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May 4th, 12:00 AM

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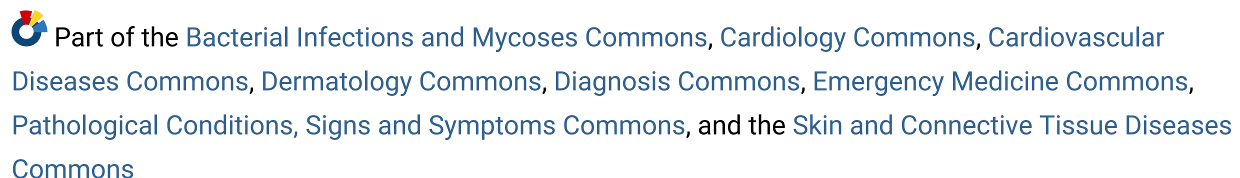
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Diep, Monica; Tamaska, Wayne; Carhart, Philip; Espinosa, James; and Lucerna, Alan, "New Onset Lichen Planus and Back Pain Leading to Discovery of a Peri Aortic Abscess" (2023). *Stratford Campus Research Day*. 122.
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New Onset Lichen Planus and Back Pain Leading to Discovery of a Peri-Aortic Abscess

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Abstract:

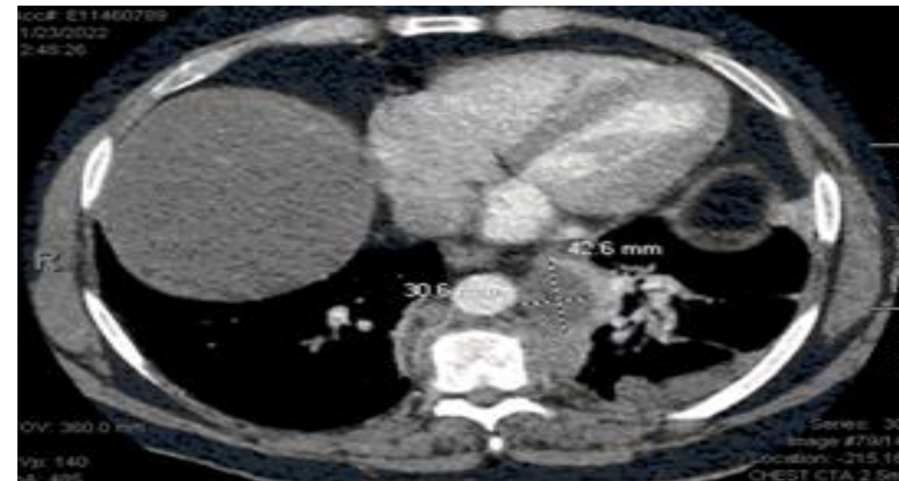
Back pain is a common chief complaint in the emergency department. With the differential ranging from musculoskeletal pain to cauda equina, there are a plethora of diagnoses. Differentiating between benign back pain and back pain that warrants further evaluation and even possible emergent surgical intervention is often a challenge in the acute setting. In this case report, a strange combination of all new symptoms including lichen planus, fevers, chills and atraumatic back pain lead to the eerie and very unexpected diagnosis of a peri-aortic abscess.

Introduction:

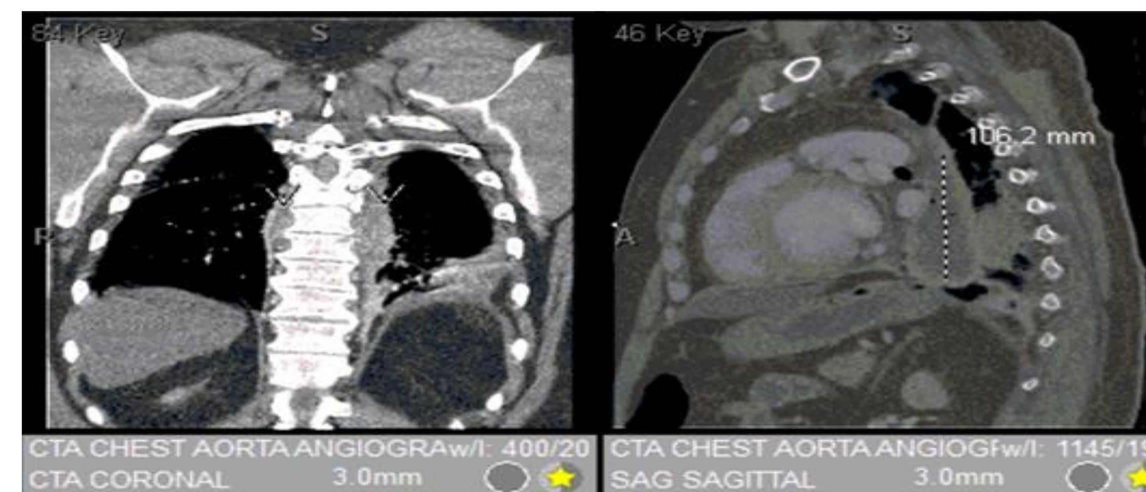
Back pain is an everyday complaint that presents itself in the emergency department. The pathophysiology behind back pain can be as benign as a muscle strain or as devastating as an aortic rupture or life-threatening spinal abscess and everything in between. Some key labs such as ESR, CRP, leukocytosis and procalcitonin may provide guidance and suspicion to a more ominous cause of back pain. Additionally, in the patient who rarely presents to the emergency department with a story that does not quite add up alongside abnormal vital signs, imaging often is warranted to rule out life threatening emergencies.

