We present a case of iliopsoas abscess in an immunocompetent patient. She experienced three weeks of worsening right hip pain, which was initially misdiagnosed as degenerative joint disease. This led to admission to the Intensive Care Unit for severe sepsis. The patient improved with intravenous antibiotics and percutaneous abscess drainage.

**KEYWORDS:** Psoas abscess, iliopsoas abscess, percutaneous drainage and intravenous antibiotics.

**ABBREVIATIONS:** Intensive Care Unit (ICU), Computed Tomography (CT), Intravenous (IV), Emergency Department (ED), Complete Blood Count (CBC), White Blood Cell Count (WBC), and Human Immunodeficiency Virus (HIV).

**INTRODUCTION**

Many patients with iliopsoas abscess initially present with non-specific symptoms, such as back or hip pain, which causes difficulty in early diagnosis. Fever, abdominal or flank pain, and pain with ambulation are other common presenting features.

A major risk factor for psoas abscess is immunosuppression, including diabetes, IV drug use, HIV infection and renal failure. Trauma, hematoma formation and surgery on adjacent structures can also predispose to development of psoas abscesses.

CT is the optimal radiographic modality to evaluate a psoas abscess. Percutaneous abscess drainage with antibiotics or surgical intervention remains the mainstay of treatment.\(^1\)\(^,\)\(^3\)

**Case Presentation**

A 48-year-old morbidly obese woman with a medical history of chronic back pain and multiple back and shoulder surgeries presented to our ED with three weeks of worsening right hip and flank pain. The pain was sharp, radiated to the buttock and lower back, and was exacerbated by movement.

One month prior, she visited another ED with a large abdominal skin abscess, which was treated with incision and drainage. She then completed a two-week course of Sulfamethoxazole/Trimethoprim.

One week prior to presentation at our ED, she had been evaluated in an urgent care center, where hip X-rays ruled out fractures. The patient was diagnosed with suspected arthritis and sent home with Oxycodone/Acetaminophen and a five-day Prednisone taper. The pain worsened and caused difficulty with ambulation. She consulted her orthopedist the day prior to admission, who referred her for admission after noting a marked leukocytosis on a CBC.

In the ED, she was afebrile, tachycardic and hypotensive. She had lower abdominal tenderness when extending the right hip [positive psoas sign], decreased range of motion at the right hip and weakness upon extension and flexion of the right hip, likely secondary to pain. There was also tenderness to palpation over the right flank and upper buttocks. WBC was 56,100 with 92.7% neutrophils and 23% bands; sedimentation rate was 92; C-Reactive Protein (CRP) was greater than 200 mg/L, BUN was 26 and creatinine was 1.62 mg/dl. Hip X-rays were negative for arthritis and any acute pathologies. An abdominal and pelvis CT without contrast revealed enlargement of the right psoas muscle with
surrounding inflammation, though no definitive abscess was visualized. She was admitted to the ICU and started on broad-spectrum antibiotics.

On day two of hospitalization an abdominal and pelvis CT with contrast revealed an abscess around the right psoas muscle and retroperitoneal fat, with high suspicion for a focal abscess. On day three, 60 milliliters of pus were drained from the collection. The cultures grew meticillin-sensitive *Staphylococcus aureus* (MSSA). Cefazolin was begun, and on day five, the patient’s sepsis resolved.

On day seven, the patient became febrile and the pain in her right hip and flank increased. Her WBC was 24,000. CT scan revealed a larger abscess around the right psoas muscle [see image 1]. Two hundred milliliters of pus were drained. The fluid grew MSSA with the same antibiogram as the previous specimen. A trans-esophageal echocardiogram was normal as was the remainder of the infectious disease workup, including, blood cultures and a HIV test. The patient improved steadily after the second catheter was placed.

The patient was hospitalized for a total of 12 days. On the day of discharge, the WBC was 12,800. She was sent home with IV Cefazolin.

At her outpatient follow-up five weeks after admission, she was afebrile and ambulating normally without pain or analgesics. