INTRODUCTION
In recent years, cocaine has been cut with levamisole, an immunomodulatory medicine previously used to treat different autoimmune conditions, but currently only used by veterinarians as an anti-helminthic drug. In fact, in 2010, 70% of all cocaine seized in the U.S. contained levamisole (4).

OUR PATIENT
A 51-year-old woman with a past medical history of polysubstance abuse, Hepatitis C, and previous MRSA and pseudomonas infections of her right lower extremity treated with surgical debridement and skin grafting who presented to Christiana Care complaining of a new rash affecting her arms and legs.

HISTORY OF THE PRESENT ILLNESS
• Two days prior to presentation, the patient noted worsening erythema of her inner thigh and lower extremity.
• A day later, the erythema progressed to edema and then frank bullous lesions of her right lower extremity and left forearm. All of these lesions were painful to her.
• Social history was significant for snorting both cocaine and heroin, with her most recent use two days prior to presentation.
• A 10-point review of systems was negative.

PHYSICAL EXAM
• Stable vitals
• 8x10cm bullous lesion on the left forearm draining moderate amounts of serosanguinous fluid.
• 8x8cm bullous lesion on the right knee, in addition to generalized weeping of the right lower extremity.
• 20x10cm area of erythema on the patient’s inner right thigh
• Multiple erythematous papules on the left calf.

DATA
- p-ANCA positive
- anti-MPO antibodies 4.3
- anti-cardiolipin IgG 24
- anti-cardiolipin IgM 37
- UA: 21-30 RBC, 50mg/dL protein
- Cr: 2.10 from baseline 0.8

DISCUSSION
In 2010, 70% of all cocaine seized in the U.S. contained levamisole (5). Levamisole-adulterated cocaine has been shown in a few case reports to induce anti-neutrophil cytoplasmic antibody (ANCA)-associated vasculitis, such as that seen in our patient (1, 2). A recent review article on the subject demonstrated that in addition to skin lesions and an elevated p-ANCA, patients exposed to levamisole laced cocaine also develop renal dysfunction (4). This attribute also seems to be conserved in our patient, who experienced a creatinine bump, hematuria and proteinuria upon presentation. Yet the diagnosis was sealed through microscopic analysis, which showed leukocytoclastic vasculitis of both superficial and deep dermal vessels. However, we particularly highlight this patient’s case, as, to our knowledge, it is an unusual presentation of this uncommon illness. Most of the rashes resulting from levamisole-laced cocaine are described as purpuric skin lesions with areas of necrosis and infected ulcers often involving the ear lobes and face (1).

LIMITATIONS
• Lack of urine testing for the presence of levamisole
• Lack of testing of the patient’s cocaine supply

CONCLUSION
We aim to highlight the initial bullous presentation of this patient’s lesions that ultimately progressed to the rash that has been more typically described. In light of our patient’s case, we suggest that all bullous skin lesions in a cocaine user be considered a possible presentation of levamisole-induced vasculitis.

REFERENCES

DISCLOSURES: There are no financial conflicts for any of the authors.

Poster published by the Christiana Care Learning Institute
A Diagnostic Challenge: Primary CNS Lymphoma versus Brain Abscess in AIDS Patient

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2Department of Medicine, Christiana Care Health System, Newark, DE

INTRODUCTION

Brain lesions with mass effect common in HIV-infected patients include toxoplasma encephalitis, primary CNS lesions, and brain abscesses. Toxoplasma encephalitis is most common, occurring in 16.3% of cases, whereas primary CNS lesions occur in 2-6%, of the HIV-infected population, most of which are large B cell lymphoma. These two events occur more often than brain abscesses, but abscess is a known complication of rhinosinusitis. In this case, we discuss a diagnostic challenge in a patient with known history of sinusitis and imaging concerning for lymphoma versus abscess.

CASE PRESENTATION

The patient is a 35-year-old woman with a past medical history significant for HIV diagnosed in 1997, not on HAART therapy with last CD4 count less than 10. She had recently been admitted for MRSA sinusitis, complicated by C. difficile colitis.

HOSPITAL COURSE

Day 0
Admitted to hospital for acute kidney injury, creatinine 3.20, secondary to vancomycin toxicity. She was started on tigecycline to treat her MRSA sinusitis. A CT Head/Sinuses 13 days prior showed pansinusitis without intracranial abnormality.

