, Dinakaran, PGY 1 Resident, THO, Pontiac, MI; Dr Prabhu, Rishabh R, PGY 2 Resident, THO, Pontiac, MI; Dr Josifoski, Dana, Medical Student, Wayne State University; MI; Dr Cosma, Cecilia C, Faculty IM THO, Pontiac, MI

Hemichorea and Hemiballismus in acute Non-Ketotic Hyperglycemia

Introduction

Hemiballism is a rare movement disorder characterized by involuntary, high-amplitude, rapid movements of one or more limbs on one side of the body. It is typically caused by focal lesions in the contralateral basal ganglia. It can present as a neurological complication of uncontrolled diabetes mellitus, and referred to as nonketotic hyperglycemia hemichorea and hemiballismus or diabetic striatopathy (DS). We present a patient with DS leading to disabling involuntary movements of his limbs with basal ganglia findings on imaging.

Case Presentation

A 61-year-old man with type 2 diabetes mellitus, coronary artery disease, hypertension, and hyperlipidemia presented with a blood glucose reading of 550 mg/dL at home, accompanied by abnormal movements in his right arm and leg for 3 days. He had been on oral hypoglycemic agents but had not taken them for over 40 days. On examination, there was mild drift and ataxic movement in his right upper extremity when his eyes were closed. Blood tests revealed a glucose level of 463 mg/dL, without any anion gap, and an HbA1c of 14%. Urine was positive for glucose with no ketones. Imaging studies revealed asymmetric density in the basal ganglia, with the left side showing greater density than the right on CT. MRI showed hyperintensity along the ventral aspect of the left superior basal ganglia on diffusion-weighted imaging and enhancement in the left caudate head and ventral lentiform nucleus, with T1 shortening in the left caudate head and a large portion of the lentiform nucleus. Neurology recommended tetrabenazine if the hemiballismus did not improve, but the condition began to improve with insulin therapy for diabetes and on day 2 patient had significant improvement of the ataxia in right upper limb. While the patient responded well to insulin therapy during his hospitalization, he expressed reluctance to continue insulin after discharge, and was re-started on oral hypoglycemic agents during discharge.

Discussion

Hemiballism was first described over six decades ago, but the term "diabetic striatopathy" was introduced more recently to describe the presence of T1 hyperintensity in the basal ganglia, particularly in the caudate nucleus and lentiform nucleus, often in conjunction with hyperglycemia. It is hypothesized that hyperglycemia induces changes in the basal ganglia, possibly through alterations in glucose metabolism, ischemic injury, or microvascular damage. The condition is rare, with an estimated prevalence of less than 1 per 100,000 patients with diabetes, primarily affecting elderly individuals, particularly Asian women with long-standing diabetes. Symptomatic treatment of hemiballismus includes the use of drugs such as dopamine receptor blocker and tetrabenazine. The key to managing DS lies in effective blood sugar control. Most cases of DS improve significantly or resolve with the correction of hyperglycemia. This clinical vignette highlights the importance of strict blood sugar management in preventing permanent neurological damage, while also illustrating the challenges patients face in adhering to insulin therapy for severe hyperglycemia. Collaboration with patients to ensure they understand the role of insulin in managing their condition is essential for improving long-term outcomes and preventing recurrence of DS.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 133
Category: Clinical Vignette
Residency Program: Trinity Health Oakland
Presenter: Aditya Kohli
Additional Authors: Ijaz Ali, Ravi Patel, Rakshana Ravichandran, Yash Shah, Geetha Krishnamoorthy, Muhammad Nadeem Khan

Acute hepatitis: One of the Non-pulmonary Manifestations of Respiratory Syncytial Virus Infection

Introduction

Respiratory syncytial virus (RSV) is primarily recognized for its impact on the respiratory system, particularly in infants and elderly populations. Recently, emerging evidence has begun to highlight its potential to cause extra-pulmonary manifestations. We present RSV-induced hepatitis in an adult, which is a relatively rare complication.

Case Description

A 52-year-old man with a past medical history of metabolic dysfunction-associated steatotic liver disease (MASLD), end-stage renal disease on hemodialysis, failed renal transplant, coronary artery disease, and uncontrolled hypertension presented to the hospital with a 2-day history of flulike symptoms, including fever, chills, productive cough, nasal congestion, shortness of breath, diarrhea, general weakness, and headache. Physical examination: febrile (100 F), tachycardic (105 beats/minute), tachypneic (24/minute), with an oxygen saturation of 90%. The abdomen was soft, non-distended, and non-tender, and there was no palpable hepatomegaly. Flu panel was positive for RSV. Baseline hepatic function tests were within normal limits prior to presentation. Initial laboratory evaluation revealed elevated liver enzymes (AST 3518 U/L, ALT 1733 U/L), hyperbilirubinemia (1.7 mg/dL), thrombocytopenia (107,000/µL), and an increased prothrombin time (20.0 seconds) with an INR of 1.8, suggesting coagulopathy secondary to acute liver injury. The patient was anicteric, without encephalopathy or asterixis, and with no clinical signs of liver failure. Gastroenterology was consulted, and a detailed hepatic workup was ordered. Patient did not use alcohol/hepatotoxic medications. Acute viral hepatitis profile was negative. Creatine kinase was normal, ruling out the possibility of rhabdomyolysis. An autoimmune hepatitis panel (antinuclear antibody (ANA), smooth muscle antibody, mitochondrial antibody, and liver-kidney microsomal antibody) was negative. Acetaminophen level was < 10 µg/mL, and viral panels for cytomegalovirus (CMV), Epstein-Barr virus (EBV), and herpes simplex virus (HSV) were also negative. Ceruloplasmin and alpha-1 antitrypsin levels were within normal limits. Iron panel showed elevated ferritin levels (> 7500 units) and transferrin saturation on presentation, but HFE genetic mutation analysis was negative, ruling out hereditary hemochromatosis. Ultrasound of the abdomen showed no acute sonographic findings in the abdomen aside from trace perihepatic ascites. Vascular ultrasound duplex of the abdomen showed patent hepatic veins and portal system, ruling out portal and hepatic vein thrombosis. Over the course of hospitalization, liver enzymes, bilirubin levels, and coagulation parameters gradually normalized. He was managed conservatively with supportive management and discharged home in a stable condition.

Discussion

Acute liver injury with a comprehensive negative workup strongly suggests hepatitis induced by RSV infection, which resolved spontaneously. Non-pulmonary manifestations of RSV bronchiolitis in children include neurologic (seizures, central apnea), cardiovascular (myocarditis, pericarditis, and arrhythmias), endocrinologic (increased anti-diuretic hormone), and hepatic (acute hepatitis) involvements. RSV hepatitis occurs in children, especially in association with congenital heart disease, and can occur in immunocompromised and pregnant adults. RSV hepatitis in adults, although rare, is an emerging clinical entity that requires increased awareness from physicians, especially as the global burden of RSV infection continues to rise. Various RSV vaccines are currently approved for adults aged >60, ages 50-59 and 18-59 with an increased risk for severe infection, and between 32-36 weeks of pregnancy to protect the infant.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 134
Category: Clinical Vignette
Residency Program: Trinity Health Oakland
Presenter: Meumbur Praise Kpughur-Tule
Additional Authors: Meumbur Praise Kpughur-Tule, Carly Hubers, Ngumimi Peace Kpughur-Tule, Saba Asif, Kendall Conway, Alexander M. Satei, Pritha Chitagi

A Triple Challenge: CMV and Ulcerative Colitis in an HIV-Positive Patient

Introduction:

Co-occurrence of Cytomegalovirus (CMV) colitis and ulcerative colitis (UC) in the setting of a newly diagnosed HIV-positive patient is rare and under-studied, hence presenting a complex diagnostic and therapeutic challenge. HIV usually suppresses the immune system's hyperactive inflammatory pathway which is key in ulcerative colitis. CMV colitis is more prevalent in immunocompromised individuals and its overlap with UC can complicate the clinical picture, leading to severe gastrointestinal symptoms and increased risk of complications. This report details the management of a patient with concurrent CMV colitis and UC, highlighting the challenges in diagnosis and treatment.

Case Presentation:

A 44-year-old male with UC on Stelara missed doses due to insurance issues. He presented to the emergency department with 20 episodes of bloody diarrhea daily for four weeks, associated with significant weight loss of 35 pounds, nausea, vomiting, and left lower quadrant pain. His previous treatments included Humira, which was discontinued due to drug-induced psoriasis, and intermittent use of prednisone. His last gastroenterology follow-up was over a year before presentation.

On admission, the patient was hemodynamically stable. Labs showed an elevated WBC count (18.5), CRP (23.9), and platelets (671). Stool studies, including C. difficile and Ova & Parasites, were negative. CT imaging revealed coloproctitis. Initial management included IV Solu-Medrol, ceftriaxone, Flagyl, and supportive care. Despite receiving Stelara during hospitalization, symptoms persisted.

Sigmoidoscopy revealed severe sigmoid disease with pseudopolyps, friable tissue, and deep ulcerations, sparing the rectum. Biopsies confirmed severe inflammation consistent with UC. Given his immunocompromised state and worsening symptoms, additional workup revealed serum CMV > 20,000 and newly diagnosed HIV with a CD4 count of 256. Infectious disease was consulted, and he was started on IV ganciclovir for CMV colitis and Biktarvy for antiretroviral therapy.

Over a 28-day hospital course, he received IV ganciclovir for 21 days, transitioned to oral valacyclovir, and started on Rinvoq for UC. His bowel movements improved to 4 non-bloody stools daily. He was discharged on Biktarvy, oral prednisone and follow-up with gastroenterology, infectious disease, and colorectal surgery.

Discussion:

This case highlights the complexity of managing CMV colitis and UC in an HIV-positive patient. Immunosuppression from undiagnosed HIV and UC therapy likely contributed to severe CMV colitis, exacerbating symptoms. Differentiating between a UC flare and CMV colitis is challenging, often requiring endoscopic biopsy and histopathology, as seen here. The overlap of these conditions requires a nuanced therapeutic approach. CMV colitis necessitates antiviral therapy, while UC often requires immunosuppression, posing a dilemma in managing both simultaneously. In this case, the initiation of IV ganciclovir led to significant improvement, despite ongoing immunosuppression for UC. Careful monitoring of immune function was critical as CMV colitis management unmasks UC and prevents further complications such as colonic perforation or toxic megacolon. This case highlights the importance of considering CMV infection in patients with refractory UC symptoms, especially those with risk factors for immunosuppression. Early recognition and treatment are essential to improve outcomes and avoid complications.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 135
Category: Clinical Vignette
Residency Program: Trinity Health Oakland
Presenter: Ngumimi Kpughur-Tule
Additional Authors: Meumbur Praise Kpughur-Tule, Carly Hubers, Kendall Conway, Rushi Shah, and Omaran Kaskar(Attending Doctor)

"Trapped Air: Pneumocephalus in the Context of Postdural Puncture Headache"

Introduction:

Pneumocephalus is a rare condition characterized by the presence of air within intracranial spaces, including the epidural, subarachnoid, intraventricular, or subdural areas. It can occuracutely (within 72 hours) or after a delay, presenting with symptoms such as headaches, nausea, vomiting, and confusion. Common causes include trauma, cranial surgeries, epidural injections, or spontaneous events. Severe cases may lead to neurological deficits or tension pneumocephalus, a life-threatening condition. The incidence of pneumocephalus following head trauma ranges from 1% to 82%, with trauma accounting for approximately 74% of cases. Air can enter the meninges via accidental injection or dural puncture. We present a postpartum patient with post-dural puncture headache (PDPH) complicated by pneumocephalus after epidural anesthesia.

Case Presentation:

A 34-year-old woman with a history of dysmenorrhea, hypothyroidism, vitamin D deficiency, and endometriosis reported severe headache one day after delivering twins at 36 weeks and 2 days. Following epidural catheter placement during delivery, she developed a positional headache and neck pain radiating to her hands. The next day, the pain worsened to a 10/10 on the pain scale without medications, and associated with nausea, vomiting, and upper extremity weakness. Examination revealed no focal neurological deficits, with normal strength, sensation, and reflexes. A CT head showed pneumocephalus within the lateral ventricles and suprasellar cistern, while a cervical spine CT revealed gas in the epidural and suboccipital soft tissues without fractures or prevertebral edema. Initial management included oxygen and pain medications, but worsening symptoms prompted repeat CT imaging, which showed reduced gas accumulation. An epidural blood patch was subsequently performed, significantly relieving symptoms, with pain decreasing to 3/10. The final diagnosis was PDPH complicated by pneumocephalus.

Discussion and conclusion:

This case highlights the rare but significant complication of pneumocephalus following epidural anesthesia, coexisting with PDPH. While PDPH is a known complication of epidural procedures, concurrent pneumocephalus is uncommon and adds diagnostic complexity. Pneumocephalus typically arises from trauma, neurosurgery, or otorhinolaryngology procedures. In this case, air likely entered the meninges through a dural breach, supported by mechanisms like the "ball-valve" and "inverted soda bottle" effects. PDPH and pneumocephalus share symptoms such as positional headaches and neck pain, complicating diagnosis. Non-contrast CT imaging is critical for postpartum patients with severe headaches.

Management included a multidisciplinary approach with oxygen therapy, pain control, and an epidural blood patch. Similar cases reports describe PDPH with pneumocephalus post- epidural anesthesia. However, our clinical vignette stands out due to the severity and the need for intensive management, underscoring variability in presentation and the importance of individualized care. Internists, when consulted from our obstetrics colleagues, should recognize pneumocephalus as a rare yet serious complication of epidural anesthesia in postpartum patients. Imaging should be considered for severe or atypical headaches following epidural anesthesia.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 136
Category: Clinical Vignette
Residency Program: Trinity Health Oakland
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A Rare Clotting Calamity: May Thurner Syndrome, Heparin-Platelet Factor 4 Antibody Negative Heparin Induced Thrombocytopenia and Apixaban Failure Causing Recurrent Deep Venous Thrombosis

Introduction

May-Thurner syndrome (MTS) occurs due to compression of the left common iliac vein by the right common iliac artery and accounts for 2-3% of lower extremity deep venous thrombosis (DVT). Platelet factor 4 (PF4) enzyme immunoassay (EIA) negative, serotonin release assay (SRA) positive heparin induced thrombocytopenia (HIT) is exceedingly rare, and we found only 2 reported cases. We report a 48-year-old woman with recurrent DVT due to MTS and subsequently SRA+/EIA- HIT, with apixaban failure.

Case Presentation

A 48-year-old woman presented with shortness of breath, leg and chest pain for a few weeks. Physical examination: Tachycardia, bilateral wheezing, swelling of left lower extremity. Chest CT angiogram: Bilateral multilobar and segmental pulmonary emboli, with high clot burden. Venous duplex: DVT from the left common femoral vein to the infrageniculate vein. Thrombectomy was done for pulmonary embolism and later for DVT and placed on intravenous heparin. Intravascular ultrasound showed evidence of external compression of iliac vein consistent with MTS. After 7 days of heparin, her platelet levels fell > 50% and she developed recurrent lower left extremity swelling. HIT was suspected. PF4 by EIA was negative, but heparin was stopped with alternate anticoagulation, and SRA was done due to high clinical suspicion for HIT. SRA was positive, consistent with HIT. Repeat ultrasound: Unchanged DVT despite thrombectomy. The patient underwent another thrombectomy and stent placement due to MTS, which later became occluded, requiring another thrombectomy. Antiphospholipid antibody panel, factor 5 Leiden and prothrombin gene mutation were all negative. The patient was then discharged on apixaban, only to return a few weeks later for another DVT in the same location despite being adherent to apixaban. Due to failure of apixaban and having HIT in the past, she was started on Fondaparinux and warfarin. A target INR was set at 2.5-3.5 to ensure adequate anticoagulation. The patient was advised to follow up regularly to monitor the INR and evaluate the need for surgery to move the right iliac artery surgically.

Discussion:

This case report highlights a rare but underrecognized cause of recurrent DVT, the MTS. Direct venography with digital subtraction angiography with or without intravascular ultrasound is the gold standard imaging. In addition, SRA+/EIA- HIT is exceedingly rare, and our case is probably the third one per our literature review. A study from a reference laboratory by Warkentin et al., reported the index case of SRA+/EIA- HIT, but their subsequent analysis of another 15 cases of SRA+/EIA- profile from their laboratory only showed laboratory error or false positive SRA, leading to the conclusion that SRA+/EIA- HIT is exceedingly uncommon, and supports the clinical guideline to first check PF4 antibody by EIA when HIT is suspected. Our literature review showed one other reported case of SRA+/EIA- HIT.

Conclusions:

1. Consider MTS in recurrent DVT.
2. Order SRA, despite negative EIA when clinical suspicion for HIT is high, as there may be laboratory errors, though true SRA+/EIA- HIT is exceedingly rare.
3. Direct oral anticoagulants may not be suitable in complex etiologies of venous thromboembolism.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 137
Category: Clinical Vignette
Residency Program: Trinity Health Oakland
Presenter: Rakshana Ravichandran
Additional Authors: Rakshana Ravichandran, MD1, Aditya Kohli, MD1, Ravi Patel, MD1, Yash Shah, MD1, Chetna Hirani, MD1, Pritha Chitagi, MD1, Geetha Krishnamoorthy, MD1 1Department of Internal Medicine, Trinity Health Oakland, Pontiac, MI

When the Ducts Don't Fuse: A Case of Acute Necrotizing Pancreatitis with Enlarging Pseudocyst

Acute pancreatitis is a common gastrointestinal emergency with a global incidence of 34 per 100,000 person-years. While most cases self-resolve with symptomatic management, complications such as recurrent episodes and chronic pancreatitis contribute to significant morbidity and mortality. Identifying the etiology early is crucial for preventing recurrence and long-term sequelae.

We present a 36-year-old woman with no significant medical history who developed acute necrotizing pancreatitis complicated by an enlarging pseudocyst due to an underlying pancreas divisum.