Case Presentation:

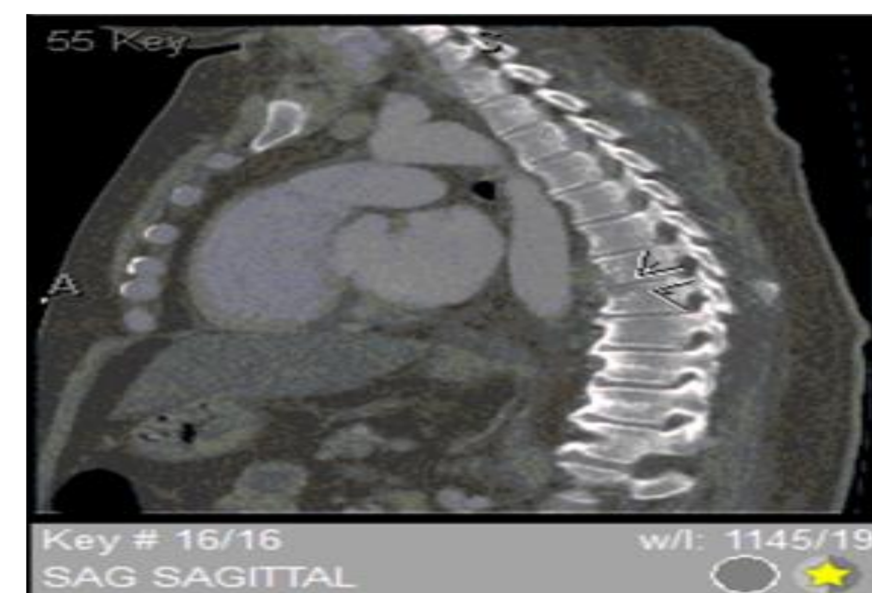
The patient is a 44-year-old male with a past medical history of hypertension and obesity who presented to the emergency department with the sudden onset of severe 10/10 shooting pain in his lower back, associated with fevers and chills after he lifted a heavy object about 1 week ago. Patient reported the pain has not gotten better or worse since. He took ibuprofen with minimal relief. The patient reports a history of an abdominal hernia, but this pain does not feel the same as his hernia as it is not anterior. The patient was hypertensive and in severe discomfort, so he went to STAT CT angiogram of his aorta to rule out aortic dissection, which resulted as negative. He was subsequently discharged after his pain improved with analgesics. Interestingly this patient presented two days later with upper back pain after falling in the shower, and subsequently had positive repeat imaging which will be discussed further on in this report.Of note, the patient reported a recent diagnosis of lichen planus secondary to his blood pressure medications. He was unaware of which medications caused the reaction, so he continued to take his anti-hypertensive medications as directed. He denies saddle anesthesia, severe pain radiating into his legs, urinary or bowel incontinence or retention, inability to walk, numbness, weakness, visual changes, or dysarthria. He denies any history of aorta disease/rupture/dissection/aneurysm in self or family. He denies recent steroid use, history of immunocompromised state, history of immunocompromised infections, history of back pain, alcohol abuse, trauma, spinal epidural injections, spinal infections, osteomyelitis, intravenous drug use, any illegal drug use, past surgeries, recent dental work, history of cardiac surgery or valve repair or replacement. Vitals: BP 196/95 mmHg, HR 131 bpm, temp 98.1 F, RR 18, Height 5' 9", Weight 300 lbs, BMI 44.30, SpO2 98% on room air. Review of Systems: (+) back pain, fever, chills, new skin lesions bilateral lower extremities which were purulent at first and improved after topical steroids diagnosed as lichen planus recently (-) black or bloody stools, unexpected weight loss, change in appetite, vomiting, nausea, saddle anesthesia, numbness, change in gait or speech, urinary or bowel incontinence or retention.



CT angiogram chest demonstrating the peri-aortic abscess on transverse view



Peri-aortic abscess noted on coronal view and sagittal view



Peri-aortic abscess with involvement of the spine including osteomyelitis, discitis, epidural abscess

Case Presentation: continued

Physical Exam: Cardiovascular: tachycardic at 130 bpm, regular rhythm, pulses 2+ and symmetric bilateral upper extremities and bilateral lower extremities
Musculoskeletal: mild midline tenderness to palpation of midline thoracic spine, no tenderness to palpation of midline cervical and lumbar spine, no step offs, no gross overlying skin lesions on back
Skin: warm, dry, rash on bilateral lower extremities diagnosed as lichen planus by outpatient physicians which is now chronic appearing
Extremities: no edema BUE and BLE, cap refill <2 secs in all digits in BUE and toes in BLELabs:WBC 15.5 (leukocytosis), Neutrophils 89.1, Lymphocytes 5.0 (increased neutrophils:lymphocytes ratio), Blood cultures (+) Methicillin Resistant Staph Aureus (MRSA), COVID (-), HIV-1 (-), HIV-2 (-). ESR 101. The remainder of lab work was unremarkable.
Imaging: Initial (first visit, 2 days prior to repeat imaging as displayed further in this section) CT angiogram aorta did not reveal any acute findings Transthoracic Echocardiogram: grossly normal exam, ejection fraction 65%, no gross endocarditis CT angiography chest with and without contrast showing a peri-aortic abscess:
Interventions: The peri-aortic abscess was drained by cardiothoracic surgery who performed a thoracotomy and evacuated the abscess confirmed with transesophageal echocardiogram intraoperatively alongside with orthopedic surgery who operated on the nearby osteomyelitis, discitis and epidural abscess posterior to the peri-aortic abscess and patient was placed on IV daptomycin.

Discussion:

A peri-aortic abscess is an extremely rare and highly lethal complication most associated with infective endocarditis. [5] Patients developing peri-aortic abscesses most commonly present with fevers. Other symptoms of this disease include weight loss, poor appetite, symptoms of congestive heart failure such as lower extremity edema, orthopnea and dyspnea. Other than subjective fevers and chills, the patient in this case report did not present with any of the classic symptoms of peri-aortic abscess as described. He presented with the chief complaint of new onset atraumatic back pain along with recently newly diagnosed lichen planus of bilateral lower extremities rashes. It should be noted that this previously relatively healthy individual has been a developing case study with further complications such as spinal epidural abscess, osteomyelitis and saddle pulmonary embolism within a couple of months after the drainage of his peri-aortic abscess. It may be speculated that perhaps there is an underlying common cause such as an immunocompromised state, genetic defect, vasculitis or autoimmune disorder that have yet to be revealed as the culprit of his very rare peri-aortic abscess and bilateral symmetric lichen planus rash on both lower extremities. The primary risk factor for the development of a peri-aortic abscess is infective endocarditis. The second leading risk factor is bacteremia, following along with less likely risk factors such as penetrating wounds, burns, sternal site infections, HIV and parasitic infections. [3] The most common bacteria involved in peri-aortic abscess is staphylococcus aureus followed by Haemophilus species, Enterococci, Escherichia coli, Beta-hemolytic streptococci and Streptococcus pneumoniae. [4] The risk factors and common presenting symptoms stated above should be considered when discussing this patient. He had no risk factors for endocarditis, his echocardiogram was negative for endocarditis, and he did not have any physical signs of endocarditis such as splinter hemorrhages or Osler nodes. That leaves us with the second leading cause: bacteremia. While the patient was noted to have bacteremia with MRSA, it remains unknown the source of the bacteremia. Alternatively, the new onset lichen planus itself could be the result of another underlying pathology, which could be the cause of both the lichen planus and the peri-aortic abscess, spinal epidural abscess, osteomyelitis and discitis. Lichen planus is associated with drug like reactions, autoimmune diseases and graft versus host. [1] With this said, the patient was not on any disease modifying agents or corticosteroids which would place the patient at risk. If this is the case, then more studies may be needed to further investigate the correlation of lichen planus and back pain in the setting of fever and chills with a peri-aortic abscess.

Conclusions:

There are no documented cases of lichen planus being a risk factor for peri-aortic abscess. This case is particularly interesting as the patient, in the setting of newly diagnosed lichen planus and not much else, led to discovery of a deep seeded infection in the peri-aortic space. This is further complexed by the fact that he had a normal CT angiogram of his aorta just 2 days prior to the scan that revealed the peri-aortic abscess, which had somehow developed within just 2 days (at least in the ability of the CT angiogram scanner to detect). His newly diagnosed lichen planus was reported to be related to his anti-hypertensives. There were no typical identifiable risk factors or immunocompromised situation in this patient. Patients receiving appropriate medications in conjunction with surgical correction have a reported mortality rate of 12.2% to 30%. [2] The novel risk factors of this patient should bring awareness to the possibility of peri-aortic abscess in the differential of patients presenting with back pain, fevers, chills and new skin rash or rashes. This is a developing case, and there should be further work-up and studies for association of lichen planus with peri-aortic abscess or consideration for lichen planus as a potential risk factor for peri-aortic abscess development.

References:

Available on request