Day 1
She complained of headaches, dizziness, and generalized weakness as well as spiking fevers above 38°C. She continues to spike fevers for the next few days despite broad antibiotics.

Day 6
• Repeat non-contrast CT Sinuses showed persistent pansinusitis and an indistinct left fronto-cystic lesion with surrounding edema, suspicious for brain abscess versus malignancy, that was not apparent on previous CT.
• Started on broad spectrum antibiotics due to concern of seeding from sinusitis or dental abscess.
• Toxoplasma IgG and IgM, Histoplasmosis, and CMV IgM serology were negative.

Day 8
MRI with contrast demonstrated a solitary ring-enhancing lesion, still concerning for abscess versus malignancy. Continued on broad spectrum antibiotics and prophylaxis.

Day 15
Repeat MRI with contrast showed no improvement in size despite antimicrobial treatment and she was started on HAART therapy.

Day 19
Brain biopsy showed diffuse large B-cell lymphoma with extensive necrosis.Antiretroviral therapy was deescalated and Hematology/Oncology was consulted for assistance with her case.

DISCUSSION

The timing of brain biopsy is often debated. In patients who are toxoplasma seronegative, earlier brain biopsy is recommended, as likelihood of primary CNS lymphoma is 74% in seronegative patients. Although she had a possible source of seeding a brain abscess from her sinusitis, she was also a higher risk for CNS lymphoma due to her HIV. Given this diagnosis, she was more amenable to starting and remaining compliant with HAART therapy to improve her chances of long term survival.

REFERENCES


DISCLOSURES

There are no financial conflicts for any of the authors.
Case Description

A man in his late thirties with neurofibromatosis-1 (NF-1) presented to his primary care provider for a progressively worsening nonproductive cough. He was evaluated with a chest radiograph and follow up computed tomography (CT) of his chest on 9/10/15, which indicated a 7.3 x 7.7 cm mass in the right posterior mediastinum. The differential diagnosis at that time included a large pleural fibroma, an infected neuroenteric duplication cyst or lymphadenopathy. With these results, the patient was referred to a thoracic surgeon. A CT-guided core biopsy was obtained on 10/7/15.

On 10/13/15, the patient presented to the emergency department for significantly worsening cough and chest pain and was subsequently admitted. He underwent image-guided drainage of a large right cytology-negative exudative pleural effusion. MRI demonstrated that the mass was now 23.7 x 14.4 x 8.5 cm with mass effect on the right mainstem bronchus (Image 4). During the admission, the pathology results of the CT-guided biopsy came back after expert review at the Mayo Clinic as malignant peripheral nerve sheath tumor with rhabdomyoblastic differentiation (malignant triton tumor). The patient was medically stabilized and underwent a R2 resection of the mass. Immediately afterwards, he noted improvement in his cough and chest pain.

Discussion

This case demonstrates the importance of keeping malignant triton tumor (MTT) in the differential of a patient with neurofibromatosis-1 who presents with a new mass on imaging. MTTs, which account for 5-10% of all soft tissue sarcomas, initially present with symptoms stemming from a rapidly growing mass, which in this case was a cough and chest pain.¹ ² As evident when comparing the size from the initial CT image on 9/10/15 to the MRI completed on 10/14/15, the mass grew quickly over the span of one month. Due to the aggressive nature of MTTs, it is essential to get an early biopsy in order to quickly get a diagnosis and initiate treatment. However, according to Stucky et al, NF-1 patients with MTTs have a low 5-year disease specific survival rate of 54%. If MTT is in the differential diagnosis, a prompt biopsy when the mass is small may increase the likelihood of achieving complete surgical resection.

References

LEARNING OBJECTIVES

- Understand the importance of taking a detailed and thorough patient history.
- Understand how to use a patient’s history, physical exam findings, laboratory data and imaging to build a list of differential diagnoses, as well as direct management.
- Understand how a patient’s immune status changes the treatment guidelines, as exemplified in our patient with pulmonary cryptococcus.

INTRODUCTION

Cryptococcus is a disease believed to be acquired through inhalation of encapsulated yeast spores. It is an AIDS defining opportunistic infection as immunocompromised patients are particularly susceptible. Humans manifest the disease either through wound infection, pulmonary involvement, or meningitis. Lumbar punctures are typically not done on patients who show no clinical indications of CNS involvement, however, in specific well defined circumstances, the benefits outweigh the risks.