The patient presented with a two-day history of severe epigastric pain, nausea, and vomiting. Laboratory evaluation revealed elevated serum lipase levels, and imaging confirmed a 7 x 9 x 9 cm pseudocyst associated with acute interstitial edematous pancreatitis. The patient did not consume alcohol regularly, and did not have gallstones, hypercalcemia, hypertriglyceridemia, or family history of pancreatitis. Conservative management was initiated, including fluid resuscitation, pain control, and dietary adjustments. Despite initial improvement, due to persistent symptoms, follow-up imaging demonstrated an enlarging pseudocyst (10.2 x 9.7 x 10.6 cm) and walled-off necrosis. The most striking finding of the magnetic resonance cholangiopancreatography was the presence of irregularly dilated pancreatic duct side branches, measuring up to 7 mm, consistent with a pancreatic ductal anatomical anomaly, of pancreas divisum. Multidisciplinary management was employed, and the patient improved clinically without requiring surgical intervention.

Pancreas divisum is the most frequent congenital disorder involving the pancreas, affecting 10% of the general population. It is a congenital ductal anomaly where the duct of the pancreas does not fuse during embryonic development but rather remains as two separate dorsal and ventral ducts. Most patients with pancreas divisum experience no symptoms or complications. About 5% of the patients with pancreas divisum have symptoms such as abdominal pain, nausea/vomiting, and acute and chronic pancreatitis. It is a rare but well-recognized cause of idiopathic pancreatitis, implicated in up to 12- 50% of such cases.

Identifying pancreas divisum as an etiology is important for tailoring management strategies to prevent recurrent episodes and the progression to chronic pancreatitis. Treatment is not well established for pancreas divisum, but surgical management with sphincterotomy or stenting the duct may be possible. A multicenter randomized controlled trial (Sphincterotomy for Acute Recurrent Pancreatitis SHARP Trial) is currently evaluating the role of endoscopic retrograde cholangiopancreatographic sphincterotomy in patients with recurrent acute pancreatitis with pancreas divisum, which is anticipated to help find the best management for individuals with acute pancreatitis and pancreas divisum. This clinical vignette highlights a rare etiology of pancreatitis, and underscores the importance of comprehensive evaluation and targeted management in patients with idiopathic acute pancreatitis to optimize outcomes and reduce complications.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 138
Category: Research
Residency Program: Trinity Health Oakland
Presenter: Dinakaran Umashankar
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Correlation of Heart Rate Variability With Clinicophysiological and Psychological Profile in Stable COPD - A Hospital Based Observation

RATIONALE

Chronic Obstructive Pulmonary Disease (COPD) is associated with high mortality and morbidity due to its impact on multiple systems and frequent coexistence with cardiovascular disease. Recent studies have shown that patients with COPD have unstable autonomic functions which are also associated with cardiovascular mortality. Therefore, there is a need for early detection of autonomic dysfunctions in COPD patients and monitoring them closely.

METHODS

In a prospective observational study conducted in a semi-urban healthcare setting in India, the patients were recruited based on a convenient sampling method. Parameters like sociodemographics, St George's Respiratory Questionnaire (SGRQ), Spirometry, Six Minute Walk Test (6MWT), and Heart Rate Variability (HRV) were measured. Statistical analysis was performed in IBM SPSS software v16. Continuous variables were expressed as mean ± SD and compared using the Student's T-test. Categorical variables were then expressed in proportions (%) and were compared using the Chi-square test. An ANOVA test with Bonferroni correction was employed to compare three or more variables. Pearson's correlation coefficient was used to identify the correlation between two continuous variables. A P value of less than 0.05 was considered statistically significant.

RESULTS

A total of 47 patients were recruited for our study, the mean age of the subjects was 62.98 ± 6.63 years, which included 42 (89.6%) males and 5 (10.6%) females. Correlation between HRV time domain measure pNN50 (Percentage of successive RR intervals that differ by more than 50 ms) and duration of COPD (in years) showed a statistically significant modest negative correlation with a P value of 0.027 with a Coefficient of Determination (R2) showing a value of -0.332 (Figure 1). Pearson plot between the duration of COPD and rMSSD (time domain measure which is the root mean square of successive differences between normal heartbeats) also showed a correlation with a P value of 0.026 and a Coefficient of Determination with a value of -0.324 (Figure 2). There was also a significant relation between the impact score measured by SGRQ and SDNN (HRV time domain measure standard deviation of the interbeat interval of normal sinus beats) with a P value of 0.043. There was a positive modest correlation between both SGRQ impact score and total SGRQ score and heart rate of the subject measured by HRV with P values of 0.024 and 0.057 respectively.

CONCLUSION

HRV measures like rMMSD and pNN50 which represent the parasympathetic nervous system activity showed a significant correlation with clinicophysiological profiles and duration of COPD in stable patients. HRV seems to be less expensive and more reliable in clinical practice to predict autonomic dysfunction and the severity of COPD, this has the potential to be used as a prognostic marker. Follow-up of such patients is strongly recommended to diagnose the development of cardiac comorbidity in the future.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 139
Category: Clinical Vignette
Residency Program: Trinity Health Oakland
Presenter: Tanisha Vora
Additional Authors: Carly Hubers, Kendall Conway, Meumbur Praise Kpughur-Tule, Durga Yerasuri

Pembrolizumab-Induced Secondary Adrenal Insufficiency with radiological evidence of Hypophysitis in a Patient with Lynch Syndrome and Recurrent Rectal Adenocarcinoma

This case underscores the complexities and potential risks of using immune checkpoint inhibitors (ICIs) like pembrolizumab, particularly in patients with microsatellite instability-high (MSI-H) or mismatch repair-deficient (dMMR) tumors. While these therapies have revolutionized the treatment of cancers, such as those linked with Lynch syndrome, they are also associated with immune-related adverse events (irAEs), including endocrinopathies like hypophysitis. Hypophysitis, a rare and often underrecognized complication, can lead to secondary adrenal insufficiency, a potentially life-threatening condition that requires prompt diagnosis and treatment to prevent adrenal crises. In this case, a 70-year-old male with Lynch syndrome developed recurrent rectal adenocarcinoma after initially undergoing total colectomy and chemotherapy. He was started on pembrolizumab in October 2021, and 20 months later, in June 2023, presented with symptoms of malaise, fatigue, and dehydration. Laboratory results revealed hyponatremia, low cortisol, and low ACTH, alongside imaging findings of hypo-enhancement in the adenohypophysis, consistent with hypophysitis. This led to a diagnosis of pembrolizumab-induced secondary adrenal insufficiency. The patient was managed with stress-dose steroids, intravenous hydration, and oral hydrocortisone. Over time, his symptoms improved, and he has since been receiving ongoing glucocorticoid therapy with regular endocrinology follow-up. This case highlights the importance of recognizing the rare but critical potential for endocrine dysfunction in patients undergoing ICI therapy, especially when symptoms are nonspecific or develop after long-term treatment. While adrenal insufficiency due to hypophysitis is uncommon—especially with pembrolizumab—early diagnosis is vital, as untreated adrenal insufficiency can be fatal. Early symptoms such as fatigue and electrolyte imbalances can be mistaken for other causes, delaying recognition. MRI findings, such as pituitary hypo-enhancement, are crucial for diagnosis, but radiological evidence of pituitary inflammation is often not seen in ICI-induced adrenal insufficiency, making biochemical tests like low cortisol and ACTH levels essential for confirmation. Though pituitary inflammation is more frequently observed in patients treated with ipilimumab (an anti-CTLA-4 antibody) than pembrolizumab (an anti-PD-1 antibody), the case illustrates that even with a single-agent PD-1 inhibitor, hypophysitis can occur, emphasizing the importance of vigilant monitoring in these patients. Management involves corticosteroid replacement to prevent adrenal crises, with stress-dose steroids being particularly important during acute presentations. While some patients may recover pituitary and adrenal function, many require lifelong hormone replacement therapy and continuous endocrine monitoring. This case is particularly noteworthy due to its intersection with Lynch syndrome, a hereditary cancer predisposition, highlighting a unique diagnostic and therapeutic challenge when these patients undergo ICI therapy. Given the potential for delayed onset of irAEs, the long duration of pembrolizumab therapy before symptom onset in this case is a reminder that even long-term treatment should not diminish the need for ongoing surveillance. The case calls for more awareness and proactive intervention to reduce morbidity and improve the quality of life for patients undergoing immunotherapy, especially those at higher genetic risk. Comprehensive endocrine evaluation should be standard practice for patients undergoing ICI therapy, as early detection and management of irAEs can prevent serious complications and optimize patient outcomes.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 140
Category: Clinical Vignette
Residency Program: University of Michigan
Presenter: Moneb Bughrara
Additional Authors: Keith Casper, Francis P. Worden

Neoadjuvant Chemotherapy and Immunotherapy for Mucoepidermoid Carcinoma in Disguise

Mucoepidermoid carcinoma is the most common malignant salivary gland carcinoma (SGC) of the major salivary glands as well as the minor salivary glands. Diagnosis may be difficult based on initial biopsy as tumors, particularly with high-grade disease, may display groups of squamous cells on pathology. In patients with resectable disease, both squamous cell carcinomas (SCC) and mucoepidermoid carcinomas are treated with definitive surgical resection. However, advanced disease frequently requires extensive resection associated with considerable morbidity and compromise to quality of life. Furthermore, there is little evidence supporting the use of systemic treatments in patients with resectable SGC. In those with resectable SCC, recent data suggest there is potential benefit from the administration of neoadjuvant immunotherapy.

A 65-year-old male with a history of tobacco use was found to have a midline tongue and anterior floor of mouth lesion. A biopsy demonstrated invasive, poorly differentiated, SCC. Following imaging, the patient was noted to have a stage III tumor, and he was referred to otolaryngology. Due to the extent of his disease, a total glossectomy with bilateral neck dissection with free flap reconstruction was recommended per standard of care. This would have major implications on his quality of life, so the patient was referred to medical oncology to discuss treatment with neoadjuvant chemotherapy and immunotherapy with the intent of cytoreduction to potentially reduce the extent of surgery. Following consultation, the patient elected to receive two cycles of pembrolizumab, carboplatin, and docetaxel prior to definitive surgery. Treatment was well tolerated with minimal adverse events. The patient noted improvement in pain and dysphagia within 3 weeks of his first cycle. He had circulating DNA collected prior to initiation of treatment that was at 4.47 mean tumor molecules/ml (MTM/ml) and subsequently reduced to 0 MTM/ml after systemic treatment. Twenty-nine days after receiving his last cycle of chemotherapy and immunotherapy, the patient underwent surgery. Due to his tumor's excellent response to therapy, he underwent a partial glossectomy and floor-of-mouth resection versus the planned total glossectomy. His pathology was staged pT3N3bM0 (Stage IVB); margins were negative with no perineurial invasion noted, but extranodal extension was present. Subsequently, his pathology revealed high-grade mucoepidermoid carcinoma. Following tumor board discussion, the patient received adjunctive radiation therapy. Routine post-treatment imaging with a PET/CT showed no evidence of disease.

Historically, chemotherapy is reserved as a palliative treatment for patients with mucoepidermoid carcinoma who have recurrent or metastatic disease. However, recent data has demonstrated the potential benefit of checkpoint inhibitor therapy in patients with metastatic high-grade mucoepidermoid carcinomas. In conclusion, this is the first documented case to illustrate the benefit of chemotherapy in combination with immunotherapy in a patient with locally advanced, high-grade mucoepidermoid carcinoma. Further studies are required to report the potential benefit of this combination therapy in the neoadjuvant setting.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 141
Category: Quality Improvement/Patient Safety/High Value Care
Residency Program: University of Michigan
Presenter: Ashley Estes
Additional Authors: Kriya Patel, MD (resident physician); Virginia Sheffield, MD (attending physician)

Evaluating the Impact of an Informational Resource on Hospital Care for Incarcerated Patients: A Pre- and Post-Implementation Analysis

Within our Internal Medicine Residency program, residents intermittently care for incarcerated patients admitted to the hospital. However, residents have frequently expressed uncertainty regarding the specific policies and procedures involved in caring for incarcerated individuals within the hospital setting. The resident chair of the program's Diversity, Equity, and Inclusion (DEI) committee became aware of the issue through informal channels, noting numerous messages in resident group chats where confusion and conflicting information about key elements in incarcerated patients were frequently shared. An initial survey revealed significant uncertainty, with 85% of residents not confident in their understanding of the policy for removing shackles, 76% unsure about asking officers to leave the room to protect patient health information (PHI), 64% uncertain about which information could be shared with family members, and 74% unaware of where to find this information. A direct quote from the survey, "This survey has made me realize all the details I don't know about how to care for incarcerated patients" expressed the depth of the knowledge gap.

A member of the DEI committee reviewed hospital policies on caring for incarcerated patients and, using this information, developed a one-page informational resource addressing the major knowledge gaps identified in the survey. The knowledge gaps identified were restraints/shackles, protecting patient privacy by asking officers to leave room, code status and medical decision making, patient death, and family communication. Where hospital policy lacked clarity, pertinent literature was reviewed to identify practices from other institutions and national recommendations for appropriate care. This informational resource was then shared with the office of general counsel at the university for review, approval, and policy clarification. The resource was then printed and displayed in all resident team rooms in the hospital and also distributed out to all residents via email.

At of the time of submission the flyers have been posted and distributed via email. Prior to the conference, a follow-up survey will be conducted to evaluate both quantitative and qualitative responses to the informational resource. The survey will assess the confidence level in knowledge for the knowledge gaps that were previously identified and will also solicit open-ended comments regarding on the usefulness of the flyer and areas for future growth.

The initial survey revealed significant trainee discomfort around in caring for this very vulnerable patient population, highlighting both a clear knowledge gap and a strong desire for further guidance. The challenge lies in presenting information that is clear, easily accessible, and avoids contributing to email overload or being overlooked. It will be valuable to gather trainee feedback on the flyer, its dissemination, and future avenues for intervention. Anticipated lessons from this intervention include evaluating utility of a simple intervention on an important but niche topic, as well as impact on for long term retention of the information shared. Ultimately, we hope to enhance resident knowledge and foster engagement in advocacy work for vulnerable populations.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 142
Category: Clinical Vignette
Residency Program: University of Michigan Med-Peds
Presenter: Alexandra Johnson
Additional Authors: Evan Thomas; Anoopa Mathew, MD; Tobias Else, MD

An Adrenal Incidentaloma Mischaracterized as Benign Adenoma: A Case Illustrating Limitations of CT Washout

INTRODUCTION:

Adrenal incidentalomas are frequently detected on CT imaging, with intravenous contrast washout used to determine the likelihood of benign adenoma. However, reliance on CT washout protocols alone may delay diagnosis of non-adenoma adrenal masses such as pheochromocytoma.

CASE PRESENTATION:

A 43-year-old woman presented to the emergency room with severe abdominal pain and was found to have pancreatitis. MRCP was obtained to evaluate potential biliary obstruction and noted an indeterminate left adrenal nodule measuring 2.2 cm, lacking confirmatory features of a benign lipid rich adenoma.

This incidentaloma was first noted five years prior as a 1.1 cm nodule on CT. Follow-up imaging six months later measured the nodule at 1.7 cm with CT washout characteristic of an adenoma. Due to lack of clinical symptoms at that time, biochemical correlation was deferred. Six months prior to this presentation, CT imaging showed an increase in size to 2.3 cm but no further evaluation was pursued due to prior washout results.

While she was admitted for pancreatitis, careful history taking revealed symptoms suspicious for pheochromocytoma: four years of severe treatment-resistant headaches, as well as episodic palpitations, sweats, and poorly controlled hypertension diagnosed 3 years prior. Upon testing, plasma normetanephrines were significantly elevated (6.7 nmol/L, nml <0.9 nmol/L). She was started on doxazosin while admitted and was able to slowly uptitrate the dose with excellent blood pressure control. A contrasted CT A/P obtained approximately one week after initial presentation showed interval enlargement of the nodule to 2.5 cm with central necrosis suggesting PCC undergoing acute adrenal storm.

After hospital discharge, repeat labs were significant for persistently elevated plasma normetanephrine (3.2 nmol/L, nml <0.9 nmol/L). NM PET Dotatate was obtained showing Dotatate avid (SUV max 68.61, Krenning Score 4) localization in the left adrenal mass only. She was referred to surgery for definitive management.

DISCUSSION:

PCC often appear as a heterogeneous mass and may be associated with calcifications, vascularity, or necrosis. Almost all PCC on unenhanced CT scans have HU > 10. Adrenal washout CT is recommended for 2-4 cm indeterminate adrenal nodule with NCCT HU >10. This recommendation is based on a 2002 study, which showed that the sensitivity and specificity of this protocol were 98% and 92%, respectively. However, more recent studies have questioned the sensitivity of adrenal washout CT protocol and found that the washout protocol has limited utility especially for smaller indeterminate nodules. Our case report discusses an adrenal incidentaloma which was mischaracterized as adenoma after the adrenal washout CT. This highlights the limitations of the adrenal washout CT protocol in correctly identifying pheochromocytoma.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 143
Category: Clinical Vignette
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: Jeff Justin Aguilar
Additional Authors: Harmouch, Khaled MD; Siddique, Mohamed MD

A Sticky Situation: Rare Case of Infected Thrombus in the Superior Vena Cava

Introduction

Although catheter-associated thrombus formation is a well-recognized complication, the occurrence of infected thrombi within the superior vena cava (SVC) remains rarely documented in the medical literature.

