BREAKOUT
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CV 121 - 130
CORONARY ARTERY SPASM – COMMONLY MISSED DIAGNOSIS OF EXCLUSION!

Introduction:
Coronary artery spasm (CAS) is dynamic narrowing of coronary arteries and plays an important role in pathogenesis of myocardial infarction, whether with or without coronary plaque. CAS is almost always a diagnosis of exclusion as the vasospastic attacks rarely occur while the patient is under direct medical observation, making it a commonly missed entity.

Case Description:
A 52-year-old woman with hypertension and obesity, presented with acute onset recurrent chest pain. Index EKG demonstrated ST and T wave changes in anterior precordial leads with troponin 2.8 raising a suspicion for NSTEMI. 2D ECHO demonstrated EF 35-40% with moderately reduced LV systolic function, focal wall motion abnormalities (WMA) including the apex, anterior septum, and anterior lateral wall raising a suspicion for acute plaque rupture in the LAD distribution. Cardiac catheterization demonstrated non-obstructive coronary artery disease. Considering typical WMA, there was also a strong index of suspicion for stress induced cardiomyopathy. Our patient underwent cardiac MRI after 2 days which showed complete recovery of LV function without any focal WMA making Takotsubo unlikely. Our patient was discharged on her home medications and repeat ECHO in 4 weeks showed preserved LVEF. However, the patient continued to have dyspnea with minimal to moderate exertion. A repeat stress test was done 2 months after the index event to differentiate functional deconditioning vs cardiac angina. During the stress test, she developed intense chest pain with significant EKG changes for ischemia within 3 minutes of being on the treadmill (Stage 1 Bruce Protocol). The patient was finally started on Diltiazem XR 120 mg with a strong index of suspicion for CAS. She reported significant improvement in her chest pain frequency and intensity within a week. She was also prescribed isosorbide mononitrate 30 mg but could not tolerate it due to side effects.

Conclusion: Undiagnosed CAS can lead to spontaneous coronary artery dissection which can be fatal. With a typical ACS presentation, if cardiac cath shows non-obstructive CAD, and cardiac MRI cannot establish a definite diagnosis, CAS or coronary artery embolism should emerge as a prominent alternative diagnosis. Cardio selective CCBs are the first line treatment for CAS along with long-acting nitrates. The initial treatment should be individually titrated to a dose that achieves adequate symptomatic response and avoids adverse effects, such as a drop in blood pressure and heart rate.
OLD FOE RETURNS WITH A VENGEANCE: SOLITARY THYROID NODULE IN THE LUNG

Introduction: There are four types of thyroid cancer: papillary, follicular, medullary and anaplastic. Papillary carcinoma is the most common type of thyroid cancer accounting for approximately 80% of cases. 2-10% of patients with papillary thyroid carcinoma (PTC) have metastasis beyond the neck at the time of diagnosis. Among them two thirds have lung metastasis and one fourth have skeletal metastases. We present a case of unusual late lung metastasis of PTC.

Case Summary: 72-year-old man with long history of smoking underwent a low dose CT scan of the chest for lung cancer screening in 2018 which showed a nodule in the right lung apex. Follow-up PET scan demonstrated an 8x8 mm pulmonary nodule with increased metabolic activity. There was no abnormal PET uptake associated with the right lung nodule. Because of the difficult anatomical position, he underwent right lower lobectomy and the surgical pathology report was consistent with metastatic PTC.

Our patient had undergone total thyroidectomy with lymph node dissection in 2008 for multifocal papillary thyroid carcinoma with metastasis to lymph nodes. Follow-up ultrasound of the neck and whole body uptake scan a year later had not shown any evidence of enlarged lymph nodes or functional residual thyroid tissue. Thyroglobulin levels had remained low and stable on suppressive doses of levothyroxine. Another ultrasound in 2018 did not show any enlarged lymph nodes. Throughout this course, he did not have any associated signs and symptoms.

Discussion: Most patients with papillary thyroid cancer have good prognosis. But the rate of survival with distant metastases is variable and depends on site of metastases. The 10 year survival rate in pulmonary metastases is 30-50% while median survival of patients with brain metastases is approximately one year. There have been a few case reports on late presentation of PTC with lung metastasis after thyroidectomy. The presentation of our patient is delayed and subtle without signs and symptoms. Even the levels of thyroglobulin were low throughout; hence, further studies should be done to find a reliable marker or screening tool for follow up of such patients before they present at more invasive stage of the disease.