CASE DESCRIPTION

CHIEF COMPLAINT: Chest pain

HISTORY OF PRESENT ILLNESS: A 49 year old man presented to the Emergency Department with acute onset chest pain that woke him up in the morning. He described the pain as constant, tight, and midline, with no radiation or change in pain with position. He had never experienced chest pain like this before. His chest pain improved with hydromorphone in the ED. He did state that he began working with a new fiber at his job in a metal factory for the past 11 years.

REVIEW OF SYSTEMS: Positive for night sweats for the past two years. Negative for fever, chills, cough, sore throat, shortness of breath, dyspnea on exertion, nausea/vomiting, constipation/diarrhea, abdominal pain, dysuria, back pain, numbness or tingling in extremities, and peripheral edema.

PAST MEDICAL HISTORY: GERD, hypertension, psoriasis


SOCIAL HISTORY: Never smoked or used drugs. Occasional alcohol use. Immigrant from Honduras 24 years ago. Works in a compounding metal factory for the past 11 years.

FAMILY HISTORY: Mother – liver cancer; Father/siblings – healthy

MEDICATIONS:
1) Lisinopril/Hctz 20/12.5 mg p.o. daily
2) Adalimumab 40mg subcutaneous q.2 weeks
3) Percocet 5/325 one tab p.o. q.4 h. prn

ALLERGIES: no known drug allergies

Figure 1: CT chest of our patient taken at time of admission to the emergency department. Images demonstrate multiple, bilateral pulmonary nodules with extensive mediastinal as well as hilar lymphadenopathy. A-D Lung windows, E-H Soft tissue windows. Measurements of pulmonary nodules at arrows are: A/E 13.7mm x 13.7mm, B/F 19.8mm x 19.0mm, C/G 11.3mm x 14.8 mm & 6.1mm x 8.4mm, D/H 17.5mm x 14.4mm.

IMAGING

LABORATORY RESULTS

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- Troponins < 0.01
- CBC diff – eosinophil 4.6; lymphocyte 18.1; granulocyte 69.1; ANC 6.7
- Infectious disease consult work-up : blood cultures, HIV serology, urine histoplasma antigen, serum Aspergillus galactomannan antigen, ACE level, and ANCA. Results of all these tests were negative.
- Serum cryptococcal antigen positive (titer 1:512)

DISCUSSION

The differential diagnosis for this patient is wide given his recent travel to Honduras, occupation in compounding metal factory, and relative risk for opportunistic infections due to Adalimumab injections for his psoriasis. The differential includes infectious as well as noninfectious causes – tuberculosis, fungal infections, septic emboli, sarcoidosis, hypersensitivity pneumonitis, and autoimmune etiologies.

This patient had a hernia repair two months prior to this hospital admission. CT abdomen at that time did not show any pathology of the lung bases, thus the pulmonary nodule and mediastinal adenopathy shown in Figure 1 developed rapidly over two months. This timeline shifts tuberculosis/mycobacterium avium-intracellularulare to a lower spot on the differential.

Extensive testing identified that this patient was positive for cryptococcal antigen, with a titer of 1:512, leading to the diagnosis of cryptococcal pneumonia. Pulmonary cryptococcus is often a self-limiting disease that resolves outpatient fluconazole for 6-12 months.

In immunocompromised patients it is recommended that a lumbar puncture is performed, even in the absence of neurological symptoms as these individuals have a higher risk of seeding of the CNS (especially with titers greater than 1:512). This is important because cryptococcal antigen positive CSF significantly changes the treatment regimen to inpatient induction with continuous amphotericin B.

Our patient had no signs of CNS involvement, but because he was on adalimumab, and therefore immunocompromised, a lumbar puncture was necessary prior to discharge. His CSF was negative for cryptococcal antigen and he was discharged from the hospital on fluconazole.

Patient Course: Two weeks after discharge on oral fluconazole, this patient was readmitted for fever for the past two days. He initially seemed to be responding to fluconazole at home, but because he presented with sepsis, he was started on Amphotericin B, which subsequently caused acute renal failure. After two weeks of management, our patient was discharged on oral fluconazole to which he responded well.

In conclusion, this case highlights the importance of using a patient’s past medical history to direct management of the presenting illness. While it is unusual to see pulmonary cryptococcus, our patient was discharged on oral fluconazole to which he responded well, and therefore immunocompromised, a lumbar puncture was necessary prior to discharge. His CSF was negative for cryptococcal antigen and he was discharged from the hospital on fluconazole.

REFERENCES

Moans, Groans, and Fake Bones: Possible POEMS Syndrome

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²Christiana Care Health System, Newark, DE

LEARNING OBJECTIVES

• Recognize gouty arthritis occurs in prosthetic joints and can mimic septic arthritis
• Be familiar with POEMS syndrome as it is difficult to diagnose due to variable clinical presentation

INTRODUCTION

In 1980, the acronym POEMS was introduced to describe a paraneoplastic syndrome affecting many organ systems from an underlying plasma cell disorder. Initially characterized by polyneuropathy, organomegaly, endocrinopathy, elevated serum M protein, and skin changes, more specific and sensitive criteria have evolved in recent years. Some patients may continue to develop features of the disease over a decade from the initial presentation.¹

CASE DESCRIPTION

The patient is a 61-year-old African American male who presented to the ED with five weeks of progressive bilateral lower extremity weakness and pain. In the last two weeks, it migrated to his lower back. He states he is now unable to ambulate. He also reports subjective fevers without chills or rigors as well as several days of constipation.

Past Medical History: Monoarticular gout of the right great toe, HTN, CKD stage 3, panic attacks
Past Surgical History: Bilateral TKR eight years prior
Social History: Retired military with extensive travel abroad, recent discontinuation of moderate alcohol, currently smokes 1 ppd
Medications: Amlodipine 10 mg qd, atorvastatin 10 mg qd, vitamin D supplement qd, colchicine 0.6 mg pm

PHYSICAL EXAM

Vitals: 38.5 °C (Rectal), HR 83, RR 18, BP 119/85
Abdomen: Protruberant, soft, no hepatosplenomegaly
Neuro: 3+ triceps, intact sensation, negative Chvostek’s sign
Extremities: Right 2nd MCP, right 1st MTP, left ankle, left and right knee joints swollen with hyperpigmentation and heat, no clonus, strength 3/5

LAB STUDIES AND IMAGING

<table>
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<th>Serum</th>
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Synovial Fluid: Cloudy, WBC 14,140, intracellular and extracellular negatively birefringent needle-shaped crystals, lactic acid 6 mmol/L

Bone Marrow: Aspirate – rare mature plasma cells, abundant megakaryocytes; Biopsy – no lymphoid nodules or aggregates; Flow cytometry – 0.6% polyclonal plasma cells

CXR, 2D echo, skeletal survey: Within normal limits

MRI of lumbar spine: Edema of paraspinal musculature, adjacent fluid collections to the left L3-L4 and right L4-L5 facet joints, prominent facet arthropathy T12 –S1, congenital spinal canal stenosis, lateral recess stenosis, and severe neural foraminal stenosis

Criteria for the Diagnosis of POEMS Syndrome³

Mandatory major criteria (both required)
- Polyneuropathy (typically demyelinating)
- Monoclonal plasma cell disorder (almost always λ)

Other major criteria (1 required)
- Angiofollicular lymph node hyperplasia
- Sclerotic bone lesions
- Vascular endothelial growth factor (VEGF) elevation

Minor criteria (1 required)
- Organomegaly (splenomegaly, hepatomegaly, or lymphadenopathy)
- Extravascular volume overload (edema, pleural effusion, or ascites)
- Endocrinopathy (adrenal, thyroid, pituitary, gonadal, parathyroid, pancreatic)
- Skin changes (hyperpigmentation, hypertrichosis, glomeruloid hemangiomata, plethora, acrocyanosis, flushing, white nails)
- Papilledema
- Thrombocytosis/polycythemia

Other symptoms and signs
- Clubbing, weight loss, hyperhidrosis, pulmonary hypertension/ restrictive lung disease, thrombotic diatheses, diarrhea, low vitamin B12 values

DISCUSSION

At the time of hospitalization, POEMS syndrome was not suspected. Therefore, some studies were not performed or limited in detail. Additional testing would offer more support to the diagnosis of POEMS syndrome and to definitively rule out other diseases such as amyloidosis or a systemic granulomatous process.³

To further delineate POEMS syndrome in this patient, a serum VEGF level greater than 200 pg/mL and proof of demyelination on EMG of the lower extremities would be highly suggestive.² Furthermore, a repeat bone biopsy from another site in the future may offer more conclusive evidence.⁴

CONCLUSION

When a patient presents with or without a history of gout and symptoms consistent with septic arthritis, it is imperative to perform a diagnostic arthrocentesis especially when prosthetic joints are affected to ensure proper management.³

The acute and significant change in the patient’s chronic condition is best explained by a single inciting event such as POEMS syndrome, rather than separate and unrelated disease entities. POEMS syndrome is rare but should be considered as a diagnosis of exclusion when other pathologies have been ruled out to prevent morbidity.

REFERENCES


DISCLOSURES: There are no financial conflicts for any of the authors.

Poster published by the Christiana Care Learning Institute
The Development and Progression of Burkitt’s Lymphoma within the CNS in an HIV patient
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²Department of Medicine, Christiana Care Healthcare System, Newark, DE

INTRODUCTION
Burkitt's Lymphoma is an aggressive malignancy that can involve the CNS and is important to consider in immunocompromised patients presenting with progressive neurological symptoms.

CASE PRESENTATION
The patient is a 41 year old African American male who presented to a tertiary care facility complaining of one month of worsening back pain and paresthesias below the waist along with new onset bilateral lower extremity weakness and urinary retention. On recent visits to the hospital for lower extremity paresthesias and back pain it was thought he had sciatica, with an X-ray of the spine showing disc herniation and no signs of pathological disease. A recent outpatient HIV test was positive. An MRI during this visit showed a thoracic epidural tumor which was subsequently debulked (Fig.1), and symptoms improved initially. Having involvement of the CNS along with pathology of the tumor showing a ‘starry sky’ appearance with atypical lymphocytes mixed with macrophages the diagnosis was confirmed as Stage IV Burkitt's Lymphoma. HAART therapy was started and it was recommended that after discharge he follow up for initiation of aggressive chemotherapy, which he failed to do.

Three weeks later he presented again with paresthesias of the lower extremities along with worsening back pain and weakness of his right leg. He also complained of diplopia and left sided facial weakness. Physical exam revealed decreased sensation along maxillary and mandibular distribution of the trigeminal nerve. An MRI of the spine along with pathology of the tumor showing a ‘starry sky’ appearance with atypical lymphocytes mixed with macrophages the diagnosis was confirmed as Stage IV Burkitt's Lymphoma. HAART therapy was started and it was recommended that after discharge he follow up for initiation of aggressive chemotherapy, which he failed to do.

Within two weeks after starting R-EPOCH and intrathecal cyclic chemotherapy with Methotrexate and Cytarabine the patient’s neurological symptoms improved significantly.

DISCUSSION
When evaluating the development of progressive neurological symptoms, it is important to have malignancy as a possible underlying cause, especially in individuals who are HIV positive. The differential diagnosis in immunocompromised patients should also include conditions like primary CNS lymphoma and infection of the central nervous system.

With lymphomatos involvement of the central nervous system, the administration of intrathecal chemotherapies is necessary for penetration of the CNS and attacking the cells causing symptoms directly. However, since the malignant cells likely seed from a source outside the CNS administering both intrathecal chemotherapy and aggressive systemic regiments like R-EPOCH are essential for treatment and preventing relapse of neurologic spread. More research on management, including possible immunotherapeutic agents, that can combat aggressive stages of Burkitt’s Lymphoma still needs to be done.

REFERENCES

DISCLOSURES
There are no financial conflicts for any of the authors.
INTRODUCTION

The Ixodes scapularis tick, more commonly known as the blacklegged tick, is responsible for three specific tick-borne infections that are more commonly found in the northeastern United States. The three infections transmitted by the Ixodes tick are Lyme disease (Borrelia burgdorferi), Babesiosis (Babesia microti), and Anaplasmosis (Anaplasma phagocytophila). Although these three tick-borne diseases are characteristically found in the New England area, the geographical distribution of the Ixodes tick has expanded to encompass much of the northeastern United States. Tick-borne illnesses carried by the Ixodes tick occur most often in the summer months with a typical prodrome comprised of fever, headache, chills, and muscle aches. These non-specific “flu-like” symptoms usually start one to four weeks after the initial infection and may be misleading if a history of tick exposure is not obtained.

Although Lyme disease is the most prevalent of the tick borne illnesses, the incidence of Babesiosis has increased exponentially in the last fifty years, and cases have been reported in 22 states. Babesiosis is diagnosed by obtaining a blood smear to visualize intraerythrocytic ring forms resembling Maltese crosses. Most patients have a relief of symptoms after a seven-day course of atovaquone and azithromycin. After treatment is initiated, symptoms usually resolve in one to two weeks, but anemia and thrombocytopenia can persist for several months.

We present a case of Babesiosis, which was diagnosed only after an occupational history was obtained.

CASE PRESENTATION

Chief Complaint: Fevers

History of Present Illness:

• 53-year-old Caucasian male with no significant past medical history presented to an emergency department in Delaware during late June

• Three-day history of persistent fevers, syncope, drenching sweats, and dark urine

• Presented with similar symptoms to an outside hospital (OSH) one day prior to current admission

• OSH abdominal CT scan demonstrated non-obstructing kidney stones

• Labs revealed a platelet count of 100,000

• Patient given IV fluids, diagnosed with nephrothiasis, and discharged

• Fevers were persistent, so patient returned to ED

Past Medical History: None

Medications: None

Past Surgical History: None

Allergies: None

Social History: Tobacco use, marijuana use, occasional cocaine use

Vitals: T 104.5°F, HR 102, BP 121/67, RR 18, O2 Sat 96% RA

Physical Exam: Diffusely diaphoretic, tachycardic

Laboratory Data:

• Liver Function Tests: within normal limits

• Urinalysis: 11-15 RBC/hpf, + granular casts, +ketones, +urobilinogen

Further questioning revealed that the patient performed landscaping work and spent much time trimming trees. The patient was started on empiric doxycycline due to concern for ehrlichiosis, anaplasmosis, babesiosis, or Lyme disease. A blood smear was obtained, and the results were consistent with a diagnosis of Babesiosis. His antibiotic regimen was then changed to azithromycin and atovaquone for a total seven-day course. His symptoms resolved within 48 hours of starting the antibiotics.

CONCLUSION

Ixodes tick-borne diseases can present unique diagnostic challenges because of their constellation of vague symptoms. This case highlights the importance of considering tick-borne diseases in the summer months in patients who present with fever and thrombocytopenia. This case of a landscaper who presents at an east-coast hospital in mid-summer with recurrent fevers fits the typical presentation of a tick-borne illness. This case also highlights the importance of considering occupation when obtaining a medical history. Obtaining an extensive history, including a thorough social history, can help to keep tick-borne diseases on the list of differential diagnoses.

REFERENCES


DISCLOSURES

There are no financial disclosures for any of the authors.
Introduction

The factor Xa inhibitor apixaban has been approved for stroke and systemic embolus prevention in patients with atrial fibrillation without valvular defects. These agents are becoming preferred over vitamin K antagonists (VKAs) due to ease of use, lack of dietary restrictions, and reduced drug interactions. Clinical trials have shown that they are just as efficacious, if not mildly superior to VKAs, at thrombus prevention in patients with atrial fibrillation without valvular defects.

Case Report

This is the case of a 90-year-old Caucasian female who presented to the Christiana Care Emergency Department complaining of dyspnea. Originally she only noticed dyspnea with exertion, but her symptoms gradually worsened over the span of 2-3 months and now she noted dyspnea at rest. Past medical history was significant for atrial fibrillation for which she took digoxin and apixaban and adnexal mass recently diagnosed in the outpatient setting.

Vital signs on initial presentation included HR 74 RR 31 BP 115/76 SpO₂ 76% on room air that improved to 96% after being placed on a non-rebreather mask. When examined she was alert and responding to questions appropriately, and was noted to have conversational dyspnea. Examination of her skin showed cyanotic lips and extremities. Cardiac exam revealed an irregularly irregular rhythm, without murmurs, gallops, or rubs. Lung fields were clear to auscultation bilaterally. Pertinent labs included BNP 4525, PT 21.3, ABG with pH 7.51 pO₂ 20.9 pO₂ 39 HCO₃ 16.6.