Case Description

A 54-year-old male with a past medical history of hypertension, diabetes, end-stage renal disease on hemodialysis, and prior Permcath infections, presented to the emergency department because of non-functioning Permcath dialysis catheter. Upon arrival, he was found to be in atrial fibrillation with ST elevation and Cath Lab was activated immediately. He denied any chest pain or shortness of breath, and vital signs were only significant for tachycardia. Troponin was elevated at 22,000. Emergent catheterization showed 100% occlusion of both the left anterior descending artery and right coronary artery. Revascularization was unsuccessful likely due to chronic occlusions, and the patient was stabilized with intra-aortic balloon pump and low dose norepinephrine drip. He was admitted to ICU without complications apart from being in rate-controlled atrial fibrillation. Permcath site drainage prompted blood cultures to be sent, and he was started on empiric IV vancomycin, followed by Permcath removal and insertion of temporary Quinton catheter in his left femoral vein. Blood cultures grew pan-sensitive methicillin susceptible staphylococcus aureus (MSSA) in two bottles. He was switched to IV cefazolin daily. Transthoracic echocardiogram done on day 2 of admission showed no valvular vegetation, no thrombus, and mild to moderate pulmonic valve regurgitation. Repeat blood cultures were sent on day 3 of hospital stay and remained unchanged to initial cultures. The patient's clinical course in ICU deteriorated as he developed sepsis and Proteus bacteremia after being found to have acute cholecystitis which was managed with percutaneous cholecystostomy drain and IV ceftriaxone. Repeat transthoracic echocardiogram with contrast done on day 6 showed no significant changes compared to previous echo study. A third blood culture sent on day 7 was negative. Transesophageal echocardiogram done on day 8 revealed small mobile echo densities attached in the SVC near the junction of the right atrium, most likely representing vegetations. On day 9, he deteriorated further into septic shock and cardiogenic shock, requiring intubation and vasopressor support. He succumbed to multi-organ failure on day 11 after transitioning to comfort care.

Discussion and Conclusion

This case represents a rare instance of infected SVC thrombi in the context of MSSA bacteremia, detected only via transesophageal echocardiogram (TEE). It underscores the importance of early diagnostic imaging, such as TEE, in patients with catheter-related bloodstream infections and persistent bacteremia. Current guidelines recommend TEE over transthoracic echocardiogram for detecting intravascular complications, including thrombi and vegetations, particularly in high-risk cases. Ultimately, prompt recognition can mitigate morbidity and mortality associated with these complications.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 144
Category: Clinical Vignette
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: Mariam Ahsan
Additional Authors: Nomesh Kumar MD, Montaser Elkholy MD, Khalil Kamal, Marc Feldman MD

Early Metastatic Breast Cancer in a Nonverbal Autistic Patient; A Complex Presentation

INTRODUCTION

Breast cancer in younger individuals is uncommon but carries significant clinical implications, particularly when associated with genetic predispositions such as BRCA1 or BRCA2 mutations. Diagnosing malignancies in nonverbal, neurodivergent patients presents further complexities due to communication barriers and atypical symptom presentations. This report highlights a case of metastatic breast cancer in a 38-year-old nonverbal autistic female, initially presenting as severe abdominal pain. The case underscores the importance of a multidisciplinary approach and the role of genetic evaluation in guiding management and improving outcomes.

CASE DESCRIPTION

A 38-year-old nonverbal autistic female was admitted to the hospital with progressive left lower quadrant abdominal pain, weakness, and episodes of distress. Her caregiver reported that symptoms began after treatment for a urinary tract infection. The patient localized the pain by touching the affected area, associated with moderate to severe tenderness. She also has more difficulty in ambulating than at the baseline. She endorsed losing weight recently.

On physical examination, the patient was hemodynamically stable. Abdominal examination was significant for tenderness in the left lower quadrant. Further exam revealed a firm, non-mobile ~4 cm mass in the left breast (12–3 o'clock position) and left axillary lymphadenopathy. A second, smaller ~2 cm mass was detected in the right breast (3 o'clock position). Laboratory tests showed hypercalcemia (11.2 mg/dL) and anemia (hemoglobin 10.7 g/dL).

Imaging revealed extensive metastatic disease. CT abdomen and pelvis demonstrated mixed lytic and blastic bone lesions, including a 7.8 cm sacral mass causing spinal canal stenosis. CT chest showed diffuse lytic lesions in the thoracic spine, a mild T11 compression fracture, and bilateral axillary adenopathy. MRI confirmed lytic spinal and calvarial lesions, as well as sacral metastases. Biopsy of the right iliac crest revealed metastatic adenocarcinoma consistent with breast origin. Immunohistochemistry indicated the tumor was estrogen receptor (ER)-positive, progesterone receptor (PR)-negative, and HER2-negative.

The patient's management involved a multidisciplinary team including oncologist. Hormonal therapy with tamoxifen (20 mg daily) was initiated, with plans for CDK 4/6 inhibitors and luteinizing hormone-releasing hormone (LHRH) agonists. Pain was managed with Norco, Naproxen, and Gabapentin, while hypercalcemia was treated with intravenous hydration. Genetic counseling was arranged to assess hereditary cancer syndromes, including BRCA1 and BRCA2 mutations.

DISCUSSION/CONCLUSION

Diagnosing malignancy in nonverbal patients with neurodevelopmental disorders often involves atypical presentations and significant diagnostic delays. In this case, abdominal pain masked the underlying metastatic breast cancer, complicating the clinical picture. Imaging and biopsy ultimately confirmed the diagnosis, highlighting the necessity of thorough investigation even in the absence of typical symptoms.

The patient's early-onset breast cancer prompted genetic counseling to evaluate for BRCA mutations, guiding systemic treatment and informing family risk assessment. Multidisciplinary involvement was crucial for comprehensive care, addressing oncologic treatment, pain control, and genetic counseling. This case underscores the need to consider malignancy in

neurodivergent patients with nonspecific symptoms and reinforces the importance of a structured diagnostic and management approach to improve patient outcomes.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 145
Category: Clinical Vignette
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: Haris Aleem
Additional Authors: Latha Kannan MD 1, Naisargee Solanki MD 2. Affiliation: 1. Department of Infectious Disease, Sinai Grace Hospital/WSU 2. Department of Internal Medicine, Sinai Grace Hospital/ WSU

Mycobacterium Celatum, a rare cause of SSTI in the immunocompetent.

Nontuberculous Mycobacteria caused skin and soft tissue infections have been on the rise. In the Northern Territory of Australia, a retrospective review from 1989 to 2021 showed an increase in the incidence of NTM SSTIs over the study period. Similarly, a population-based study in Olmsted County, Minnesota, reported a nearly three-fold increase in the incidence of cutaneous NTM infections from 1980 to 2009. These organisms are acid fast and usually require relatively lengthy growth times to be comprehensively cultured. M. Celatum is one of the lesser known members of this group and was first described in literature in the 1990s. There have been rare reports of M. Celatum causing lymphadenitis and skin infections in immunocompetent hosts. We encountered a similar rare case of mycobacterium Celatum abscess in an immunocompetent individual and present this case.

Case:

A 48 year old woman with a history significant for dermatomyositis presented with swelling of the right hand extending from ulnar border of hand to volar and dorsal aspects of wrist. Of note, She had undergone multiple steroid injections of her hands in the past for pain control with the most recent one a month before presentation. U/S hand showed widespread right hand and wrist inflammatory tenosynovitis with overlying edema. Possible empyema and phlegmon development was also noted. Patient underwent 3 successful incisions and drainage over the next 4 months for recurrent abscess formation but faced poor healing and reemergence of symptoms after an initial phase of improvement. She was treated with antibiotic regimens consisting of vancomycin, ciprofloxacin, doxycycline, cephalexin and TMP-SMX. Abscess cultures failed to grow any organisms, initially. The chronic nature of the patient's abscess recurrence raised suspicion for infection with atypical organisms and mycobacterial cultures were sent. Mycobacterium Celatum was isolated from two different abscess cultures 3 months apart. Patient is currently on a course of ethambutol, ciprofloxacin and clarithromycin, to be continued for a year.

Discussion:

Mycobacterium Celatum is an obscure non-tuberculous member of the mycobacterium family. Published data mostly describes widespread pulmonary infections in immunocompromised patients, especially amongst the HIV positive population or colonization in patients with underlying respiratory disease.

Immunocompetent individuals on the other hand are more likely to suffer lymphadenitis or skin and soft tissue infections which are likely to be contracted from direct inoculation raising suspicion that our patient might have acquired it from a previous steroid injection.

Given the rarity of the organism and relative difficulty in culturing it, patient’s are likely to suffer exacerbation of symptoms and worsening of overall prognosis as they might not receive the correct treatment on presentation. Adding to the challenge of diagnosis are limitations of current molecular methods, resource constraints and ongoing development of diagnostic markers.Nonetheless, it is important to consider atypical mycobacteria as an important causative organism amongst patients with therapy resistant chronic SSTis. As evidenced from our case; treatment might require extensive excision of affected tissue along with prolonged susceptibility directed treatment.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 146
Category: Clinical Vignette
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: Arfa Ali
Additional Authors: E M Malitha Hettiarachchi MD, Khaled Harmouch MD, Detroit Medical Center/Wayne State University, Detroit MI

Cocaine induced acute lung injury: A Case Report

Introduction:

Crack lung or cocaine induced lung injury is an acute pulmonary syndrome characterized by diffuse alveolar damage occurring within 48 hours of smoking crack cocaine. Patients present with a plethora of clinical and radiologic findings, and it is crucial to have a high suspicion of such cases to direct management. Herein, we present a case of a 61-year-old female who presented with shortness of breath.

Case presentation:

A 61-year-old female with a history of hypertension, diabetes mellitus and polysubstance use disorder presented with shortness of breath. Patient admitted the symptoms developed about 12 hours after using crack cocaine. She had no prior history of chronic lung disease, although she had a history of smoking half a pack of cigarettes a day for 41 years. On presentation, her vitals were blood pressure 166/96, heart rate 116, respiratory rate 28, temperature 37, and pulse oximetry 77% on room air, which improved to 100% on 15 L via a non-rebreather mask.

On exam she was found to be in respiratory distress and speaking in 1–2-word sentences; auscultation revealed bilateral wheeze, with rest of the exam being unremarkable.

Labs were significant for leukocytosis (WBC 21.4) with neutrophilia and presence of cocaine, methadone and opiates on urine toxicology. Chest x-ray revealed pulmonary edema and CT chest revealed extensive airspace disease. The predominant lung findings were those of “crazy paving”, which is diffuse areas of ground-glass opacity surrounded by septal thickening.

She was placed on high flow nasal cannula and started on systemic steroids as well as ceftriaxone and azithromycin empirically. Patient showed improvement in her symptoms rapidly and was transitioned to oxygen via nasal cannula. By day 4 of her hospital stay, she was saturating 94% on room air. She was discharged with a prednisone taper and asked to follow up with pulmonology for likely underlying COPD.

Discussion:

Crack lung commonly presents soon after cocaine inhalation and patients may present with acute onset of dyspnea, tachypnea, wheeze, cough, hemoptysis or hypoxemic and/or hypercapnic respiratory failure. A combination of detailed history and pertinent investigation findings from CBC, UDS, CXR and CT chest can help make a timely diagnosis.

Conclusion:

Cocaine induced lung injury can rapidly progress to acute respiratory distress syndrome if timely identification and intervention is not initiated. Presentations may vary but supportive therapy with supplemental oxygen and anti-inflammatory agents can result in rapid improvement of symptoms.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 147
Category: Clinical Vignette
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: Muhammad Mustafa Arif Siddiqui
Additional Authors: Ahmad Alnasarat MD 1, Shifaatullah Khan Shabaz Mohammed MD 1, Marc A Feldman MD FACP 1. 1. WSU/DMC Sinai-Grace Hospital

Severe acute Hypertriglyceridemia induced Pancreatitis treated with insulin therapy

Introduction:

Hypertriglyceridemia-induced pancreatitis causes 1 to 35 percent of all cases of acute pancreatitis. As compared to other causes of pancreatitis Hypertriglyceridemia induced pancreatitis is more prevalent in younger, male patients who are either diabetic or obese. The severity of hypertriglyceridemia induced pancreatitis progressively increases when serum triglycerides are greater than 1000. Worrisome features of pancreatitis includes hypocalcemia, lactic acidosis or if a patient exhibits two or more features of systemic inflammatory response syndrome.

Case description:

This case highlights a novel presentation of hypertriglyceridemia induced pancreatitis with triglyceride levels above 2500mg/dl which was successfully treated with insulin therapy without plasmapheresis. This case emphasizes the importance of insulin therapy and close monitoring of such cases, which is especially useful for healthcare systems which may be devoid of plasmapheresis. A 41 year old male with a known history of obesity, insulin dependant type 2 diabetes mellitus, recurrent pancreatitis and hypertriglyceridemia presented with acute onset epigastric pain associated with nausea. He was tachycardiac and febrile on presentation and had Serum Triglyceride 2549, Lipase of 1095u/L, Lactate 3.5, hypocalcemia of 5.8 and CT abdomen and pelvis which confirmed acute interstitial edmematous pancreatitis. Criteria for worrisome features of pancreatitis were met which warranted plasmapherisis therapy, it was not initiated due to inavailibility. He was started on high intensity statin therapy, gemfibrozil and insulin drip with plan to transfer to another facility if triglyceride therapy remained suboptimal. Serum triglyceride levels continued to trend down with decreasing requirement of insulin which was eventually transitioned to subcutaneous insulin. Triglyceride levels plateaued in the 400s with the patient's symptoms improving and was able to tolerate soft diet before discharge.

Discussion:

The management of hypertriglyceridemia induced pancreatitis includes treatment of the acute pancreatitis as well as the reduction in serum triglyceride levels via dietary fat restriction, insulin therapy and in cases with worrisome features with plasmapheresis. Insulin therapy can be IV or subcutaneous, is widely available and can be initiated early on during the course of the disease. There is no definitive RCT evidence for plasmapheresis available and it's effectiveness relies highly on initiating treatment during the early stages of the disease. Furthermore, despite early initiation of plasmapheresis, mortality benefit is still unclear as it has not been demonstrated in literature. This case underscores the significance of appropriate insulin therapy which may be sufficient in treating even acute severe hypertriglyceridemia induced pancreatitis despite indications being present for plasmapheresis.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 148
Category: Clinical Vignette
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: Mubera Bebanic
Additional Authors: Nomesh Kumar, MD, PGY-3, Department of Internal Medicine, Sinai-Grace Hospital/WSU, NKumar@dmc.org, Wasif Hafeez, MD, Chief of Infectious Disease, DMC-SGH/WSU, WHafeez@dmc.org, Malitha Hettiarachchi, MD, APD, DMC-SGH/WSU, EHettiar@dmc.org

Severe Hypoxic and Hypercapnic Respiratory Failure Complicated by Mycobacterium Chimaera Intracellulare in a Patient with Gastric Pull-Up and COPD

Introduction: Respiratory failure is a common and life-threatening condition in patients with advanced COPD. Structural lung diseases and anatomical alterations, such as those caused by gastric pull-up surgery, can complicate these presentations. Non-tuberculous mycobacteria (NTM), including Mycobacterium chimaera intracellulare, are rare but significant pathogens that can worsen respiratory outcomes. We present a case of recurrent respiratory failure in a patient with a history of gastric pull-up surgery and COPD, ultimately diagnosed with active infection by Mycobacterium chimaera intracellulare.

Case Report: A 55-year-old male with advanced COPD on 4 L nasal cannula at home and a history of gastric pull-up for caustic esophageal injury during childhood presented with dyspnea, hypoxia, and hypercapnia. On admission, he was tachycardic (HR 123 bpm), tachypneic (RR 22), and hypoxic (SpO_2 89% on 6 L NC), with ABG showing pH 7.27, pCO_2 126 mmHg, and pO_2 63 mmHg on BiPAP. Physical examination revealed cachexia, diminished breath sounds bilaterally (left greater than right), and bilateral pitting edema. Chest X-ray demonstrated extensive left lower lobe pneumonia, bilateral pleural effusions, and a chronic right upper lobe cavitary lesion, confirmed by CT as slightly enlarged compared to imaging in 2020. Labs showed WBC 11.6 k/µL, hemoglobin 10.3 g/dL, and lactic acid 2.5 mmol/L. The patient had a similar presentation in 2020 with multiple cavitary lesions. At that time, cultures grew Mycobacterium chimaera intracellulare. Empiric vancomycin and Zosyn were initiated but later transitioned to Unasyn based on infectious disease recommendations. Repeat sputum cultures during this admission confirmed active NTM infection. Initiation of rifampin, ethambutol, and azithromycin was recommended for 12-18 months.

This case highlights the importance of comprehensive follow-up and multidisciplinary management in patients with recurrent respiratory failure and structural lung diseases. The patient's history of gastric pull-up surgery predisposed him to chronic aspiration pneumonia and severe bullous emphysema, further complicating his clinical course. The reactivation of Mycobacterium chimaera intracellulare emphasizes the need for timely recognition and prolonged treatment of NTM infections, particularly in immunocompetent patients with chronic pulmonary conditions. This case also underscores the role of ID consultation in guiding appropriate therapy, as NTM infections can mimic other chronic pulmonary infections.

Conclusion: This case illustrates the interplay of advanced COPD, anatomical alterations, and NTM infections in causing recurrent respiratory failure. It underscores the importance of recognizing Mycobacterium chimaera intracellulare as a potential pathogen in patients with cavitary lung lesions and emphasizes the need for thorough microbiological follow-up in complex cases.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 149
Category: Research
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: Ravjot Bhatia
Additional Authors: Muhammad Taimur MD, Kamal Khalil MD, MBA

Can Genetic Testing Be Used for Predicting Cardiovascular Disease Risk?

Introduction:

Cardiovascular diseases are responsible for one-third of the global deaths, with over 20.5 million deaths in 2021. While traditional scoring systems (ASCVD and QRISK) exist for identifying preventive strategies, there has been a rising interest in understanding the role and applicability of genetic testing, polygenic risk scores and genetic risk scores for improved risk stratification. This study aims to evaluate the utility of genetic testing for predicting CVD risk and the potential impact genetic testing can have on prevention.

Methods:

A systematic review of studies from the last 10 years was conducted using PubMed. Inclusion criteria included observational, case-control, cohort, randomized controlled trials, and meta-analyses involving adult human populations with age>19 years. Studies found focused on genetic markers such as single nucleotide polymorphisms (SNPs), Polygenic Risk scores (PRS), and Genetic Risk Scores (GRS). Initial screening of the articles yielded 51 studies, which were narrowed to 22 after title and abstract review. After full text review, four articles were found to be the most relevant for the study objectives and were selected for analysis.

Results:

META PRS showed potential for stroke risk identification, with individuals with high polygenic risk having twice the stroke risk compared to individuals with low-risk profiles. Lifestyle modifications and favorable cardiovascular health profile may offset the lifetime risk in these patients. In addition, six SNPs (Single nucleotide polymorphisms) were found to be likely susceptibility loci for MI in Japanese individuals. Genotyping these SNPs may help assess genetic risk of MI in this population. Meanwhile in African Americans, local European ancestry (LEA) regions are associated with increased odds of CVD, showcasing ancestry-specific risk factors for CVD and potential screening targets. Finally, combining parental history and weighted GRS (Genetic Risk Screening) improves Congestive Heart Disease (CHD) prediction beyond traditional models. Weighted GRS outperforms unweighted scores in predictive accuracy.

Conclusion:

Genetic testing could be a promising method for cardiovascular disease risk prediction, to be used in conjunction with traditional risk evaluation techniques. While polygenic risk scores and genetic risk scoring systems improve risk stratification, their current clinical utility remains modest, requiring further research. Ethical considerations, including data privacy and psychological implications, must be addressed. Further research is needed to expand known genetic markers, enhance prediction accuracy, and integrate these findings into clinical practice leading to better patient outcomes.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 150
Category: Clinical Vignette
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: Miles Bowman
Additional Authors: Keyla Galloza MD, Khaled Harmouch MD, Kamal Khalil MD

Gastric Electrical Stimulation for Diabetic Gastroparesis: Abstract and Literature Review

Background:

Our patient is a 28-year-old female with a past medical history of poorly controlled type 1 diabetes since 2 years of age with complications of gastroparesis and chronic wasting. She presented to Sinai-Grace Hospital for failure to thrive secondary to intractable nausea/vomiting. She has previously declined gastric pacemakers as she felt it was too invasive but heard of an alternative called “Gastric Electrical Stimulation” (GES) that could help with her nausea/vomiting. This caused our inpatient team to investigate if GES devices are effective in treating diabetic gastroparesis.

Methods:

A literature search was conducted using MSU’s virtual library as our database. We searched keywords “diabetic gastroparesis” AND “electrical stimulation” with the criteria of academic journals, reviews, RCTs, and dated 2014-2024. Our initial search resulted in 21 studies. Rayyan AI was used to screen for duplicates, none of which were found. After initial screening, there were 17 articles that met eligibility criteria. There were four articles that were excluded due to being animal studies or studies in pediatric and pregnant populations. Upon full text reviews, 4 articles were best related with our topic and objectives.

Results:

The literature review consistently highlighted that high-frequency GES, performed with standard stimulation parameters, was effective in reducing the frequency of both vomiting and nausea in diabetic and nondiabetic patients with refractory vomiting with or without delayed gastric emptying. It also highlighted the most likely demographics to benefit from this therapy with our patient symptoms, particularly diabetic, low baseline BMI, and/or baseline infrequent urination symptoms. Our review also suggests GES did not accelerate gastric emptying or increase quality of life. For our patient in question, GES appears to be an appropriate therapy and will likely benefit our patient in the management of her intractable nausea/vomiting.

Conclusion:

GES is an effective therapy for those with diabetic gastroparesis experiencing intractable nausea/vomiting. Our findings highly suggest that our patient, specifically being a low-BMI, female, diabetic, will benefit from this therapy. It is possible that confounding exists in current literature, in that diabetic patients with more comorbidities are more likely to report less improvement in quality of life when compared to diabetic patients with fewer comorbidities. There may also be confirmation bias in our search because the implementation of GES by providers and care centers affects our perception of GES to be more positive. Further research is needed for a more recent randomized control trial or meta-analysis.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 151
Category: Research
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: Zeelaf Butt
Additional Authors: Noor Zara Usman MD, Khaled M. Harmouch MD, Malitha Hettiarachchi MD, Khalil Kamal MD

Is There a Pancreatic Malignancy Risk Associated with GLP-1 Inhibitors?

The rising prevalence of type 2 diabetes (DM2) over the past decade has increased the use of incretin-based therapies such as GLP-1 receptor agonists. Concerns about the association between these medications and pancreatic cancer originated from preclinical animal studies suggesting proliferative changes in pancreatic cells. Subsequent observational studies and post-mortem analyses further fueled this concern. To evaluate existing evidence on the association between GLP-1 receptor agonists and pancreatic malignancy risk by analyzing findings from systematic reviews, meta-analyses, and randomized controlled trials (RCTs).

A systematic review was conducted using PubMed, focusing on studies from the past 10 years involving GLP-1 receptor agonists and pancreatic cancer. Inclusion criteria comprised studies published in English, those involving humans, and systemic reviews/meta-analyses with pancreatic malignancy endpoints. Studies focusing on other malignancies, DPP-4 inhibitors, and animal studies were excluded. Analysis included 5 key studies and meta-analyses, with mixed results: Most studies, including RCTs, found no statistically significant association between GLP-1 receptor agonists and pancreatic cancer risk. Observational studies reporting associations were likely confounded by methodological limitations, such as the use of mixed anti-diabetic regimens.

A study by Hidayat Et al concluded that totality of evidence from observational studies does not support the claim that the use of incretin-based therapies is associated with an increased risk of pancreatic cancer in routine clinical practice. The increased risk of pancreatic cancer in observational studies is likely due to bias rather than true association. Han Chen Et al concluded that incretin-based therapies are not associated with an increase in the risk of pancreatic cancer. (RR = 0.7, 95% CI 0.37–1.05). Interestingly, subgroup analyses suggested a lower risk of pancreatic cancer in incretin groups than placebo in long-term studies ([104 weeks). A systemic review by Asif Muhammed et al suggested that there was no statistically significant association identified between anti-diabetic medications and pancreatic carcinoma (OR 0.87; 95% CI 0.65, 1.16; P = 0.34) compared to active control/placebo. Monami et al suggested MH-OR (95% CI) for pancreatic cancer with GLP-RA was 0.94 {0.52-1.70}, P+0.84. Finally, a meta-analysis by Pinto Et al concluded that GLP-1 analogues did not increase the risk for pancreatic cancer when compared to the control OR 1.06; 95% CI 0.67 to 1.67; /2 14%).

In conclusion, evidence of bias in real-world safety data analysis may explain contradictory findings. Current evidence does not support an increased risk of pancreatic cancer associated with GLP-1 receptor agonists in clinical practice. Observed associations are often due to bias rather than causation. Nonetheless, due to limitations such as the rarity of pancreatic cancer, short trial durations, and focus on cardiovascular safety in existing RCTs, larger and longer-term studies are needed for conclusive evidence.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 152
Category: Clinical Vignette
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: Lisa D'Souza
Additional Authors: Khaled Harmouch, Ahmed Chaudhary

Omental Infarction With Adenomyosis: A Very Rare Case

Introduction:

Acute onset abdominal pain has many differential diagnoses, ranging from common causes such as appendicitis and cholecystitis to the rarer diagnosis of omental infarction. Omental infarction is defined as a vascular compromise to the greater omentum. Typically, the greater omentum receives a robust blood supply from gastroomental arteries that traverse its various layers. It is a highly mobile structure and protects the peritoneal organs from adhering to one another during infections. There have been only a few documented cases of omental infarction in adults. Although previous cases have reported a predominance for the right side of the abdomen, it can occur anywhere.

Case Description:

The patient is a 58-year-old post-menopausal female G7P7007 with a past medical history of diabetes mellitus, hypertension, tobacco use, and asthma, presenting with a one-week history of sudden-onset achy abdominal pain. The pain was located between the epigastrium and umbilical areas and was non-radiating. She described exacerbating factors as actions that increased intra-abdominal pressure, including coughing and straining during bowel movements. She endorsed intermittent constipation but no other gastrointestinal symptoms. She was previously seen by her primary care physician for this pain and was referred for an ultrasound that was not completed. She denied experiencing fever, chills, dysuria, or vaginal discharge. Her physical examination revealed only mild abdominal tenderness in the umbilical area. All laboratory values were unremarkable, including a lipase of 24. A CT-abdomen showed a right-sided 0.5 x 0.3 x 0.8 cm area of fat stranding, concerning for omental infarction and a large globular appearing uterus. She was managed with conservative management with pain medication and a bowel regimen, which significantly improved her pain. She underwent a dilation and curettage procedure a week after discharge.

Discussion:

Omental infarctions are an uncommon diagnosis in the assessment of acute abdominal pain; most documented cases present with non-specific abdominal discomfort or right-sided abdominal pain. We were unable to find any previously reported cases of omental infarction with co-existing adenomyosis. The majority of prior cases of omental infarction have occurred on the right side of the abdomen, similar to our patient. However, these patients typically presented with right-sided abdominal pain that mimicked acute abdominal pathologies like appendicitis and cholecystitis. Our patient's presentation was particularly intriguing as it presented with epigastric and umbilical pain despite the lesion being located more on the right side of the abdomen. The cause of our patient's omental infarction remains unclear. Previous cases have been attributed to post-surgical complications, omental torsion and idiopathic nature. While many reported cases of omental infarction have undergone surgical management and resection, our patient improved with conservative management. It is still important to involve a surgical team in the management of an omental infarction.

Conclusion:

Omental infarction is an uncommon cause of acute abdominal pain, but it should be considered in the differential diagnosis since it can resemble various abdominal conditions.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 153
Category: Clinical Vignette
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: Zairah Fatima
Additional Authors: Asra Iqbal, MD ; Naisargee Solanki, MD ; Malitha Hettiarachchi, MD (Associate Program Director)

Severe methanol intoxication: A case report on clinical management and recovery

Methanol intoxication is a life-threatening condition characterized by severe anion gap metabolic acidosis, CNS toxicity, specifically bilateral putaminal hemorrhage, and potential optic neuropathy if not promptly managed. It often results from accidental or intentional ingestion of methanol-containing products, such as windshield wiper fluid.

A 50-year-old male presented to SGH emergency department with altered mental status after being picked up by EMS. The patient initially reported generalized body pain and endorsed ingestion of windshield washer fluid 36 hours ago. Shortly after, his mentation deteriorated further, exhibiting tachypnea, tachycardia, bilateral nonreactive pupils, absent vision and foaming at the mouth. Initial labs revealed severe anion gap metabolic acidosis with a significantly low bicarbonate, significant hyperkalemia, and a toxic methanol concentration of 392 mg/dL. Initial CT of the head showed no acute abnormalities, although repeat CT on day 3 revealed large areas of low attenuation involving the putamen, external capsule, and subcortical white matter. In the ED, the patient received rapid-sequence intubation, intravenous bicarbonate, Ativan, and Toxicology department started him on fomepizole, folinic acid, and N-acetylcysteine with recommendation of emergent dialysis. Emergent hemodialysis was initiated, reducing methanol levels from 392 to 20 mg/dL and correcting metabolic abnormalities. He was admitted to the MICU, extubated on day 3, and continued supportive care. Magnetic resonance imaging (MRI) confirmed toxicity/necrosis of bilateral lateral putamina/external capsules and subcortical white matter. Ophthalmology evaluation indicated toxic optic neuropathy with blurred optic disc margins. Rehabilitation included physical therapy (PT), occupational therapy (OT), and speech-language pathology (SLP) were consulted for persistent visual and cognitive deficits. The patient demonstrated significant improvement during his hospital stay. Within one week of admission, he was alert, oriented, and cooperative, with improved motor coordination and vision. He was transferred to the rehabilitation unit for two weeks and discharged home in stable condition under 24-hour supervision with outpatient ophthalmology and neuropsychiatry follow-up for visual problems, language deficits, cognitive issues, and problem-solving challenges.

Methanol metabolism produces formic acid as an active metabolite, which is highly toxic to the central nervous system and optic nerve, leading to severe complications and even death in certain cases. This case underscores the critical role of early recognition, and aggressive treatment of methanol intoxication. Despite the delayed presentation of the patient more than 24 hours post-methanol ingestion and the need for mechanical ventilation, prompt diagnosis and the initiation of aggressive, targeted treatment significantly facilitated quick recovery and markedly improved the likelihood of survival. Multidisciplinary care, including hemodialysis and targeted antidotes, can also significantly improve survival and functional outcomes. Long-term rehabilitation care is also crucial for residual neurological and cognitive impairments.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 154
Category: Clinical Vignette
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: Farheen Firdous
Additional Authors: Nomesh Kumar MD 1, Khalil Kamal MD 1, Hassan Afzal Cheema 1, 1. WSU/DMC Sinai-Grace Hospital

Brain Hyperintensities on Imaging in a Complex case of Sarcoidosis and SLE; A Challenging Presentation

Background:

Systemic lupus erythematosus (SLE) and sarcoidosis are separate autoimmune disorders that impact multiple organs, including the central nervous system, resulting in diverse clinical manifestations such as focal neurological deficits, seizures, and psychosis. The progression of hyperintensities on brain/brainstem MRI presents a diagnostic challenge, as these findings can be seen in a variety of conditions, including ischemic, infectious, inflammatory, and granulomatous diseases, making differentiation difficult.

Case Presentation:

We report the case of a 55-year-old female with a medical history that includes systemic lupus erythematosus (SLE), sarcoidosis, recurrent cerebrovascular accidents (CVAs), seizure disorder, and conversion disorder. She presented with new-onset worsening left-sided weakness, aphasia, and a generalized tonic-clonic seizure (GTCS). Her symptoms were preceded by three days of headaches, blurry vision, nausea, decreased appetite, and left arm paresthesia. The patient also acknowledged noncompliance with her medications. An initial CT head scan was negative for acute infarction or hemorrhage but showed diffuse hyperdense foci, raising concerns about infectious or mass lesions. A non-contrast MRI revealed scattered punctate, diffusion-restricted foci in the bilateral basal ganglia, frontal lobes, medial temporal lobes, and corpus callosum.

Further testing revealed positive anticardiolipin IgM antibodies, suggesting the possibility of antiphospholipid antibody syndrome (APLA) in the setting of SLE. During her hospital stay, the patient was managed with aspirin, statin therapy, antiepileptic drugs, and risperidone. Although warfarin was considered, it was not initiated due to concerns about the risk of intracranial hemorrhage. Ten days later, she was readmitted with a pulmonary embolism and worsening neurological symptoms, including emotional lability and conversion behaviors. Repeat MRI with contrast revealed new ring-enhancing lesions in the bilateral basal ganglia, medial temporal lobes, and other regions, along with leptomeningeal enhancement.

The combination of findings created a diagnostic dilemma, with possible diagnoses including neurosarcoidosis, CNS vasculitis, subacute lacunar infarcts, or atypical infections such as tuberculosis or toxoplasmosis. A cerebral angiogram revealed no evidence of vasculopathy, such as vasculitis or reversible cerebral vasoconstriction syndrome (RCVS). Given the ongoing diagnostic uncertainty, a brain biopsy was considered, and a lumbar puncture (LP) was performed to rule out infectious causes. The results were negative for gram stain, culture growth, leukocytosis, and syphilis VDRL. Despite extensive testing, the diagnosis remained unclear, and while a brain biopsy was discussed as a potential next step, the patient declined the procedure due to its invasive nature.

Discussion:

This case underscores the diagnostic challenges of central nervous system involvement in a patient with a history of SLE and sarcoidosis, further complicated by recurrent strokes, seizures, and worsening preexisting psychosis. The overlapping features of ischemic, inflammatory, granulomatous, and infectious conditions necessitated comprehensive imaging and laboratory investigations. Despite negative results for infection or vasculopathy, the combination of symptoms and imaging findings made it difficult to differentiate between neurosarcoidosis, CNS vasculitis, subacute infarcts, or atypical infections. The patient's decision to decline a brain biopsy highlights the difficulties in managing complex neurological cases and emphasizes the importance of careful clinical judgment in addressing diagnostic uncertainty.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 155
Category: Clinical Vignette
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: Keyla Galloza Acevedo
Additional Authors: Malitha S Hettiarachchi MD, FACP

Diverticular disease: obesity and its impact in the development and treatment of early onset diverticulitis

Introduction: Diverticulitis, a common cause of hospitalization in the United States, has traditionally been associated with older adults. However, recent trends indicate a rising incidence among younger populations, particularly those with obesity. This case report explores the role of obesity as a risk factor in the development and progression of diverticulitis in younger patients and highlights the challenges in managing complicated cases.

Case Presentation: We present a 36-year-old obese African American female (BMI: 48.1 kg/m2) with a history of recurrent diverticulitis and endometrial cancer. The patient presented with severe left lower quadrant abdominal pain, nausea, and vomiting. The patient had initially been seen at another hospital prior to admission, after presenting with similar complaints. Imaging at that time revealed chronic active diverticulitis of the descending-sigmoid junction, complicated by diverticular abscess. Patient was discharged home with antibiotics, however, was non-complaint with treatment. Initial CT imaging in current admission revealed complicated diverticulitis with abscess formation and contained perforation. Despite initial management with IV antibiotics, the patient experienced persistent symptoms and required percutaneous drain placement and eventual surgical intervention due to complications, including a colo-atmospheric fistula and necrotizing abdominal soft tissue infection. The patient's treatment involved a multidisciplinary approach, including consultations with general/colorectal surgery, gastroenterology, interventional radiology, and infectious disease specialists. Management included IV antibiotics, percutaneous drain placement, surgical debridement, and nutritional support with total parenteral nutrition (TPN). Surgical intervention was necessary to manage the complications, and the patient eventually underwent a successful sigmoid colectomy with end-to-end anastomosis.

