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A CASE REPORT OF INFECTIOUS SACROILIITIS IN AN ADULT PRESENTING TO THE EMERGENCY DEPARTMENT WITH INABILITY TO WALK

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□ **Abstract—Background:** Infectious sacroiliitis (ISI) is an uncommon cause of back and hip pain in which the sacroiliac joint, either unilateral or bilateral, is inflamed from an infectious source. Historically, this has been an easily missed diagnosis due to nonspecific presenting symptoms along with subtle nondistinguishable laboratory abnormalities. **Case Report:** We describe an injection drug user presenting with right-sided ISI who presented with hip and back pain and inability to walk. The patient had tenderness over his right sacroiliac joint, and despite negative plain radiographs, a magnetic resonance imaging (MRI) scan was obtained from the Emergency Department (ED) given the patient's risk factors for infection. Concerning findings of ISI on this MRI led to a computed tomography-guided biopsy during the patient's hospital admission, which revealed alpha-hemolytic *Streptococcus* as the responsible pathogen. **Why Should An Emergency Physician Be Aware of This?:** Infectious sacroiliitis is a rare condition that is difficult to diagnose, and carries increasing morbidity when diagnosis is delayed. We aim to increase awareness through a case report of a patient encountered in the ED. © 2016 Elsevier Inc. All rights reserved.

□ **Keywords—**sacroiliitis; drug abuse; infectious sacroiliitis; inability to walk; back pain

INTRODUCTION

Infection of the sacroiliac joint, also known as infectious sacroiliitis (ISI), is a rare condition, comprising < 2% of all septic arthritis cases (1). Publications describing ISI are mostly limited to case reports, with only four published case series to date (2). Unfortunately, this disorder often presents insidiously, with nonspecific signs and symptoms, such as low back pain or unilateral gluteal pain (1,3). Risk factors include trauma to the area, intravenous (i.v.) drug abuse, endocarditis, immunosuppression, and pregnancy (2). Most cases of ISI are from hematogenous seeding from a preexisting infection. Laboratory abnormalities are largely nonspecific, but may include a leukocytosis and an elevation in inflammatory markers (C-reactive protein [CRP] and erythrocyte sedimentation rate [ESR]) (4,5). Prompt diagnosis can be difficult, as plain radiographs are frequently negative, and computed tomography is of limited value early in the disease. Suspicion of ISI warrants further evaluation with magnetic resonance imaging (6,7). Due to these diagnostic difficulties, the mean time to diagnosis is often quite long, with one study describing the mean time to diagnosis as 43.3 ± 69.1 days (2).

CASE REPORT

A 24-year-old man with a history of i.v. drug abuse presented to the Emergency Department (ED) with a chief

complaint of pain in his right hip and inability to walk. His symptoms started several hours prior to his presentation and had been gradually worsening. He worked for a furniture moving company, and stated that he had been more active than usual recently due to his work responsibilities, but he could not recall any history of trauma to the affected body area. He had subjective chills, but denied any other symptoms. He endorsed a history of i.v. drug abuse, primarily using heroin with injection into his antecubital veins, with his last use being 1 week prior. He stated that he often shared needles, and did not clean the skin beforehand. He had no significant past medical history and was not taking any routine medications. He had no prior hospitalizations and denied any difficulty with walking in the past.

The patient's vital signs were: temperature of 37.9°C, pulse of 84 beats/min, blood pressure of 128/70 mm Hg, respiratory rate of 16 breaths/min, and oxygen saturation of 100%. Physical examination revealed an appropriate-appearing 24-year-old man with no acute distress. His lower extremity examination revealed full range of motion of the right and left hip, but he had notable discomfort with axial loading of the right leg. His spine examination revealed no tenderness of the cervical, thoracic, and lumbar spine, but he did have tenderness to palpation over the right sacroiliac joint.

Given the patient's history of i.v. drug abuse, laboratory and radiographic evaluations were initiated. Laboratory results were significant for an ESR of 22 (normal range 0–20), a CRP of 30.9 (normal range 0–10), and a white blood cell count of 5.9 (normal range 4.5–10.5). A plain radiograph series of his right hip and pelvis was obtained. It did not show any abnormalities. Due to the severity of his pain, his low-grade temperature elevation, and his mildly elevated CRP level, concern existed for an infectious etiology of his symptoms. Therefore, a magnetic resonance imaging (MRI) study of his hip and pelvis, with and without contrast, was obtained, revealing fluid in the right sacroiliac (SI) joint, with a small amount of fluid and enhancement deep to the iliopsoas muscle (Figure 1). The patient was admitted to the Medicine service with a preliminary diagnosis of infectious sacroiliitis.

While admitted, the patient was treated with i.v. vancomycin for a presumed Gram-positive source, and a computed tomography (CT)-guided biopsy was arranged. CT-guided biopsy revealed a small amount of fluid from the right SI joint, which was cultured to reveal alpha-hemolytic *Streptococcus*. It was found to be sensitive to ceftriaxone, and the patient was transitioned to i.v. ceftriaxone for 4 weeks of therapy. He was discharged into a rehabilitation center for completion of his therapy. On hospital follow-up 4 weeks after admission, the patient was reportedly doing well, with minimal problems with ambulation.

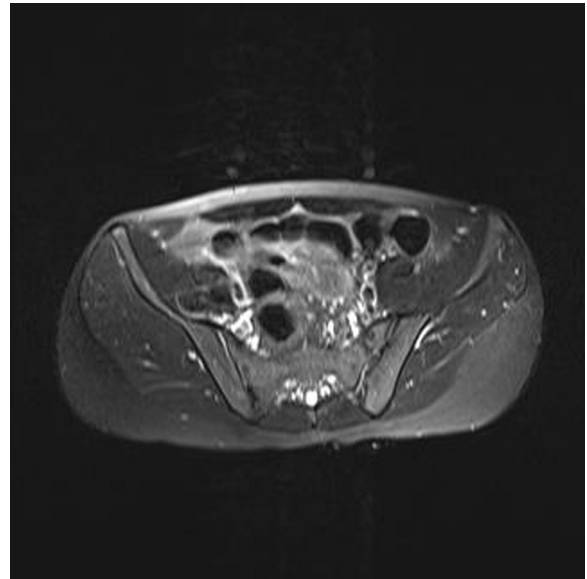


Figure 1. Magnetic resonance imaging in the patient. The image shows hyperintensity, demonstrated by the linear white highlight, of the right sacroiliac joint, when compared with the left. This finding was suggestive of inflammation and fluid, which ultimately aided in diagnosis of infectious sacroiliitis.

DISCUSSION

The diagnosis of infectious sacroiliitis is often missed or delayed due to its vague, nonspecific symptoms, as well as the fact that it is a rare diagnosis. Our case involved a patient who presented with difficulty ambulating despite a lack of trauma, subjective hip pain, and tenderness to palpation over his right SI joint. His temperature did not exceed the “fever” threshold of 38°C in the ED, though he did develop a fever during his inpatient hospitalization. The patient was an intravenous (i.v.) drug abuser, so we maintained a high level of suspicion for an infectious cause of his symptoms, especially in light of his severe level of pain found on examination, despite his vague presentation. He had a normal white blood cell count, a nearly normal ESR, and a minimally elevated CRP. Despite negative initial imaging with plain radiographs, the patient had evidence of fluid in his SI joint on MRI, which was later aspirated by interventional radiology and grew alpha-hemolytic *Streptococcus*, susceptible to ceftriaxone.

Due to unsterile practices and frequent introductions of fomites directly into the bloodstream, i.v. drug abuse is a risk factor for localized pyogenic infection. In the i.v. drug abuse patient population, there has been a propensity for infection in the axial skeleton (8). Intravenous drug use can also introduce bacteria, most commonly a Gram-positive bacterium, from normal skin flora to the bloodstream by unsterile venipuncture. Trauma is another major risk factor for ISI, though despite being a mover by

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