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Case report

Vertebral Osteomyelitis Masquerading as Pulmonary Embolism

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Introduction

Clinical entities known to mimic the presentation of pulmonary embolism (PE) include pneumonia, asthma, bronchitis, chronic obstructive airway disease (COPD) flare, congestive heart failure, acute myocardial infarction, primary pulmonary artery sarcoma, and nephrolithiasis. Only two cases of vertebral osteomyelitis mimicking PE are found in the literature. We report a rare case of lumbar vertebral osteomyelitis presenting with pleuritic chest pain and shortness of breath, and therefore causing delayed diagnosis [1].

Case Presentation

58-year-old African American male presented to the emergency room with pleuritic chest pain, shortness of breath, back pain and white phlegm. He also endorsed night sweets, and dark stools for the past few days. His past medical history includes hypertension, dyslipidemia, deep vein thrombus, three previous episode of pulmonary embolism, coronary artery disease with percutaneous coronary intervention, and paroxysmal atrial fibrillation on Eliquis and Plavix. On presentation patient was anxious, in acute distress and likened his symptoms to the same symptoms he felt when he had his previous episode of pulmonary embolism. He was afebrile, patient had an oxygen saturation of 91% on room air. The rest of the physical exam was significant for irregularly irregular heart rhythm, left lower quadrant, and left-sided costovertebral angle tenderness. Computed tomography (CT) pulmonary angiography was negative for pulmonary embolism. He had leukocytosis, elevated erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP), and methicillin-sensitive *Staphylococcus aureus* (MSSA) bacteremia. A CT of Abdomen/Pelvic with IV contrast, showed evidence of left psoas retroperitoneal hematoma. A Magnetic resonance imaging (MRI) of the thoracic and lumbar spine was done and confirmed a left psoas abscess and osteomyelitis of the L3/L4 vertebrae. Computed tomography (CT) guided aspiration of the psoas abscess was done. Aspirate grew (MSSA) as well. Transesophageal echocardiography (TEE) did not reveal any valvular vegetation thus ruling out endocarditis. Subsequent blood cultures were taken to monitor the patient's bacteremia, patient was started on 6-day course of an intravenous Nafcillin and Azithromycin. Following four negative blood cultures, a peripherally inserted central catheter was inserted into the patient's arm, and he was given a 3 weeks course of intravenous course of piperacillin and tazobactam. He was discharged to follow up with outpatient infectious diseases and physical therapy (Figures 1-4) [2].

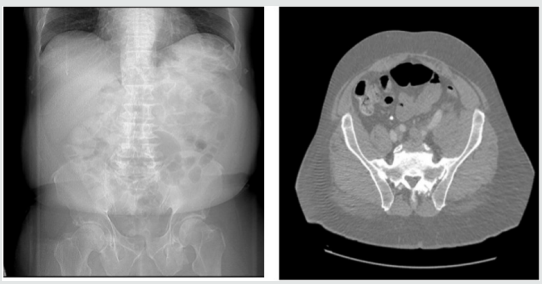

Figure 1: CT Abdomen/Pelvic with IV contrast.

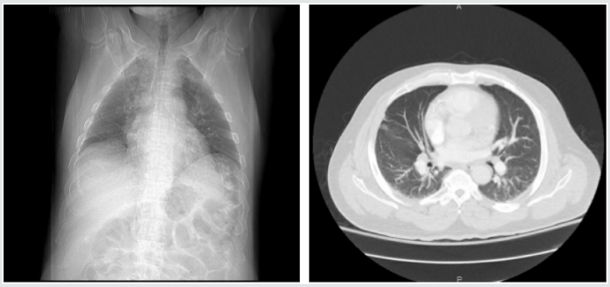

Figure 2: CT Pulmonary Embolism Angiography with and without Dye.

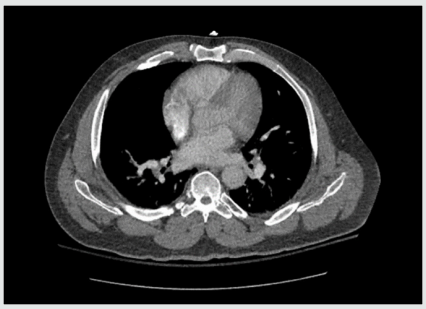

Figure 3: Mediastinal Chest CT with Contrast.

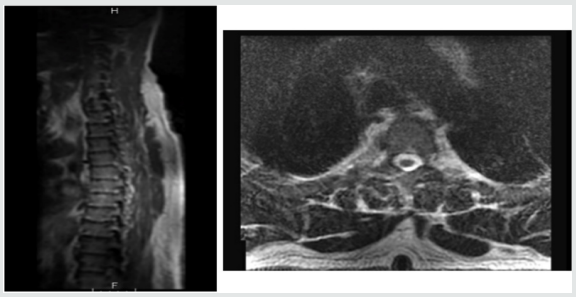

Figure 4: MRI Thoracic & Lumbar with IV contrast.

Discussion

The incidence of pyogenic vertebral osteomyelitis is about 2.4 cases per 100,000 population. The diagnosis can be challenging given the high prevalence of back pain in the general population, the rarity of the disease, and the wide spectrum of clinical presentations. Back pain and fever are the most common presenting symptoms. Our patient had a predominance of chest symptoms, which warranted initial workup for pulmonary embolism. Risk factors include injection drug use, diabetes mellitus, malignancy, long term steroid use, malnutrition, and infection with human immunodeficiency virus (HIV) [3.4]. Our patient had none of these traditional risk factors. Pathogenesis involves direct inoculation, hematogenous spread, or contiguous spread from adjacent soft tissue infection as in our patient. Staphylococcus aureus and Streptococcus species are isolated in over 50% of cases. MRI is the preferred imaging modality. Blood culture and CT guided biopsy of the involved vertebrae are vital in making a microbiological diagnosis. ESR and CRP are highly sensitive and are useful in monitoring response. Antimicrobial treatment should be directed against an identified organism, and duration of therapy typically ranges between 4 and 6 weeks.

References

1. Fritz JM, Mcdonald JR (2008) Osteomyelitis: Approach to Diagnosis and Treatment. Phys Sportsmed 36(1): 50-4.
2. Momodu II, Savaliya V (2019) Osteomyelitis. StatPearls.
3. Pigrau C, Rodríguez-Pardo D, Fernández-Hidalgo N, Moretó L, Pellise F, et al. (2015) Health Care Associated Hematogenous Pyogenic Vertebral Osteomyelitis. Medicine 94(3): 365.
4. Rivaud, Yayone, Maldjian, Pierre (2018) Clot or Not? Mimics of Acute Pulmonary Embolism on CT. Contemporary Diagnostic Radiology 41(3): 1-7.

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