Discussion: Obesity is increasingly recognized as a significant risk factor for the development of diverticulosis and diverticulitis in younger populations. The pathophysiological mechanisms may involve inflammatory cytokines and alterations in gut microbiota. This case underscores the importance of timely diagnosis, strict adherence to antibiotic regimens, and a multidisciplinary approach in managing complicated diverticulitis. Further research is needed to elucidate the mechanisms by which obesity contributes to diverticulosis and to develop targeted prevention and management strategies.

Conclusion: This case report highlights the association between obesity and early-onset diverticulitis, emphasizing the need for further studies to understand the underlying mechanisms. Improved patient education and adherence to treatment protocols are crucial in managing this condition and preventing complications

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 156
Category: Clinical Vignette
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: Jay Garlapati
Additional Authors: Nkechi Uzoukwu, Marc Feldman MD

The Importance Of MRI in Accurately Diagnosing Cavernous Angioma/Cavernoma: A Case Report

Cavernous angiomas, also known as cavernomas, are vascular malformations characterized by clusters of dilated blood vessels that can lead to significant neurological complications, including seizures, hemorrhages, and focal neurological deficits. We present a case of an elderly male who was initially thought to have an intraparenchymal hemorrhagic stroke but was later found to have a cavernoma instead. This case highlights the critical role of MRI in accurately diagnosing and managing cavernous angiomas, particularly in patients with confounding clinical and radiological findings.

The patient is an 81-year-old male with a history of colon cancer, COPD, hypertension, and dementia who presented to the Emergency Department with altered mental status. The patient was found by his wife after attempting to use the bathroom but was unable to return to his room and was found seated in the hallway. EMS was called, and they reported that the patient had severely elevated blood pressure and low oxygen saturation, for which he was placed on a nonrebreather mask. A CT thorax showed mucous plugging in the left main bronchus with associated airspace opacities suggestive of aspiration. A CT head revealed an acute 16 x 13 mm intraparenchymal hemorrhage in the left posterior basal ganglia and a CTA showed severe stenosis of the left brachiocephalic vein, and a hyperdense lesion in the left deep temporal lobe with small caliber tortuous vascularity suspicious for a mass or vascular malformation. An MRI of the brain was recommended but not performed once the patient's wife recalled that the patient had bullet fragments in their brain. The differential diagnosis included pneumonia, intracranial hemorrhage, stroke, acute coronary syndrome (ACS), and hypoxic encephalopathy secondary to severe COPD.

Over the next few days, patient's mentation improved, and he became hemodynamically stable. Decision was made by the medicine and neurology team to order an MRI Brain/Stem without contrast. MRI showed a 13 x 10 x 12 mm cavernous angioma/cavernoma in the left temporal lobe as well as old hemorrhages in the midbrain and bilateral temporal lobes and old infarctions in the right basal ganglia/anterior limb of the midbrain and posterior occipital lobe.

Cavernous angiomas are abnormal clusters of dilated, thin-walled blood vessels, devoid of intervening brain tissue. The blood flow within these vessels is slow, often resulting in significant vessel dilation. Most cavernomas are sporadic and likely result from de novo mutations in cerebral cavernous malformations (CCM) genes.

Cavernous angiomas, whether symptomatic or incidentally discovered, can be accurately diagnosed via MRI, which offers nearly 100% sensitivity. On T2 weighted MRI, cavernomas typically demonstrate a characteristic mixed signal "popcorn" core with a hypointense rim. Cavernous angiomas should be included in the differential diagnosis for patients presenting with potential hemorrhagic stroke. We recommend performing a brain MRI as soon as possible in such cases to enable prompt and accurate diagnosis. This approach ensures timely initiation of the appropriate treatment—whether surgical excision or targeted radiotherapy—avoiding delays and minimizing the risk of adverse outcomes due to incorrect treatment protocols or disease progression.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 157
Category: Research
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: Nick Giron
Additional Authors: Marijo Wohlfert MD

Literature review on lung cancer screening with LDCT's impact on morbidity and mortality.

Introduction Lung cancer is the leading cause of cancer-related mortality worldwide. Early detection and treatment through low-dose computed tomography (LDCT) screening has been investigated for over two decades as a potential strategy to reduce lung cancer-related deaths. However, the impact of LDCT screening on both morbidity and mortality requires further evaluation.

Methods A systematic review of literature was conducted using PubMed. Keywords included "lung cancer screening," "morbidity," and "mortality." Inclusion criteria were meta-analyses, randomized controlled trials (RCTs), and systematic reviews from the past 20 years involving human subjects and available in full text. Studies with relevant data on LDCT screening were analyzed, and duplicates were removed using Rayyan.ai.

Results The findings show that LDCT screening significantly reduces lung cancer-specific mortality by 20–24%, with a number needed to screen (NNS) ranging from 250 to 303. Meta-analyses highlighted a relative risk (RR) reduction in lung cancer mortality (RR = 0.79 to 0.92). Additionally, LDCT improved early detection of stage I lung cancer, nearly tripling the diagnosis rate of early-stage cancers (RR = 2.93). However, results regarding its effect on morbidity remain inconclusive.

Conclusion LDCT screening reduces lung cancer-related mortality in high-risk populations with significant smoking histories. While its impact on morbidity is less clear, LDCT remains an effective tool for early detection and mortality reduction. Future research should focus on refining its implementation and evaluating its influence on patient morbidity.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 158
Category: Clinical Vignette
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: MOHAMED ILIAS
Additional Authors: Krunal Moradiya, D. O, Kamal Khalil MD, Malitha Hettiarachchi, MD

Using Genetic Testing to Predict Clinical Outcomes in Patients with Incidental Basal Ganglia Calcifications on Neuroimaging

Introduction

Incidental basal ganglia calcifications, detected in 15–20% of routine neuroimaging studies, present a diagnostic challenge due to their heterogeneous clinical significance. While often benign, these calcifications may signal genetic or metabolic pathology, particularly when accompanied by neuropsychiatric manifestations such as movement disorders, cognitive decline, or seizures. Primary familial brain calcification (PFBC), linked to mutations in SLC20A2, PDGFRB, PDGFB, and XPR1, accounts for heritable cases, whereas secondary causes include parathyroid dysfunction, infections, or autoimmune processes. Historically, inconsistent terminology (e.g., Fahr's disease, idiopathic basal ganglia calcification) has obscured clinical and genetic distinctions. Recent advances in genetic profiling now enable precise categorization, with mutation-specific phenotypes offering prognostic insights. This systematic review synthesizes data from three large-scale analyses (536 cases) to evaluate whether genetic testing enhances prognostic accuracy in patients with incidental calcifications.

Methods

An initial search was conducted on PubMed utilizing the search terms "PFBC, IGBC, basal ganglia calcification, Fahr's disease, Fahr's syndrome OR calcification AND SLC20A2, PDGFRB, PDGFB" for articles between January 1, 2014 and October 14, 2024. A total of 66 records were found. After filtering by "Systematic Review", 2 records were identified and included for analysis. 1 additional record was identified after manual review of records filtered as "Review", allowing a total of 3 systematic reviews to be included in the final analysis. Between all reviews, a total of 111 unique studies and 536 unique cases were examined.

Results

Current knowledge identifies six causative genes—SLC20A2, PDGFB, PDGFRB, XPR1, MYORG, and JAM2—associated with primary familial brain calcifications (PFBC), involving both autosomal-dominant (AD) and autosomal-recessive (AR) inheritance. SLC20A2 mutations account for about 61% of cases, followed by PDGFB (12%) and XPR1 (6%). The clinical penetrance varies: SLC20A2 and XPR1 mutations have lower rates (60–70%), while MYORG/JAM2 (AR) and PDGFB (AD) mutations approach 85–100%. Symptoms differ by gene: SLC20A2 is linked to parkinsonism (21–28%), cognitive deficits (30%), and thalamic calcifications, while PDGFB is associated with headaches (32–43%) and subcortical white matter involvement. MYORG and JAM2 mutations result in severe phenotypes, such as speech disturbances and ataxia. Basal ganglia calcification is universal in PFBC, with other types correlating to mutation severity. Pseudohypoparathyroidism (GNAS/STX16) presents with seizures in 65% of cases. PDGFB mutations typically have a lower age of onset (25-30), while SLC20A2 mutations vary (28-47). Risk stratification indicates that patients with incidental basal ganglia calcifications should consider genetic testing if they have familial connections or young-onset symptoms.

Conclusion

Recent studies show gene-dependent variability in penetrance, symptom profiles, and calcification patterns. However, estimating disease progression in asymptomatic patients with incidental basal ganglia calcification remains challenging. Many of these patients, particularly those with SLC20A2 and PDGFB variations, may stay asymptomatic into later life. Early genetic testing can also cause unnecessary anxiety for patients. While the current analysis aids in risk stratification and genetic counseling, further work is needed. Future meta-analyses should include standardized phenotypic data, consistent calcification scoring via CT imaging, longitudinal cohort studies, and diverse study populations.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 159
Category: Clinical Vignette
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: Srishti Kanda
Additional Authors: Kanda, Srishti; Roto, Allaa; Kumar, Vikash; Mohammed, Shifaatullah; Hafeez, Wasif; Hettiarachchi, Malitha

Unveiling the Challenge: Resistant Hyperkalemia Induced by Biktarvy Therapy

Introduction

Hyperkalemia is a potentially life-threatening condition characterized by elevated serum potassium levels. It is commonly associated with renal failure, certain medications, or other systemic conditions. Resistant hyperkalemia is a challenging electrolyte disorder that can complicate the management of patients with multiple comorbidities, particularly those on antiretroviral therapy. Antiretroviral therapy is an essential component in the management of HIV, but specific agents can occasionally result in adverse effects, including hyperkalemia.

Case Presentation

This case report examines a 56-year-old female patient with a notable history of HIV since 2004, treated with Biktarvy, who presented to the emergency department with acute shortness of breath on May 23, 2024. Upon evaluation, she was diagnosed with pneumonia and subsequently completed a five-day course of ceftriaxone and doxycycline. During her hospitalization, her HIV management was continued, revealing a CD4 count of 97 and an undetectable viral load.

During the course of hospitalization, the patient developed acute kidney injury (AKI) on Chronic kidney disease (CKD) stage IIIb and resistant hyperkalemia. Nephrology was consulted due to concerns of nephrotic syndrome, likely secondary to focal segmental glomerulosclerosis (FSGS) stemming from her HIV status. Notably, her baseline glomerular filtration rate (GFR) was recorded at 44, with serum creatinine levels peaking at 2.3 during admission, was 1.4 on admission. The patient also underwent a renal ultrasound, which indicated mildly echogenic kidneys with cortical thinning and a small cyst in the left kidney.

Management strategies included dietary modifications to a low potassium diet, administration of sodium polystyrene sulfonate, and sodium zirconium cyclosilicate, along with close monitoring of electrolytes and renal function. FSGN was ruled out as patient did not have nephrotic range proteinuria. The decision was made to hold Biktarvy due to concerns regarding its possible role in exacerbating hyperkalemia. Following a comprehensive workup, including evaluation of plasma renin activity and aldosterone levels, the patient showed improvement; her potassium levels improved to 4.3 and stabilized, and she was discharged with a plan to continue a renal diet and follow up with nephrology.

At discharge, the patient's renal function was improving, and plans were made to resume her HIV treatment with alternative medications, including Tenofovir TAF, Emtricitabine, and Dolutegravir , the individual medications instead of the combination pill with varying doses.

Discussion

Hyperkalemia secondary to Biktarvy is a rare but clinically significant adverse effect. Bictegravir, a component of Biktarvy, has been implicated in altering renal tubular handling of potassium, particularly in patients with preexisting renal dysfunction. In this case, the patient’s chronic kidney disease likely exacerbated her susceptibility to hyperkalemia. The resolution of hyperkalemia following the discontinuation of Biktarvy strongly supports the causal relationship.

Conclusion

This case highlights the potential for Biktarvy to cause resistant hyperkalemia, particularly in patients with underlying renal impairment. It also underscores the importance of vigilant monitoring and a multidisciplinary approach in managing resistant hyperkalemia among patients receiving antiretroviral therapy, highlighting the need for individualized treatment plans to optimize both renal health and HIV management.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 160
Category: Clinical Vignette
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: Pallavi Makineni
Additional Authors: Shifaatullah Khan Shabaz Mohammed, MD; Yousef Alsmairat, MD; E M Malitha Hettiarachchi, MD, FACP

Aortic Mural Thrombus in a Critically Ill Patient: A Case Report

Introduction:

Aortic mural thrombus is typically associated with aneurysmal disease, dissection, or severe atherosclerosis but is an unusual cause of peripheral arterial embolization. Due to its rarity, the natural history and management of this condition are poorly understood, with limited case reports and small series available in the literature.

Case Description:

An 86-year-old male with a history of dementia, hyperlipidemia, and hypertension presented with acute agonal breathing, hypotension, and unresponsiveness. The patient had semi-formed stools and a productive cough in the preceding days and was mostly nonverbal at baseline due to dementia. Initial examination revealed bilateral crackles on chest auscultation. The patient was intubated upon admission, and chest X-ray identified multifocal pneumonia. A CT scan of the abdomen and pelvis revealed a chronic aortic mural thrombus extending from the diaphragmatic hiatus to the aortic bifurcation, extensive atherosclerotic vascular calcifications, a small aortic aneurysm, and diffuse small bowel thickening suggestive of ischemia, despite patent mesenteric arteries. Blood and respiratory cultures confirmed Escherichia coli septicemia and Klebsiella pneumoniae infection. Complications included NSTEMI and atrial fibrillation with rapid ventricular response. Management included vasopressors, hydrocortisone, antibiotics, and heparin therapy. Despite these interventions, the patient suffered cardiac arrest and achieved return of spontaneous circulation after 8 minutes but ultimately passed away.

Conclusion:

This case underscores the multifactorial nature of the critical presentation, with aortic mural thrombus playing a central role in the cascade of events leading to the patient's decline. In association with atherosclerotic risk factors, NSTEMI, and atrial fibrillation, the thrombus likely caused hypoperfusion of the mesenteric arteries, resulting in ischemic injury and the translocation of Escherichia coli into the bloodstream, ultimately leading to septicemia. The subsequent systemic inflammation and sepsis contributed to multifocal pneumonia, as evidenced by the growth of E. coli and Klebsiella pneumoniae in respiratory cultures. This condition, compounded by NSTEMI and atrial fibrillation, caused worsening hemodynamic instability, culminating in cardiac arrest and death despite aggressive management. The case highlights the lethal interplay between aortic mural thrombus, ischemia, and sepsis, emphasizing the critical importance of early recognition and management to improve outcomes. Given the significant complications and high mortality associated with aortic mural thrombus, heightened suspicion is essential in at-risk patients. Further research is needed to establish standardized diagnostic and therapeutic strategies for this rare but life-threatening condition.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 161
Category: Clinical Vignette
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: Shueb Mohamed
Additional Authors: Shueb Mohamed MD, Heitor Carrijo MD, Nomesh Kumar MD, Kamal Khalil MD MBA, Mohamed Siddique MD

Herb-Induced Liver Injury: A Case of Acute Hepatotoxicity Associated with Horny Goat Weed Use

Introduction:

The widespread availability of over-the-counter herbal supplements has brought attention to their potential health risks, particularly regarding liver toxicity. This report discusses a case of acute liver injury potentially linked to prolonged use of Horny Goat Weed, a supplement often promoted for enhancing libido.

Case Description:

A 53-year-old male presented to the emergency department with a one-day history of nausea and vomiting, accompanied by dark urine over the preceding days and yellowish discoloration in the eyes. There was no associated abdominal pain. The patient reported reduced food intake due to nausea and vomiting and denied recent acetaminophen use, alcohol consumption, blood transfusions, fever, chills, and changes in bowel habits. Patient medical history was unremarkable, and there was no family history of liver disease. Notably, the individual had been using Horny Goat Weed daily for over a year.

On admission, laboratory results showed markedly elevated liver enzymes (Total bilirubin 4.94, Direct Bilirubin 4.33, ALT 516, AST 185, alkaline phosphatase 320, and GGT 357), which progressively worsened, resulting in right upper quadrant pain, and persistent nausea and vomiting. Imaging, including a CT scan and right upper quadrant ultrasound, showed no abnormalities such as gallstones, tumors, or strictures. An MRCP was deemed unnecessary due to the unremarkable imaging results. An EGD revealed mild gastritis, grade 1 varices, and signs of early portal hypertension.

Further investigations ruled out autoimmune hepatitis, hemochromatosis, Wilson's disease, alpha-1 antitrypsin deficiency, primary biliary cholangitis, and sclerosing cholangitis. Medications that might cause hepatic injury, such as atorvastatin and acetaminophen were discontinued during hospitalization. Liver function improved with supportive care. The patient was counseled to avoid Horny Goat Weed, limit acetaminophen use, and refrain from restarting atorvastatin.

Discussion:

Horny Goat Weed contains icariin, a compound that may cause liver injury through oxidative stress or immune-related mechanisms. This case highlights the necessity of thorough histories regarding herbal supplement use in patients with liver dysfunction. Prompt identification and cessation of suspected hepatotoxins, along with appropriate supportive management, are critical for recovery.

Conclusion:

This report emphasizes the potential liver toxicity associated with Horny Goat Weed, a popular herbal supplement. Healthcare providers should remain alert to the hepatotoxic risks of herbal products and educate patients about their possible adverse effects. Further research is essential to better understand herb-induced liver injury and develop safe usage guidelines.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 162
Category: Clinical Vignette
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: Kim Naja
Additional Authors:

A case of Dementia with Lewy-Body

Background

Dementia with Lewy Body (DLB) is one of the main causes of degenerative dementias.Diagnosis may be quite problematic due to significant overlapping of symptoms with other neurodegenerative and mental disorders.A report about a patient with previous multiple admissions who was finally diagnosed to have DLB is presented.

A 58-year-old female was admitted with nonspecific complaints of lightheadedness and episodes of confusion. She had been attending hospitals several times in the last few months with various complaints such as persistent weakness, changes in behavior, and hallucinations. These were considered unrelated at that time. She described a decrease in her physical strength, increased dependency on others, and spent most of her time in bed. She also had a significantly increased frequency of falls now, greater than five over the last few months and greater than ten in the year preceding that, well over her baseline. She reportedly talked like a child, according to her daughter, and would have disinhibited speech.

A brain CT without contrast demonstrated mild chronic small vessel ischemic changes in the periventricular white matter and mild generalized brain atrophy. A subsequent brain MRI with and without contrast also demonstrated similar findings without evidence of acute intracranial abnormalities.

The patient received a Seroquel challenge for further supporting the suspicion of DLB. After a dose of one single 25-mg marked rigidity emerged, and it was therefore discontinued. A neuroleptic sensitivity to this degree strongly supported the diagnosis of DLB.

Rapidly progressive symptomatology, the frequent development of visual hallucinations (which included the patient frequently seeing little people) during the development of the syndrome, together with the above outcome following a Seroquel challenge- all further support the notion of the diagnosis of DLB.

Discussion

A diagnosis of dementia with Lewy bodies is difficult to establish, since many features overlap those from other neurodegenerative diseases, such as Alzheimer's disease and Parkinson's disease.In this case,the patient had mixed manifestations: behavioral changes, hallucinations, falls, generalized weakness; these were first examined separately, contributing to a delay in diagnosis. Also, the imaging findings have appeared with nonspecific changes.

A significant turning point was the patient's reaction to neuroleptic medication during the Seroquel challenge. Sensitivity to such medications is one of the defining features of DLB and provided a critical diagnostic clue. The diagnosis was supported by other cardinal signs, such as vivid visual hallucinations and fluctuating cognition.

Accurate diagnosis of DLB is important, as it provides an avenue for specific treatment to improve the outcome of patients. Following the diagnosis, the patient in question was started on amantadine at a dose of 100 mg twice daily. This brought about remarkable improvement in her cognition: her MMSE improved from 8/30 to 24.5/30 and MoCA from being able to answer only one question to 13/30.

Conclusion

This case demonstrates the need for clinicians to recognize the clinical features that DLB presents, apart from the importance of adopting customized therapeutic practices. The early identification of this condition and intervention definitely lead to an improved quality of life in such individuals.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 163
Category: Clinical Vignette
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: Maria Obeidat
Additional Authors: Madappulli Wickrama MD, Naisargee Solanki

Diabetes Mellitus and Mycobacterium Avium Complex pneumonia: A new paradigm for Opportunistic infections

Mycobacterium avium complex pulmonary disease is uncommon among healthy and immunocompetent individuals. As immune host defenses usually handle the microorganism preventing the occurrence of the disease. Uncontrolled hyperglycemia in a young patient can impair these immune defenses and increase the risk of such opportunistic infections. We present a case of necrotizing Mycobacterium Avium Complex pneumonia in a young adult with newly diagnosed uncontrolled Diabetes Mellitus.

Case description:

A 45-year-old African American male with a past medical history of hypertension presented to the emergency department with chief complaints of chills, cough, and pleuritic chest pain. On initial evaluation, He was vitally stable, febrile with a temperature of 38.2, and saturating 94% on room air. Physical examination was unremarkable. Laboratory evaluation was significant for elevated glucose at 419, elevated White Blood Cell count, normal hemoglobin, negative HIV, and negative respiratory viral panel. CT scan of the chest revealed a necrotic mass in the lingula with a small right lower lobe pulmonary nodule. He was started on empiric antibiotics and a workup for necrotic lung lesion was initiated.

During hospitalization, his blood sugar level was challenging to control and his insulin requirements were high as well. HBA1C returned 14%, and the rest of the workup was negative for Aspergillus, Mycobacterium TB, and Histoplasma. Respiratory culture showed Moderate Gram-negative bacilli and Gram-positive Cocci. However, Blood culture was negative. CT-guided FNA biopsy of the lesion was done and he was discharged on oral Augmentin course. The patient was instructed to follow up in the primary care clinic for biopsy results. On the outpatient follow-up visit, He remained symptomatic and complained of productive cough, chills, and night sweats despite taking Augmentin as instructed. His mycobacterial culture was positive for Mycobacterium Avium Complex, and the biopsy was negative for malignancy. Accordingly, the patient was started on ethambutol, rifampin, and azithromycin course for 18 months afterward. One month later, the patient presented to the clinic and reported significant improvement in his respiratory symptoms. A follow-up CT chest was done and showed almost complete resolution of the right lower pulmonary nodule along with considerable improvement of the left lung with limited residual pneumonia in both pulmonary lobes.

Clinical implication:

The Incidence of Mycobacterium avium complex pneumonia in the US is increasing, with approximately 1.4 to 6.6 cases per 100,000. Mycobacterium Avium Complex species including Mycobacterium Intracellulare and Mycobacterium chimera are ubiquitous in the environment. Still, numerous risk factors play a major role in the acquisition of the infection including old age, Human immunodeficiency virus infection, and immunosuppressive medications. Diabetes Mellitus can be an important risk factor as well. Uncontrolled hyperglycemia can impair immunity in multiple mechanisms including impairment of phagocytosis and dysregulation of cytokine release. This puts diabetic patients at increased risk of opportunistic infections such as Mycobacterium Avium Complex pneumonia which is a serious lung infection that needs urgent medical attention and treatment. Proper management of Diabetes Mellitus with optimal control of blood glucose levels helps improve immunity and decreases the rates of serious and life-threatening infections.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 164
Category: Research
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: Aditya Shah
Additional Authors: Dr. Kamal Khalil MD, Patrick Fakhoury and Caleb Zimmeran

PTSD Prevalence and Management after ICU Stay

This abstract presents the case of a patient who was admitted to the hospital due to acute respiratory failure secondary to an asthma exacerbation, requiring ventilator support for 4 days. On presentation, she is now stable and receiving appropriate treatment. However, she complains that she cannot lie flat to sleep and cannot be in dark or enclosed spaces due to severe anxiety attacks and vivid memories of her intubation. She has no prior history of anxiety or mental health conditions and acknowledges that her symptoms are a result of post-traumatic stress disorder (PTSD) stemming from her intubation and ICU stay. Given the severity of a PTSD diagnosis, a literature review was conducted to examine the prevalence of PTSD following ICU admissions and explore management strategies.

A literature search was performed using PubMed, focusing on studies published in the last 10 years. Key search terms included "PTSD," "ICU," and "Prevalence." Studies included clinical trials, systematic reviews, and meta-analyses, with participants aged 19 and older.

This literature review highlights the importance of standardizing methods for screening and identifying PTSD in ICU settings, as the actual prevalence of PTSD following ICU stays varies between studies. Recommended strategies include using tools such as the PHQ-8 and GAD-7 within one week of ICU discharge to monitor for the development of mental health conditions. A significant factor influencing the development of PTSD was identified as lapses in time or memory throughout the patient's ICU stay. For management, the use of ICU diaries was emphasized. These diaries, which can be completed by the patient, a family member, or a member of the healthcare team, document events throughout the ICU stay. For the patient in question, implementing these strategies, including the use of an ICU diary and ensuring appropriate outpatient follow-up after discharge, would be beneficial in evaluating PTSD.

This literature review reinforces the need for timely assessment and early intervention for PTSD symptoms. While the patient may be intubated during their ICU stay, tools such as the ICU diary can be at any time and even prior to extubation to help the patient understand and retain a record of events during their hospitalization. PTSD can have detrimental effects on quality of life, particularly in patients with comorbid psychiatric conditions. Further research is needed to better understand the impact of early intervention and screening on the prevalence of PTSD following ICU stays.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 165
Category: Research
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: Sabita Shah
Additional Authors: Asra Iqbal, MD; Malitha Hettirachchi, MD, FACP

Care on Hold - The Costly Delays of Insurance Prior Authorizations: A systematic review.

Background

Prior authorization, also known as precertification, requires a patient to get approval from their health plan before receiving a medication or other healthcare service. Payors employ this cost-containment strategy to allow coverage evaluation of medical services, thus controlling healthcare utilization and spending. However, studies have found that PA can inappropriately restrict medical care, resulting in more significant long-term morbidity and cost. This systematic review was conducted to determine prior authorization's effect on treatment delays.

Methodology

Pubmed was used as a data source. We used the keywords "Prior Authorization" and "Treatment Delays." Inclusion criteria were studies within the last 10 years, with an endpoint of prior authorization and treatment delays, and human studies with participants >= 19 years old. An initial search with inclusion criteria resulted in 13 studies. After screening, five articles met our eligibility criteria. Four articles were best related to the topic and objectives after full-text reviews.

Result

The study, conducted in one of the rheumatology-dermatology clinics, highlighted the burden of prior authorizations (PAs) on patients with complex dermatologic conditions in terms of treatment delays, increased administrative costs, and financial strain on providers. The study, covering 639,345 opioid use patients from 2017-2018, found that opioid use decreased, MAT initiation increased, and relapse rates dropped by 4% after 2018 policy changes. It suggests that removing prior authorization barriers to MAT could improve opioid use disorder outcomes and calls for increased treatment access. The retrospective study at the National Cancer Institute (2015-2018) found that 64% of adult patients needing prior authorization (PA) for proton beam therapy were initially denied, with 32% remaining denied after appeal. PA delays treatment by an average of 3 weeks, and 19% of denied patients abandoned treatment. The study, conducted in 2017, compared patients with and without prior authorization (PA) delays for outpatient parenteral antimicrobial therapy (OPAT). It found that PA delays led to more discharges to subacute care facilities, longer discharge times, and higher hospital costs.

Discussion and conclusion

Prior authorization (PA)requirements are causing significant delays in patient care, complicating discharge processes, and adding to the administrative burden on providers. This is especially problematic for outpatient treatments like proton beam therapy, outpatient antibiotic therapy, and medication-assisted treatment for opioid use disorder. Streamlining PA policies and aligning them more closely with clinical guidelines could improve access to care, reduce delays, and improve patient outcomes. The studies recommend reforms like expedited approvals and reimbursement for out-of-pocket expenses. To achieve this, closer collaboration between

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 166
Category: Clinical Vignette
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: Arbaz Syed
Additional Authors:

Severe Hypertensive Emergency and Renal Failure Unmasking Polyarteritis Nodosa in a Young Female: A Case of Diagnostic Complexity

Background

Polyarteritis nodosa is a rare systemic vasculitis characterized by the inflammation of medium-sized arteries that can lead to multiorgan damage. Hypertensive emergencies presenting in young patients without previous diagnosis often raise suspicion for secondary causes, including autoimmune diseases. This case illustrates the challenge of diagnosis due to overlapping clinical features and the progression toward a definitive diagnosis of PAN with renal involvement.

Case Presentation

A 38-year-old female with no significant past medical history presented with progressive lower extremity swelling, fatigue, nausea, and a hypertensive crisis (BP 223/131 mmHg). Initial workup revealed acute renal failure (creatinine 16.5 mg/dL, BUN 155 mg/dL), severe anemia (hemoglobin 7.4 g/dL), nephrotic-range proteinuria, and hematuria. Findings raised concerns for glomerulonephritis secondary to an autoimmune process; however, extensive serologic tests for autoimmunity were negative. Renal biopsy revealed thrombotic microangiopathy consistent with hypertensive nephrosclerosis.

The biopsy was complicated by an active bleeding perinephric hematoma that required embolization by interventional radiology. Follow-up imaging showed multiple small renal aneurysms and a pseudoaneurysm, consistent with PAN. PAN with renal involvement was diagnosed to be the cause of the hypertensive emergency in this patient. The glomerular damage was from chronic severe hypertension. A diagnosis of renal failure was made and dialysis started. After embolization and blood transfusions, the patient stabilized.

Clinical Implication: PAN should be considered in young patients with hypertensive emergencies and renal failure in the presence of aneurysms or vascular abnormalities on imaging. Renal involvement in PAN may masquerade as glomerulonephritis; thus, the diagnosis may be difficult to make. Thus, early recognition and management of PAN is highly crucial in preventing serious organ damage. This case therefore illustrates the need for a multidisciplinary approach with judicious use of invasive procedures due to the risk of complications like post-biopsy bleeding.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 167
Category: Clinical Vignette
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: Afeda Taher
Additional Authors: Anh Tuan Mai 1, Yongqi Xu 2, Zairah Fatima 1 Affiliation: 1 Department of Internal Medicine, Sinai-Grace Hospital/Detroit Medical Center, Wayne State School of Medicine, Detroit, MI 2 Michigan State University College of Osteopathic Medicine

"Rethinking the Norm: A Rare Case of Left-Sided Endocarditis in IV Drug Use—A Case Report"

Introduction:

Intravenous drug use (IVDU) is widely acknowledged as a major risk factor for infective endocarditis (IE). The increasing prevalence of substance abuse has been implicated in a rise in IE-related hospitalizations. Although IVDU traditionally leads to right-sided IE, the incidence of left-sided IE in this population is growing, bringing with it a unique set of challenges. However, the underlying pathophysiology remains unclear. Despite multiple reported cases, there is a notable shortage of studies examining the specific clinical characteristics and outcomes in IVDU-associated left-sided IE. Here, we present a case of left-sided endocarditis in a patient with a history of intravenous drug use who developed extensive complications.

Case Report:

A 48-year-old Caucasian female with a past medical history of newly diagnosed HIV, recent cerebrovascular accident (CVA), fibromyalgia, gastroesophageal reflux disease (GERD), and a history of intravenous drug use presented to the hospital with altered mental status (AMS), reporting feeling unwell, not herself, and confused. She also endorsed fevers and a dry cough for the past week. A computed tomography (CT) scan revealed a subacute stroke in the left medial occipital lobe, a large left pleural effusion, massive splenomegaly with a chronic subcapsular abscess, and a multiloculated fluid collection consistent with a left perirenal abscess. A transesophageal echocardiogram (TEE) demonstrated an anterior mitral leaflet abscess and an echogenic defect in the descending aorta. Serial blood cultures and splenic fluid cultures grew methicillin-resistant Staphylococcus aureus (MRSA). She received multidisciplinary management, such as pigtail catheter drainage of the splenic and renal abscesses, drainage of the pleural effusion. A prolonged course of intravenous antibiotics—vancomycin, ceftriaxone, rifampin, metronidazole, and cefazolin—was administered.

Discussion:

A review of 161 studies, culminating in 24 eligible reports and 26 active IVDUs, underscores that left-sided IE can indeed be a significant entity among IV drug users—81% of the patients had isolated left-sided IE, while 19% had both right- and left-sided involvement. The mitral valve was affected in 70% of cases, followed closely by the aortic valve in 58%. Staphylococcus aureus was the most frequent pathogen (50%), paralleling the clinical case's MRSA infection. Complications were common: 65% of patients experienced septic emboli, which frequently involved the brain, lungs, spleen, and kidneys. The severity is further emphasized by the 27% incidence of circulatory shock and an in-hospital mortality rate of nearly 40%.Taken together, these findings highlight that left-sided IE in IVDUs is not as rare as previously assumed and can be more severe and life-threatening than right-sided IE, particularly due to large vegetation and the propensity for systemic embolization.

Conclusion:

Left-sided infective endocarditis in intravenous drug users remains an underrecognized yet highly morbid condition, as evidenced by the presented case and supported by the literature. Early diagnosis through comprehensive imaging coupled with aggressive, targeted antimicrobial therapy and a multidisciplinary treatment approach is essential. Timely, integrated management can help mitigate the significant morbidity and mortality associated with left-sided IE in this population. The complexity of this disease further underscores the need for additional research into its pathogenesis and optimal therapeutic strategies.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 168
Category: Clinical Vignette
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: Muhammad Taimur
Additional Authors: Malitha Hettiarachchi, MD

Mid-LAD Myocardial Bridging in a patient presenting with NSTEMI

Introduction:

Myocardial Bridging (MB) occurs when a portion of a coronary artery gets tunneled inside the myocardium. Left Anterior Descending (LAD) Artery is the most commonly implicated artery. Furthermore, Dual LAD anomaly with myocardial bridging is a rare finding found in a minority of patients.

Typically, MB patients are asymptomatic on presentation but can be associated with acute coronary syndromes, exertional angina, cardiac arrhythmias, syncope, and sudden cardiac death. MB is often associated with Hypertrophic Obstructive Cardiomyopathy. Most cases of MB are confirmed by autopsy with a prevalence of 86%. The prevalence of Coronary CT Angiography (CCTA) confirmed cases of MB is around 25%. On coronary angiography (CA), the prevalence is lowered to 2-6%.

We present an atypical case of MB with NSTEMI diagnosed using CA in a 65-year-old man with Type IV dual LAD coronary variant.

Case Presentation:

A 65-year-old male with a history of hypertension and left ventricular hypertrophy presented to the emergency department due to midsternal 7/10 crushing chest pain with mid-epigastric abdominal pain, nausea, nonbilious clear vomiting, and an episode of presyncope. Chest pain started abruptly after nausea and vomiting ensued four days prior to presentation. His chest discomfort worsened on exertion and was relieved with rest without radiating to his jaw or left arm.

The cardiac exam was benign. EKG showed a normal sinus rhythm with nonspecific ST-T wave changes. The initial troponin I high sensitivity was 125 with a peak of 129. To rule out NSTEMI type 2, CA was performed which demonstrated a Type IV dual LAD anomaly with mid-LAD myocardial bridging leading to 80% obstruction due to systolic narrowing indicative of milking phenomenon. 2D echocardiogram showed an LVEF of 70%. Thus, the diagnosis of mid-LAD MB with systolic obstruction was identified as the cause of the patient's symptoms. We started him on Aspirin 81mg, Amlodipine 10mg, and Atorvastatin 40mg. Chest pain subsided and we discharged him on hospital stay day 4 with outpatient follow-up with the cardiologist.

Discussion:

Myocardial Bridging is generally a benign finding on CA and is not a cause for concern typically. Most patients with MB are asymptomatic. However, multiple cases have demonstrated stable or unstable angina, vasospastic angina, or acute coronary syndrome (ACS) due to MB complications. In our case, the patient presented with atypical symptoms leading to an initial evaluation for acute mild gastritis. A negative workup resulted in an evaluation for a cardiac cause for his symptoms. The positive finding of myocardial bridging in the setting of raised troponins pointed toward a myocardial injury.

Additionally, the finding of dual LAD anomaly on coronary angiography is reported as occurring in 0.64-1.3% of patients. Type IV subtype of this anomaly is even rarer with few cases described in literature.

In conclusion, we propose that MB should be included as a differential when evaluating patients with coronary artery anomalies for ischemia in the setting of atypical symptoms.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 169
Category: Clinical Vignette
Residency Program: Wayne State University Detroit Medical Center Sinai Grace
Presenter: Syeda Kisa Fatima Zaidi
Additional Authors:

Challenges in Managing a Patient with Recurrent Aspiration Pneumonia Post-Gastric Pull-Through Surgery

Introduction:

Aspiration pneumonia is a significant complication in patients with anatomical and functional alterations of the gastrointestinal and respiratory systems, causing micro and macro aspiration of oropharyngeal and gastric contents into the lungs. This report highlights the case of a 55-year-old male with a history of esophagectomy and gastric pull-through surgery following lye ingestion at age two, who experienced recurrent aspiration pneumonia. This case underscores the complexities of managing such patients and explores innovative treatment strategies.

Case Presentation:

A 55-year-old male with gastric pull-through surgery and COPD on home oxygen presented with acute-on-chronic dyspnea, productive cough, fever, and chest pain. On arrival, he was hypoxic, tachycardic, and febrile, with an oxygen saturation in the 70s. BiPAP improved oxygenation. Physical exam revealed cachexia, respiratory distress, bilateral crackles, and wheezing. Imaging showed bilateral pleural effusions, left bronchopneumonia, pericardial effusion, and a stable cavitary lesion. Labs indicated mild leukocytosis, lactic acidosis, and respiratory acidosis.

His medical history included a stable right apical cavitary lesion from 2020, associated with Mycobacterium chimaera intracellulare, and esophageal stricture with no perforation. Empiric antibiotics (Vancomycin, Zosyn) and nutritional support were initiated. BiPAP was cautiously used given the aspiration risk. He was counseled on smoking cessation and discharged with a multidisciplinary follow-up plan.

Discussion:

Managing patients post-gastric pull-through surgery is complex due to anatomical alterations that increase aspiration risk. Loss of the esophageal sphincter contributes significantly, while impaired airway protection due to vocal cord denervation exacerbates the risk. Anatomical changes disrupt swallowing mechanics, further elevating aspiration susceptibility. Even when bowel segments replace the esophagus, the aspiration risk persists. Non-invasive ventilation, such as BiPAP, adds challenges by potentially worsening aspiration and complicating intubation.

Nutritional deficiencies are another concern, with impaired absorption and dysphagia contributing to weakened immunity, delayed recovery, and infection susceptibility. Altered anatomy also fosters bacterial colonization, complicating infection management. Emerging innovations aim to improve outcomes. Synthetic esophageal transplantation and tissue engineering using scaffolds offer promising future alternatives to gastric pull-through surgery. New airway management techniques, including minimally invasive resections and fiberoptic intubation, are being explored to reduce complications.

Routine nasogastric decompression and rehabilitation strategies may prevent aspiration, though studies yield mixed results. Multidisciplinary care remains critical for managing these patients. Innovative approaches, such as using the small intestine to replace the esophagus, have shown promise, as evidenced by a successful transplant at Stanford.

Intubation in these patients is challenging, requiring thorough pre-evaluation. Fiberoptic intubation, particularly in a sitting position, may be necessary. Emergency physicians should be skilled in airway management techniques, including sitting oral tracheal intubation, which requires precise patient and operator positioning.

This case highlights the importance of comprehensive care for patients with gastric pull-through surgery and suggests that emerging advancements may mitigate complications and improve outcomes.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 170
Category: Quality Improvement/Patient Safety/High Value Care
Residency Program: Wayne State University Providence Rochester Hospital
Presenter: Anthony Calabrese
Additional Authors: Pradeep Pentapurthy, MD, Javaria Asif, MD, Ali Ahmed, MD, Vesna Tegeltija, MD.

Reducing Unnecessary Carbapenem use in a Community Hospital: A Quality Improvement Initiative

Introduction: Carbapenems are frequently prescribed in the hospital environment when managing gram-negative infections and are often considered the last line of defense against multidrug-resistant (MDR) organisms. To support antimicrobial stewardship, it is important to protect this class of antibiotics, as gram-negative infections pose the highest risk for mortality. Although this class of antibiotic is often preferred for gram-negative infections, improper use threatens the bacterial resistance we see surging in the Metro Detroit area. Our community hospital is not immune, though, our hospitals Antibiogram suggests lower rates of antibiotic resistance requiring this class of medications.

AIM: Our QI project aims to identify inappropriately initiated Carbapenem's, and reduce those prescriptions by 40% over a 1 year period.

Methods: The IHI model was used to guide and format this project with the Plan-Do-Study-Act (PDSA) cycle to test change. The pharmacy department provided prescription data for the time period of 2024. This allowed for a root cause analysis of Carbapenem usage, allowing us to evaluate bacterial isolates warranting Carbapenem use, susceptibilities, length of treatment, and proper de-escalation. Our hospital system already has an EMR “pop-up” assessing the necessity of prescribing Carbapenems and evaluating ID physician involvement. It was noted that among the group of patients improperly started on carbapenems, the first dose was often prescribed before an ID specialist was brought on board. We are currently on our 1st PDSA cycle of the implementation stage. During this cycle we are educating residents, APP’s, and emergency department practitioners on the IDSA’s guidelines for choosing carbapenems while reinforcing the current “pop-up” during prescribing.

Results: Prior to implementing our educational session, prescribing data was obtained from the period of July 2024 to December 2024 for prescriptions of Ertapenem and Meropenem, as those are the two available formularies. A total 18 patients were started on treatment with Ertapenem, and 67 patients were treated with Meropenem during this period. The Ertapenem group was often prescribed on discharge when susceptibilities confirmed necessity. The Meropenem group was further broken down by bacteria, with Extended-spectrum

beta-lactamas E.Coli, and Proteus mirabilis accounting for 54% of treatments, MDR Pseudomonas aeruginosa and Acinetobacter baumannii accounting for 37% of treatments, and Enterobacter cloacae, Klebsiella aerogenes, and Citrobacter freundii accounting for the remaining 9%. The 67 Meropenem patients were also evaluated by location. Treatments started in the emergency department accounted for 48% of cases, upon admission on the medical floor accounted for 34%, and the ICU accounted for 18%. This provided structure for our educational session emphasizing on treatment guidelines when susceptibilities or infection history is not present.

Conclusion: Decreasing inappropriate Carbapenem use can result in decreased cost for the hospital systems, but more importantly, a reduction in unnecessary antibiotic exposure that is feeding the nationwide surge in Carbapenem resistance. Despite the often necessary use of this class of medications, and the current safe-guards in place during prescribing; ID specialist input, and strong clinical knowledge of treatment guidelines for Gram-Negative infections is crucial for mitigating upholding antimicrobial stewardship in the hospital setting.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 171
Category: Clinical Vignette
Residency Program: Wayne State University Providence Rochester Hospital
Presenter: Rochelle Jayavendra
Additional Authors: Umer Javaid, Stephanie Centeno Gomez, Mohammed Mohammed Ali, Zain Kulairi

Septic Arthritis of the Pubic Symphysis – A Rare Location with a Rare Microorganism

Introduction

Septic arthritis involving the pubic symphysis constitutes less than one percent of cases. We present a case of septic arthritis involving the pubic symphysis, positive for Streptococcus dysagalacticea.

Case Presentation

A 71-year-old male with history of stage IV prostate adenocarcinoma status-post radiation and chemotherapy, hypertension and arthritis presented to the ED with complaints of suprapubic pain. Patient stated that pain was sudden in onset, sharp and constant in nature. He described it as a 9/10 in severity and exacerbated by movement. In the ED, patient was febrile and tachycardic. Labs were remarkable for WBC 16.8, and CRP 18.53. Physical examination showed tenderness to palpation to suprapubic region, without radiation.

CT abdomen/pelvis showed innumerable enhancing hepatic lesions and numerous densely sclerotic lesions throughout the axial skeleton. However, patient's pain continued to persist despite medication. As patient's pain could not be explained by CT scan findings, MRI was ordered. MRI pelvis revealed septic arthritis of the pubic symphysis, with deep myositis changes along with blastic metastatic disease of the lower lumbar spine and bony pelvis. Following this, ultrasound guided joint aspiration was completed and patient was started on IV cefazolin. Blood cultures and fluid collected from the pubic symphysis were positive for Streptococcus dysagalacticea, with sensitivity to cephalosporins. Patient was provided with IV cefazolin for 3 days, with improvement of symptoms. He was then discharged home with 28 days of Keflex 500mg Q6H, along with pain medications as needed.

Discussion

Septic arthritis involving the pubic symphysis constitutes less than one percent of cases. However, in addition to its rare location, our patient was noted to be positive for a Streptococcus dysgalactiae septic arthritis. Therefore, the presence of Streptococcus dysgalactiae and within the pubic symphysis, resulting in septic arthritis was an uncommon occurrence. Those individuals with risks including pelvic surgery, IVDU, history of arthritis and malignancy also predispose themselves to septic arthritis, specially of the pelvic region. Therefore, it can be seen that the history of prostate cancer, history of arthritis and immunocompromised predisposed him to septic arthritis. On the other hand, it is important to be able to differentiate patient's underlying malignancy from infection. Thus, patients with these risks, with complaints of fever, and pubic tenderness, suspicion for septic arthritis of the pubic symphysis should be considered, especially due to rarity and variable presentation of the disease. Differentiating the clinical signs along with positive blood culture could also help differentiate between malignancy vs. septic arthritis. Finally, while Streptococcus dysgalactiae can be found in the normal flora of human skin, nasopharyngeal cavity, genitourinary tract and gastrointestinal tract, there are risk factors that could lead to this rarity which can be also noted for the future. In particular, it was found that patients with preexisting arthritis, immunocompromised state, like in our patient, or prosthetic joins can be predisposed to septic arthritis involving Streptococcus dysgalactiae. Therefore, understanding the patient's history, clinical symptoms and the above risks can provide us with evidence for differential diagnosis, which are often rare, and variable in presentation.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 172
Category: Clinical Vignette
Residency Program: Wayne State University Providence Rochester Hospital
Presenter: Ruchik Kevadiya
Additional Authors: Nour Aldaoud, Priya Mishra, Pranav Chalasani, Pradeep Pentapurthy, Nishit Choksi MD, FACG

Pacemaker-Induced Superior Vena Cava Syndrome: A Case of Thrombosis and Anticoagulation Failure Highlighting Diagnostic and Therapeutic Challenges

Background

Superior vena cava (SVC) syndrome refers to a group of signs and symptoms caused by partial or complete obstruction of blood flow through the SVC. Benign causes now account for at least 40% of cases, with iatrogenic factors like thrombus formation or SVC stenosis from pacemaker wires and semipermanent intravascular catheters (used for hemodialysis, antibiotics, or chemotherapy) increasingly recognized. We present a 71-year-old female who developed facial and neck swelling due to SVC syndrome caused by pacemaker wire-induced thrombosis.

Case

A 71-year-old female with CAD, HFpEF (EF 55–60% per echo 12/2023), atrial fibrillation on Eliquis, SVT, Sick Sinus Syndrome status post PPM placement (2018), asthma, and COPD presented with facial and neck swelling associated with dysphagia. She reported one day of swelling in the context of chronic extremity swelling treated with Lasix, along with subacute shortness of breath and cough worsened by the current episode. On arrival, vital signs were HR: 76, RR: 17, BP: 102/57, SpO_2: 97%. Physical exam showed facial and diffuse neck swelling, bilateral forearm swelling (left > right), bilateral hand edema, and 1+ lower extremity edema. Cardiopulmonary findings were unremarkable. Initial workup, including troponin, BNP, chest X-ray, EKG, and bilateral upper extremity Doppler, was normal. CT chest and neck with contrast showed diffuse anasarca in the bilateral neck soft tissues.

Decision-Making

The patient was initially treated for a suspected allergic reaction with Decadron, leading to mild improvement. Lasix was held due to hypotension and suspected sulfa allergy. The next day, her dry cough and swelling worsened. A CT venogram revealed attenuation of the left brachiocephalic vein at its junction with the right brachiocephalic vein and attenuation of the SVC distal to the azygos vein junction, suggesting significant stenosis.

Echocardiogram showed severe apical hypokinesis, and the patient was started on metoprolol tartrate 25 mg BID. CTA FFR was unchanged. An SVC venogram revealed severe SVC stenosis with a thrombus at the pacemaker wire entry site. She was diagnosed with pacemaker-induced SVC syndrome with Eliquis failure and transitioned to Xarelto 15 mg BID for three weeks, then 20 mg daily. Swelling improved, and she was advised to wear compression sleeves. She was discharged home with follow-up in one week for cardiology evaluation and repeat imaging in six weeks to assess thrombus resolution, with angioplasty and stenting planned if necessary.

Conclusion

This case highlights the challenges in diagnosing and managing pacemaker-induced SVC syndrome, particularly with concurrent anticoagulation failure. A growing number of SVC syndrome cases are linked to venous thrombus formation secondary to pacemaker wires. Vigilance is crucial in patients with pacemaker implants to identify and manage rare but severe complications like SVC syndrome.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 173
Category: Clinical Vignette
Residency Program: Wayne State University Providence Rochester Hospital
Presenter: Vamsi Krishna Lavu
Additional Authors: Pranav Chalasani, Eli Diab, Palpasa Bhui, Mousa Hammoud, Nishit Choksi

Infective Endocarditis From Escherichia Coli Sepsis in the Setting of Mitral Valve Clipping: An Uncommon and Complex Presentation

Background: Mitral valve endocarditis is a rare but serious complication, particularly in patients with pre-existing cardiac pathology, including valvular

disease or prior interventions such as mitral valve clipping. Escherichia coli (E. coli), a non-HACEK (Haemophilus species, Actinobacillus, Cardiobacterium, Eikenella, or Kingella) Gram-negative bacillus, is an uncommon cause of infective endocarditis (IE), accounting for 2.5-3% of cases, but carries a significantly higher mortality rate (20-30%) than HACEK-related IE. This case report highlights E. coli-induced mitral valve endocarditis and sepsis in a 76-year-old female with a history of mitral valve clipping.

Case Presentation: A 76-year-old female with a history of atrial fibrillation on Eliquis, non-ischemic cardiomyopathy with an implantable cardioverter defibrillator (ICD) and permanent pacemaker, and mitral valve clipping 5 years ago, presented with weakness and a fall. She reported a gradual onset of weakness and fatigue over 3 days. On arrival, the patient was hypotensive (70/31 mmHg), febrile (102°F), and had a heart rate of 100 beats per minute, suggestive of sepsis. Initial labs showed elevated white blood cell count (24.9 Thous/mcL), lactic acid (2.6 mmol/L), troponin (0.38 ng/mL), and creatinine (2.67 mg/dL). Urinalysis was positive for urinary tract infection (UTI). The patient received a 30 cc/kg fluid bolus, blood and urine cultures were obtained, and Intravenous (IV) ceftriaxone was started. Despite this, her hypotension persisted, requiring Intensive Care Unit transfer and IV norepinephrine for hemodynamic support. Due to elevated troponin levels, a transthoracic echocardiogram (TTE) revealed a reduced ejection fraction (45-50%), severe mitral valve thickening, and moderate regurgitation, without vegetation. Suspecting endocarditis, a transesophageal echocardiogram (TEE) showed a clip on the mitral valve, moderate regurgitation, and an echogenic density on the ventral aspect of the mitral valve suggestive of vegetation. Positive blood cultures for E. coli confirmed mitral valve endocarditis likely secondary to E. coli bacteremia from the UTI, progressing to sepsis. The patient received 6 weeks of IV ceftriaxone.

Discussion: Endocarditis due to E. coli, a non-HACEK GNB, is uncommon and often linked to urological infections. Prompt diagnosis through echocardiography, cultures, and appropriate combination therapy is essential for improving outcomes, though surgical intervention may be warranted in severe cases. In this case, the patient's mitral valve clip likely predisposed her to endocarditis and subsequent sepsis. This case highlights the importance of considering endocarditis and sepsis in bacteremia cases, especially involving non-HACEK GNB pathogens, and the need for expert collaborative management.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 174
Category: Clinical Vignette
Residency Program: Wayne State University Providence Rochester Hospital
Presenter: Priya Mishra
Additional Authors: Joseph Vercellone, Rochelle Jayavendra, Ruchik Kevadiya, Joiven Nyongbella, Kopal Kotak

Leukocytosis in heart failure exacerbation

Case Description:

This a 82-year-old female with past medical history of hypothyroidism, depression, hyperlipidemia, peripheral vascular disease s/p groin stent in 2022 who came to the hospital for sudden onset worsening shortness of breath. Patient denied any cough, chills, phlegm, fever, sick contacts, recent travel history, chest pain, palpitations, dizziness, headache, leg swelling. Patient denied any history of CAD, arrhythmia, heart failure or COPD exacerbation. Patient did endorse a smoking history of more than 40 pack years, quit 10 years ago. In the ED patient had a blood pressure of 126/67, heart rate of 104, saturating 77% on room air. Patient was started on oxygen protocol and maintained on 12 L of oxygen by nasal cannula. Labs showed sodium-142, potassium-4.1, lactate-1.9, creatinine-0.96, WBC-9.4, hemoglobin-12.1, troponin-0.2>0.2>0.01, BNP-909. Patient tested negative for COVID, RSV, flu and her chest x-ray was significant for interstitial density edema or infection. EKG obtained showed normal sinus rhythm. Chest CT angiogram findings included no pulmonary embolism, bilateral effusions consistent with congestive heart failure, underlying centrilobular emphysema and hiatal hernia. Patient was given 40 mg of IV Furosemide and supplemental oxygen. The next day of admission, patient had a white blood cell count of 13 thousand with Neutrophil predominance and also had tachycardia. Repeat Xray showed Interstitial pulmonary edema with small bilateral pleural effusions with adjacent atelectasis or pneumonia at the lung bases. Patient was empirically started on iv antibiotics with continued diuresis. Echo showed EF of 55-60%, moderate MR, mild-moderate TR and severe pulmonary HTN indicating a diagnosis of Heart Failure with preserved Ejection Fraction. Workup for Pulmonary hypertension was done and bronchodilator therapy was initiated. Antibiotics were discontinued due to lack of concern for Pneumonia after negative blood and sputum culture. Patient clinically improved with intravenous Lasix and breathing treatment with supplemental oxygen. Patient's leukocytosis resolved and her oxygen requirement reduced to 2L by nasal cannula. Patient was advised to follow up with a Cardiologist for right heart catheterization for Pulmonary Hypertension.

Discussion:

Leukocytosis in the presence of shortness of breath often inclines towards an infectious etiology. However there is sufficient literature indicating that leukocytosis can occur in the setting of heart failure as a marker for inflammation. This patient did receive antibiotics because of equivocal chest Xray findings as well as clinical picture which could have been avoided. Persistent leukocytosis in heart failure indicates adverse cardiac remodeling and chronic inflammation, leading to poorer clinical outcomes secondary to prolonged activation of Neutrophils leading to myocardial damage through the release of cytotoxic substances and the formation of neutrophil extracellular traps (NETs), which contribute to fibrosis and left ventricular dysfunction. Studies have shown that leukocytosis along with higher admission blood pressure, lower oxygen saturation, and increased troponin levels can be used to indicate disease severity, however it cannot be correlated to long term prognosis. Monitoring leukocyte counts can provide valuable prognostic information and help guide therapeutic strategies aimed at modulating the inflammatory response.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

Resident Poster # 175
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Overutilization of Proton Pump Inhibitors (PPIs) in a Community Hospital

Introduction: Proton pump inhibitors (PPIs) are commonly used medications, indicated for gastroesophageal reflux disease (GERD), erosive esophagitis, and prophylactic use in patients with high risk for stress ulcerations. Long-term PPI therapy is associated with nutritional deficiencies including B12 deficiency, higher risk of fractures, kidney injury and C. difficile infection. Discontinuation of stress ulcer prophylaxis upon hospital discharge and re-evaluation of continued PPI therapy is an important step in the prevention of continued use during readmissions. We observed a high incidence of PPI therapy on discharge medication reconciliations in our community hospital without clear indication.

Aim: We aim to reform the process of inpatient PPI prescriptions based on clinical indications of therapy with the goal of reducing utilization and associated costs of PPIs by 30% over the course of 6 months.

Model for Improvement: Using the IHI model for improvement, a quality improvement (QI) project was initiated. Institutional Review Board approval was obtained. Data collection over a two-month time span was collected for background information showing overutilization of PPIs amongst all inpatient admissions. Data analysis showed only 32.8% of patients met the criteria for stress ulcer prophylaxis, with the most common cause being trauma (29.5%) followed by a history of GI bleeding (26.2%). A single dose of oral pantoprazole cost $5.26 and the associated patient charge was $17.50. Intravenous (IV) pantoprazole cost $5.48 and the patient charge was $36.91. With an estimated decrease of 30% in PPI utility, we also aim to decrease associated hospital costs. Root cause analysis revealed a lack of knowledge regarding PPI indications and adverse effects amongst providers and staff. A Plan-Do-Study-Act (PDSA) cycle was used to test change. As part of the first PDSA cycle, an educational session on the “Use of Proton Pump Inhibitors: Indications for Inpatient Prescriptions” provided education on indications, contraindications, and adverse effects to resident teaching services and advanced practice providers, as this composed the second largest majority of PPI orders for inpatient admissions. Post-intervention, 100 charts will be reviewed that met inclusion criteria to determine if the education provided resulted in appropriate medication utility awareness and decreased utility.

Conclusion: Our study aims to decrease inpatient PPI administration by 30% after multidisciplinary education. Although the post-intervention sample size is smaller, the education session is anticipated to elicit a positive response within a month. In order to maintain this trajectory, the next PDSA cycle will involve optimizing EMR order options, requiring the selection of PPI indications prior to prescribing the medication.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

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Antihypertensive Pancreatitis: When the Treatment Triggers the Disease

Introduction

Hydrochlorothiazide-induced pancreatitis has the potential to cause direct pancreatic injury. We present a case of a patient started on this anti-hypertensive, leading to pancreatitis, highlighting the need for early recognition and careful medication review.

Case Presentation

Patient is a 51-year-old male with a past medical history significant for type 2 diabetes mellitus, hypertension and chronic back pain with nerve stimulator who presented to the ED with complaints of left sided back pain, nausea and chills. He stated that for about 3 days, he had been experiencing nausea, weight loss, fever, chills and back pain. He mentioned that back pain was left sided with radiation to his chest. He denied any alcohol use, change in diet or trauma. However, did state that he was started on hydrochlorothiazide for hypertension about 4 weeks prior to his symptoms. Since initiation of medication, he reported that he had intermittent abdominal pain and diarrhea. Upon admission, patient was noted to be febrile and tachypneic due to pain. Labs were remarkable for leukocytosis and an elevated lipase of >1200. Liver enzymes, triglycerides and calcium were within normal limits. CT abdomen showed acute pancreatitis with no evidence of cholelithiasis. Patient was recommended to discontinue hydrochlorothiazide and treated with IV fluids and pain management.

Upon re-evaluation, he continued to report mild, yet persistent left upper quadrant pain. Further imaging was completed, which noted necrotic tissue with fluid collection of the pancreas. Patient was transferred to another facility for pancreatic stent placement. Following this, symptoms had completely resolved, and patient was discharged home.

Discussion

Hydrochlorothiazide-induced pancreatitis is noted to be rare condition with limited reports in literature. It is proposed that hydrochlorothiazide can result in hypercalcemia, along with possible hyperlipidemia. Given this, these labs disturbances can lead to direct damage to pancreatic cells and/or reduce blood flow. It is also understood that certain patient populations, including those with type 2 diabetes mellitus, are at a high risk of pancreatitis. Additionally, older individuals with multiple comorbidities, pose as risks due to the metabolic effects resultant from thiazides. Therefore, it is important to identify those patient populations with increased risk, while also understanding that hydrochlorothiazide can cause pancreatitis. Given this, screening for those at risk are recommended and involve serial monitoring of pancreatic enzyme levels. For those patients with clinical signs concerning for pancreatitis including nausea, vomiting and abdominal pain, the medication should be discontinued as soon as possible. Additionally, it is recommended that if symptoms persistent, despite lipase remaining normal, that suspicion remain high and that imaging such as CT and MRI be completed. Regular monitoring of serum electrolytes and kidney function is key for patients, due to the metabolic effects with hydrochlorothiazide, leading to pancreatitis.

Thus, identifying symptoms early especially with those started on the medication, and discontinuing the drug in suspected cases is critical to avoid serious complications like necrotizing pancreatitis, seen in our patient. Identifying the high-risk population of diabetics and elderly, with close monitoring can be reinforced to prevent complications in the future.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

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EKOS Intervention with Double-Dose Tissue Plasminogen Activator (tPA) for Treating Massive Pulmonary Embolism

Background:

Pulmonary embolism (PE) is a life-threatening condition with a high crude mortality rate of 13.3 per 100,000 population. The treatment approach depends on the presence of right ventricular strain and/or hemodynamic instability. For PE with hypotension, mechanical thrombectomy is the standard of care, but in patients with a high clot burden, it is technically difficult to perform. The Ekosonic Endovascular System (EKOS) can be used to deliver a thrombolytic agent directly to the clot.

We present a case of a 64-year-old female who required EKOS therapy.

Case:

A 64-year-old female presented to the hospital with acute-onset right-sided chest pain and associated syncope. She had just traveled on a 6-hour flight the previous night. Upon presentation, the patient was in distress due to tachypnea and tachycardia, though the rest of her physical examination was unremarkable. Vitals were: BP 97/75, HR 111, respiratory rate 22, and oxygen saturation 98% on room air. Laboratory workup, including complete blood count and metabolic panel, was normal. Troponin was 0.05 ng/mL and trended up, with the highest value reaching 0.490 ng/mL. EKG showed sinus tachycardia with no ST-segment changes. The patient was evaluated for pulmonary embolism, and a CT angiography (CTA) of the chest was performed, given a Wells score of 7.5. CTA revealed extensive bilateral pulmonary embolism extending from the main pulmonary artery to the bilateral subsegmental branches, with a right ventricular to left ventricular (RV:LV) size ratio of 1.7. Heparin infusion was initiated. The initial echocardiogram showed severely reduced right ventricular systolic function. Norepinephrine infusion was required to maintain mean BP above 65 mmHg due to cardiogenic shock from cor pulmonale. Mechanical thrombectomy with lysis via vascular catheterization was planned, but the patient became hemodynamically unstable, prompting the placement of the EKOS system for localized tPA treatment. Systemic tPA was not administered, and tPA was dosed at double the standard dose via the EKOS catheter for 6 hours. A repeat catheterization was performed for thrombectomy, after which the patient was able to tolerate weaning off vasopressors and oxygen supplementation. IV anticoagulation was transitioned to direct oral anticoagulation (DOAC) with Apixaban. Post-intervention echocardiogram revealed improved right ventricular size. The patient was discharged home with continued DOAC therapy for 3 months.

Discussion:

This case demonstrates the benefits and safety of using intravascularly localized tPA infusions at higher doses in cases of massive PE with significant clot burden and cardiogenic shock. Although the patient tolerated high-dose tPA well, the risks associated with higher-dose tPA infusions have not been well studied. Cardiac function also showed improvement within 48 hours after tPA was delivered through EKOS catheters. This case highlights the advantages of using EKOS catheters for administering fibrinolytics in pulmonary embolism (PE).

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

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Improving Sepsis Care in a Community Hospital: A QI Initiative

Introduction: Sepsis is one of the leading causes of hospitalizations and death worldwide. Sepsis treatment protocols have been developed to standardize care. The Surviving Sepsis Campaign is a global initiative to help reduce mortality from sepsis. This campaign utilizes a multidisciplinary approach to implement protocols that have been shown to improve outcomes in sepsis. Time-specific bundles call for providers to complete different tasks based on lapsed time since the recognition of sepsis. The three-hour sepsis bundle includes measuring lactate levels, obtaining blood cultures, administering antibiotics, and administering fluids if the patient is hypotensive or has an elevated lactate level of more than 4 mmol/L. Our community hospital data revealed a lack of adherence to standardized care. Providers utilized the sepsis bundle order in only 3% of sepsis patients.

AIM: This project aims to improve compliance with sepsis bundle orders by 20% in six months.

Methods: Using the IHI Model, a quality improvement project was initiated. A multidisciplinary sepsis team included the ER physician, IM residents, nurses, pharmacists, and EMR representatives. The team had monthly sepsis meetings which focused on performing a root cause analysis and developing improvements in the system. PDSA cycles were used to test change. Education about sepsis outcomes, gaps, and protocols was provided to residents via multiple conferences. Residents were educated about documenting adherence in the EMR. Following implementation, data was collected to analyze compliance with documentation regarding follow-up. Two PDSA cycles were completed to test changes. In the first cycle, education about guidelines was provided. In the second cycle, education along with a workshop was created to provide case scenarios and a Q&A session. For the third PDSA cycle, the team provided an educational session about the sepsis bundle and the outcome benefits of standardized sepsis orders. We are currently collecting post-implementation data to measure sepsis bundle compliance in the next 6 months.

Conclusion/Next Steps: Improving sepsis outcomes by utilizing surviving sepsis campaign guidelines provides us with the tools necessary to reduce overall mortality from this condition. Most effective and sustainable results are usually created using a system-based approach and a multidisciplinary team. Our hospital sepsis committee is a great example of a multidisciplinary team approach to managing sepsis. However, we faced some challenges in the last year as the emergency department went through a transition and we uncovered a lack of sustainability of previously implemented measures. We plan to meet monthly, re-evaluate the root cause analysis, and incorporate education, EMR changes, and a reward program as part of a culture change that may lead to improvement in sepsis care.

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

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Purpura fulminans and DIC secondary to Capnocytophaga canimorsus bacteremia in an immunocompetent patient

Introduction

Dog bites remain a significant cause of morbidity worldwide. Although the exact incidence is uncertain, it is estimated that in the United States, approximately 4.5 million people are bitten yearly [1]. Capnocytophaga canimorsus is a gram-negative, capnophilic rod constituting normal bacterial flora of the oral cavity of dogs. It can lead to infections in humans that may lead to multiple complications, i.e., sepsis, endocarditis, and meningitis. C. canimorsus poses a severe threat, especially to patients with asplenia, cirrhosis, or alcohol abuse [2]. However, it can lead to rapid progression even in immunocompetent patients[3]. In most cases, infection occurs after a dog bite. [2] Capnocytophaga canimorsus infection is rare, with a high fatality rate. This study reports a progressively fatal case of C. canimorsus.

Case Presentation

A 66-year-old female with past medical history significant for Diabetes Mellitus type 2, Coronary Artery Disease, COPD, and nephrolithiasis was admitted to an outside hospital after being found down, confused, and lying in a puddle of vomitus. She had a recent dog bite to her right hand three days prior. EMS was called, and she was noted to be hypoxic with saturations in the 80s and hypotensive with a blood pressure of 80/40. Laboratory workup notable for initial lactic acid of 15, leukocytosis with a white blood cell count of 27, venous pH of 7.0, creatinine of 2.77, bicarbonate of 10, and normal potassium. CT imaging demonstrated bilateral alveolar infiltrates. She was empirically treated with Ceftriaxone and Azithromycin for presumed aspiration pneumonia. In light of her increasing work of breathing and acidosis, she was intubated and transferred for intensive care. As the patient was being admitted to our facility, she rapidly developed retiform rash over the face and extremities. Repeat labs revealed new thrombocytopenia with platelets 24000, elevated D dimer 82000, while PT and INR were normal. A diagnosis of purpura fulminans and non-overt DIC was favored. Blood cultures collected at outside hospital grew Capnocytophaga canimorsus. She was transitioned to Piperacillin-tazobactam thereafter. Although subsequent blood cultures had no growth, she remained critically ill. The medical course was further complicated by extensive third-spacing, increasing sedation needs, ileus, and dry gangrene of digits of all four extremities due to high vasopressor requirements. As her rash enlarged and became bullous, attempts were made to transfer to a burn unit. Ultimately, the patient's goals of care did not seem to be compatible with long-term intubation or rehabilitation. She was extubated as family opted for comfort care.

Discussion

The assessment of severe sepsis and purpura fulminans should include C. canimorsus in the differential diagnosis of the few Gram-negative bacteria that can cause infection-associated purpura fulminans. Diagnosis of C. canimorsus is often tricky because of its slow growth on microbiological media. Presumptive identification on peripheral smear at first presentation allows rapid treatment and improved patient survival. Furthermore, for severe purpura fulminans, proper wound management and expeditious surgical evaluation can help minimize amputations. Early referral to a burn center with a multidisciplinary team is also recommended. [4]

2025 Michigan Chapter ACP and SHM Michigan Chapter Resident and Medical Student Day
Resident Abstract

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Rare but Relentless: A Case of Aggressive NUT Carcinoma Highlighting Diagnostic and Therapeutic Challenges

Introduction: NUT Carcinoma is a highly aggressive and poorly differentiated form of Squamous Cell Carcinoma. It involves chromosomal translocation, most commonly of t (15:19) involving rearrangement of the NUTM1 gene. Most common involvement includes midline structures- head and neck (sinonasal region and nasopharynx), mediastinum (central thoracic mass). Immunohistochemistry can be the first line approach to detect NUT protein marker. Definitive diagnosis would entail Molecular testing- FISH (identifies NUTm1 rearrangement) or Next-Generation Sequencing (confirms BRD4-NUT or BRD3-NUT fusion). We report a 29-year-old man who died from complications associated with Acute on Chronic Hypoxic Respiratory Failure secondary to NUT carcinoma. This report aims to enhance awareness of NUT carcinoma among providers, encouraging timely recognition and appropriate management.

Case Presentation:

A 29-year-old male with no significant past medical history presented with cough, hemoptysis, and chest tightness. Imaging revealed a left hilar mass with mediastinal extension, bronchovascular compression, and osseous metastases involving the pelvis, spine, and shoulder. Biopsy confirmed high-grade carcinoma consistent with NUT carcinoma. Staging studies, including PET imaging, demonstrated extensive metastatic disease, and systemic therapy was initiated with platinum- and ifosfamide-based chemotherapy alongside palliative radiation to symptomatic osseous lesions.

The patient was later hospitalized with acute respiratory failure due to multifocal pneumonia and large pleural effusions, requiring thoracentesis, BiPAP, and subsequent intubation. His condition was complicated by persistent febrile episodes, hemodynamic instability, metabolic acidosis, and atrial fibrillation with rapid ventricular response. Despite aggressive interventions, including vasopressors, stress-dose steroids, and broad-spectrum antibiotics, his clinical status deteriorated. After family discussions regarding goals of care, treatment was transitioned to comfort measures, and the patient passed away.

Discussion/Conclusion: Treatment of NUT carcinoma remains challenging, as it is highly resistant to conventional therapies like surgery, radiation, and chemotherapy. Recent advances in targeted therapy, particularly BET inhibitors, offer hope by disrupting the BRD-NUT fusion proteins and promoting differentiation. However, their clinical utility is still under investigation. Heightened awareness, early diagnosis, and further research into targeted treatments are essential to improving patient outcomes.