An electrocardiogram was performed and showed atrial fibrillation without ST or T-wave changes. CT angiography demonstrated a 9.2x5.2 cm mass in the right atrium and ventricle consistent with thrombus or alternatively an intracardiac neoplasm (Fig. 1).

The patient was promptly transferred to the medical intensive care unit as her SpO₂ began to decline in spite of high flow oxygen therapy. Transthoracic echocardiogram (TTE) was performed and confirmed a large, mobile, heterogeneous mass in the right atrium and ventricle that traversed the tricuspid valve (Fig. 2 & 3). Previous transesophageal echocardiogram (TEE) 20 months prior was normal (Fig. 4). Throughout this the patient was alert and capable of making medical decisions. When presented with the results of her testing she elected to forgo aggressive therapy and was discharged to hospice where she passed away the following week.

Discussion

While caring for this patient the working diagnosis was that the mass was indeed a thrombus, indicating treatment failure of her apixaban. Treatment failure of direct oral anticoagulants has been documented in case reports though not typically on this scale, nor in a patient believed to be compliant with therapy. Alternatively, the mass could have possibly represented metastatic disease given her recently found adrenal mass, but her history did not match the usual metastatic pattern displayed by ovarian cancer. Ovarian cancer metastases typically present at a younger age and are lymphatically, usually seeding the pericardium. The only way to definitely determine the cause of the mass would have been autopsy, which was not performed. Regardless, this case brings into question the efficacy of apixaban and opens the gateway for further clinical investigation into treatment failure despite adequate therapy.

Table 1: Cancers that most frequently metastasize to the heart.

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<tr>
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<td>Ovarian carcinoma</td>
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Table 1: Cancers that most frequently metastasize to the heart.

References

Granulicatella adiacens, A Rare but Formidable Cause of Infectious Endocarditis

Renee Tehrani, OMS4, Kathleen F. Eldridge, MD2 and John Donnelly, MD, FAAP, FACP2
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INTRODUCTION
Granulicatella adiacens is a fastidious gram-positive coccic that is part of the normal flora of the oral cavity and intestinal and genitourinary tracts. It is a nutritionally variant streptococcus (NVS) that requires cholesterol agar or blood agar supplemented with Pyridoxol or a Thiol group for growth, making isolation difficult. Proper diagnosis and treatment of G. adiacens infections is imperative due to concern for bacteremia and infectious endocarditis (IE).

CASE DESCRIPTION
The patient was a 24-year-old African American female with a past medical history of chronic migraines who was brought to Christiana Care Health System due to severe headache with photophobia, nausea, and generalized malaise with onset of vomiting, abdominal pain, diarrhea, leg pain.

Fig 1. G. adiacens growth on chocolate agar

Fig 2. G. adiacens satellite growth on blood agar supplemented with S. aureus.

DISCUSSION/CONCLUSION
This case illustrates the indolent presentation of bacteremia with Granulicatella adiacens4, hence the importance of proper diagnosis and prompt treatment. Granulicatella species are uncommon clinical isolates causing approximately 5% of all cases of streptococcal endocarditis2. The rarity in which G. adiacens is seen and nutritional requirements make it a profound diagnostic challenge. G. adiacens can take up to 3 to 4 days to grow on the correct media. Awareness of NVS, especially in the setting of vague, non-resolving symptoms and equivocal blood culture results commonly seen with NVS, will allow isolation on correct media and result in appropriate treatment to avoid progression to IE.

IE is a life-threatening disease for which cardiac abnormalities are strong risk factors. Most predominant pathogens of IE are bacterial species in the oral cavity, and the transmission of Granulicatella from the mouth should be noted as a possible cause.

IE caused by NVS is associated with higher treatment failure, mortality and relapse rates compared to IE caused by other Streptococci. Treatment with a combination of a Beta-lactam with either vancomycin, rifampin, a florquinolone or an aminoglycoside is recommended. According to the literature, amoxicillin with gentamycin is most commonly used. Meropenam can be added if one of the above combinations has failed.

REFERENCES

DISCLOSURES
There are no financial conflicts for any of the authors.

Poster published by the Christiana Care Learning Institute