ABSTRACT FORM: Must be at least 10-point font. A sharp typeface will help reproduction. Be sure to single-space and STAY WITHIN THE BORDERS!
AMERICAN COLLEGE OF PHYSICIANS – MD CHAPTER

MULHOLLAND MOHLER RESIDENTS MEETING
TUESDAY, MAY 12, 2020

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(X) Poster
( ) Oral
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General Classification:
(X) Clinical Vignette
( ) Research Competition
( ) Basic Science
( ) Evidence based medicine review
( ) Quality/Safety
( ) Clinical Research

Indicate your participation in research process (4 sentences or less):

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GASTRIC DUPLICATION CYST – A CASE REPORT AND REVIEW OF LITERATURE
Farhan A. Qureshi, MD; Sameen Khalid, MD
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Introduction:
Gastric duplication cysts comprise of a rare subset of developmental anomalies pertaining to the gastrointestinal tract. They are most commonly seen in the pediatric population and their presentation in the adult is most likely asymptomatic or associated with atypical symptoms when complicated.¹ The most common sites of gastrointestinal duplications include the ileum, esophagus, and colon, making duplication seen in the stomach an even rarer entity.² The following study describes an adult male patient with past medical history of hiatal hernia, esophagitis and Mallory-Weiss tear, who presented with epigastric pain, nausea and vomiting and was later diagnosed as having gastric duplication cyst via endoscopic ultrasound.

Case summary:
A 42-year-old man who had a history of multiple hospital admissions due to symptoms of alcohol withdrawal and gastrointestinal obstruction presented with complaints of epigastric pain, nausea and vomiting. On physical examination, abdomen was soft with mild tenderness in epigastrium and no palpable mass. Laboratory tests showed normal complete blood count, comprehensive metabolic panel including liver function tests and lipase level, however, imaging studies and endoscopy pointed towards a large well-circumscribed mass adherent to the muscular layer of gastric fundus, containing thick heterogeneous fluid. The diagnosis of gastric duplication cyst was established, and ultrasound guided transmural drainage using metal stents was performed for managing the symptoms. Our patient tolerated the procedure well and reported complete resolution of his symptoms during follow up visits.

Conclusion
Although a multitude of literature articles report CT-scan and endoscopic ultrasound as the modality of choice when diagnosing these lesions, our report successfully demonstrates the use of endoscopic ultrasound as a management tool in the transmural drainage of these cysts. Although it is pertinent to rule out the rare occurrence of malignant transformation in these cysts, transmural drainage using metal stents can serve as a vital treatment strategy prior to considering surgical interventions in patients with gastric duplication cysts.

CV 123

BREAKOUT ROOM 13

ABSTRACT FORM: Must be at least 10-point font. A sharp typeface will help reproduction. Be sure to single-space and STAY WITHIN THE BORDERS!
A CASE OF EOSINOPHILIC MYOCARDITIS SECONDARY TO MALIGNANCY. James Childress MD, University of Maryland School of Medicine and VA Medical Center, Baltimore, MD.

Eosinophilic myocarditis (EM) is a rare, underdiagnosed, and often deadly condition that involves eosinophilic infiltration of the myocardium. Although the mortality rate of EM is thought to be related to abrupt left ventricular dysfunction, there is limited information regarding its pathophysiology. Most patients with EM are treated with corticosteroids despite a lack of evidence-based guidelines. EM has multiple known precipitants, including hypersensitivity, Churg-Strauss, hypereosinophilic syndrome, and infection. Malignancy, while rare, has also been associated with EM. In this case, we review EM related to primary malignancy.

A 53-year-old male with a history of tuberculosis and below-the-knee amputation after trauma presented with multiple falls after his prosthesis broke weeks prior. Associated history includes a thirty-pound weight loss over three months, fevers, chills, night sweats and dyspnea. On presentation, the patient was tachycardic but otherwise hemodynamically stable. He appeared cachectic but alert and oriented, with no jugular venous distention, cardiac murmur, or irregularity. Decreased breath sounds were noted in the upper lung fields with rales in the lower lung fields. No other abnormalities on exam. CT chest revealed a pleural mass with mediastinal lymphadenopathy and bilateral pleural effusions. White blood cell count was elevated to 42 K/mcL with an absolute eosinophilic count of 5.4 K/mcL. Thoracentesis removed 1.5L of transudative fluid. Cytology and cultures were negative. Transthoracic echocardiogram revealed a left ventricular ejection fraction of 50% with conserved apical contractility and biventricular layered thrombus. Platelet-derived growth factor alpha gene, JAK2 mutation, anti-nuclear antibody, HIV antibody, and Strongyloides antibody were negative. Biopsy revealed metastatic adenocarcinoma. The patient decompensated and was transferred to the intensive care unit for hypoxic respiratory failure secondary to hydrostatic pulmonary edema. He was intubated, started on multiple pressors, and diuresed. In addition, the patient received corticosteroids for EM with improvement in his symptoms. After recovery, he was discharged home for management of his metastatic lung cancer.

This case demonstrates an interesting example of EM secondary to adenocarcinoma resulting in cardiogenic shock, successfully managed with corticosteroids and cardiopulmonary support with complete resolution. Given the patient's improvement without treatment of the underlying cancer, this case highlights the importance of developing standardized treatment regimens.

CV 124

BREAKOUT ROOM 13

ABSTRACT FORM: Must be at least 10-point font. A sharp typeface will help reproduction. Be sure to single-space and STAY WITHIN THE BORDERS!
PALPITATIONS AS A PRESENTATION OF CARDIAC SARCOIDOSIS. Welch L, MD, The University of Maryland School of Medicine and VA Medical Center, Baltimore, MD.

Sarcoidosis is characterized by idiopathic, non-caseating granulomas and can affect any organ. Most frequently it affects the lungs, hilar lymph nodes and/or the skin. Approximately 30% of sarcoid patients present with extrapulmonary involvement, and cardiac involvement is more prevalent in men.

A 26-year-old African American woman with no significant cardiac history presented to the emergency department with chest discomfort and palpitations for the past 24 hours. She denied use of stimulants or any illicit substances. She denied any family history of sudden cardiac death, prolonged QT syndrome, hypertrophic cardiomypathy, or unexplained drowning. Further investigation revealed a history of sarcoid in biological father.

Her physical exam demonstrated an anxious, but otherwise well-developed female. She had tachycardia, with no murmurs, rubs or galleys and good peripheral pulses. Her pulmonary exam was normal.

Bloodwork was pertinent for a troponin leak which peaked at 1.79 ng/mL. An electrocardiogram (EKG) demonstrated wide complex tachycardia at 129 bpm. Her transthoracic echocardiography (TTE) was remarkable for a left ventricle ejection fraction (LVEF) of 18%, moderate concentric left ventricular hypertrophy and increased echogenicity concerning for infiltrative processes. A Lexiscan technetium single-photon emission computerized tomography (SPECT) showed evidence of reversible ischemia but did show infiltrative nodules of inferolateral interventricular septum. She underwent fluorodeoxyglucose positive emission tomography - computed tomography (FDG PET-CT), which did not show any extra-cardiac involvement, but diagnosed cardiac sarcoidosis with uptake in that region.

Treatment with verapamil resolved her ventricular tachycardia. An implantable cardioverter defibrillator was placed, and she was treated with high dose prednisone as an outpatient. She was seen again 3 months after discharge with a significant improvement in her palpitations. Repeat FDG PET-CT demonstrated no regional diffusion defects, suggesting resolution of her granulomatous lesions. She also had dramatic improvement of her LVEF to 57%.

Cardiac sarcoidosis can be incidentally found and benign in nature, or it can be life-threatening in presentation. Because it can cause any number of arrhythmogenic conduction abnormalities, it should always be considered as a rare, but dangerous cause of cardiac dysfunction.

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CV 125
BREAKOUT ROOM 13
Therapy related AML: making the diagnosis

Therapy related acute myeloid leukemia (tAML) was only recently recognized as a specific and distinct subtype of AML in the last 10 years, however, clinically delineating it from de novo AML or AML as a sequence of prior cancers versus therapy related is not always clear cut. tAML is a rare, usually fatal complication of chemotherapy and radiation, in patients > 60 years. The estimated 5 year survival rate is 3-8%. It carries a worse prognosis than de novo AML. We present a case of therapy related AML diagnosed by cytogenetics and karyotyping analysis of bone marrow biopsy.

64 year old male with PMHx of prostate cancer status post local radiation (2017), coronary artery disease with an ejection fraction of 60%, nonhodgkins lymphoma treated w/ radiation therapy, chemotherapy of adriamycin bleomycin vinblastine and dacarbazine (ABVD) and splenectomy in 1994 (has been in remission ever since) presented with dyspnea on exertion and weakness for 3 weeks. He was found to have acute anemia (hemoglobin 5.5) and thrombocytopenia (platelet 13K), but total white blood cell counts within normal limits. Peripheral smear showed histocytes and immature mononuclear cells and blasts. Bone marrow biopsy confirmed blasts of abnormal myeloid blasts w/ background dysplasia. Given its complex karyotype, cytogenetics pattern and pathologic analysis, he was deemed to have therapy induced AML.

Clinically as internists, it is important to risk stratify patients, by the age of primary cancer diagnosis for development of secondary myeloid neoplasms as well knowing the pathologic presentation, risk factors, timing and management of AML’s that carry worse prognosis.

CV 126

BREAKOUT ROOM 13

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ABSTRACT FORM: Must be at least 10-point font. A sharp typeface will help reproduction. Be sure to single-space and STAY WITHIN THE BORDERS!
THE MASQUERADES OF MULTIPLE MYELOMA

Introduction: Approximately 10-15% of patients with multiple myeloma (MM) are diagnosed with concurrent AL amyloidosis. It is uncommon for MM to present with organ dysfunction secondary to AL amyloidosis, particularly in the absence of CRAB symptoms.

Case Description: A 49-year-old female with a history of seronegative inflammatory arthritis presented to an outside hospital with a two-week history of dyspnea on exertion and lower extremity edema. TTE revealed a LVEF of 50-55%, borderline concentric hypertrophy, mild mitral valve leaflet thickening, and mild MR/TR. RHC/LHC showed no evidence of CAD, elevated PCWP, and mild pulmonary hypertension. She was treated for acute decompensated heart failure with diuresis. Six months later, she again noticed worsening dyspnea on exertion and lower extremity edema. Repeat TTE revealed a LVEF of 45%, basal hypokinesis, grade 3 diastolic dysfunction, RV hypokinesis, mild concentric LVH, bialateral dilatation, moderate MR/TR, and small circumferential pericardial effusion. She was again admitted to the hospital for diuresis. On presentation, she was afebrile with BP 85/62, HR 101, and SpO2 97% on RA. Her exam was notable for elevated JVP at 15 cmH2O, grade III/VI holosystolic murmur heard best at the apex, and warm lower extremities with 1+ bilateral pitting edema. Notably, her hemoglobin, creatinine, and calcium were all normal. Serum protein electrophoresis showed kappa free light chains (FLC) of 6.4 and lambda FLC of 1011.8 with a ratio of 0.01. RHC showed mRA 7, RV 32/8, PA 39/18 (25), PCWP 18, CI 1.93, PVR 2.41, and SVRI 3176.1. Endomyocardial biopsy showed amyloidosis (Congo red stain positive), with mass spectrometry confirming the presence of AL amyloidosis. She was diuresed and discharged with Hematology follow-up. Bone marrow biopsy performed as an outpatient showed 30% plasma cells (FISH with t(11;14)) consistent with multiple myeloma. PET/CT was negative. She was initiated on chemotherapy with CyborD.

Discussion: This case illustrates a unique presentation of MM with new onset heart failure secondary to AL amyloidosis. This patient met IMWG diagnostic criteria for MM based on the presence of >10% plasma cells on BM biopsy and involved/uninvolved FLC ratio >100, even in the absence of CRAB symptoms. Although concurrent AL amyloidosis is not included in the diagnostic criteria for MM, physicians should have a high index of suspicion for MM in a patient with new onset heart failure secondary to AL amyloidosis.
Vascular Ehler Danlos Syndrome: Rare complication in a rare disease

Introduction: Ehler Danlos Syndrome (EDS) is a group of relatively rare genetic disorders of connective tissue that are characterized by skin hyperextensibility, joint hypermobility, and tissue fragility. Vascular EDS accounts for <4% of all cases and is caused by a mutation in the COL3A1 gene encoding type III collagen, critical to ensure physical resistance to mechanical stress of hollow organs.

Case Presentation: A 67-year-old female patient with PMH of EDS presented with acute onset left flank pain but without fever, chills, urinary symptoms. She had leukocytosis of 16.7k, serum creatinine of 0.9 with unremarkable UA. CT abdomen/pelvis showed multifocal wedge-shape left renal infarcts. Subsequent CTA confirmed a near occlusive thrombus within the superior left renal artery branch. An incidental finding of 1.7cm left ventricular filling defect was noted. Echocardiography showed LV thrombus and worsened EF of 15-35%. She was discharged with warfarin. The patient stopped taking warfarin and came back to hospital with acute lower extremity pain and was found to have aortoiliac occlusion. Immediate right axillary femoral bypass graft and bilateral four compartment fasciotomy was performed.

Discussion: Vascular Ehler Danlos is quite rare. About 80% of these patients will have a vascular event before the age of 40. Vascular complications include ectasia, aneurysm, dissection, occlusion in many large- to medium-sized arteries. The literature describes few cases of thrombotic occlusion of vessels, particularly in the lower vessels. The thrombotic events in our patient occurred at a late stage of her life; thus, it could be argued that these were attributed to other factors instead of EDS. The incidence of renal infarction among all cases of vascular EDS is only 0.04-0.08. Most of the reported cases show venous thromboembolism. There are only 2 case reports on renal infarction in EDS but they are caused by renal artery aneurysms/ dissections. The possible hypothesis for our patient is that defective collagen formation affects the blood flow in heart resulting in thrombus formation in ventricle. Embolization from this thrombus to renal artery resulted in renal infarction and aortoiliac occlusion. According to a study, thrombectomy, balloon angioplasty, and IPA infusions have been tried but 20% patients required re-exploration and mortality in 35% of patients.

Conclusion: Patients with EDS can present with thromboembolism. Patients should be managed conservatively unless there is substantial bleeding or rapid progression of the thrombus.
AUSTRIAN SYNDROME: A CASE OF PNEUMOCOCCAL PNEUMONIA, MENINGITIS AND ENDOCARDITIS
Yi Zhen Joan Lee, MD, Michael Adashek, DO, Amteshwar Singh, MD
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Introduction: Austrian Syndrome, also known as Osler triad, is a phenomenon of concomitant pneumonia, meningitis, and endocarditis. It is caused by invasive Streptococcus pneumoniae infection. Since the advent of antibiotic therapy, this clinical entity has become much rarer, but remains a high risk of mortality and morbidity when it occurs.

Case Presentation: A 53-year old man with a past medical history of multiple hospitalizations for alcohol intoxication presented to an outside hospital with confusion and an unwatched fall. A week prior to presentation, patient was experiencing rhinorrhea, headaches, chills, and dizziness. He presented with a Glasgow Coma Scale of 7 (E2V1M4), which prompted immediate intubation for airway protection. His exam also revealed left knee swelling, erythema and warmth. Cerebrospinal fluid from lumbar puncture demonstrated elevated white blood cells, low glucose, and low total protein levels, consistent with bacterial meningitis. Cerebrospinal fluid, sputum, and blood cultures from date of admission grew pan-sensitive Streptococcus pneumoniae. Arthrocentesis of the left knee was also performed and culture also grew S. pneumoniae. A magnetic resonance image with contrast of the brain was subsequently obtained, demonstrating left parietal subdural empyema. Despite appropriate treatment for meningitis, empyema, and septic arthritis, his clinical condition worsened, with worsening leukocytosis on two other serial lumbar punctures. An acute decline of his mental status prompted a repeat MRI, showing multiple new infarcts, suspected to be of embolic origin. A trans-esophageal echocardiography revealed triple valve endocarditis of the tricuspid, aortic, and pulmonic valves. Due to patient’s gradually improving clinical condition, and the lack of valvular abscess or conduction abnormalities, conservative management with a total of 8 weeks of intravenous antibiotics was recommended.

Discussion: Though rare, disseminated pneumococcal infection can be severe and has a high mortality rate of up to 20%. Patients with history of alcoholism or who are immunocompromised are particularly at risk. If clinical condition does not improve despite initiation of appropriate treatment, it should raise suspicion of the Austrian Syndrome triad, as early diagnosis and treatment is the only way to reduce mortality.

CV 129
BREAKOUT ROOM 13

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( X ) Poster
( ) Oral
( ) Either
General Classification:
( X ) Clinical Vignette
( ) Research Competition
( ) Basic Science
( ) Evidence based medicine review
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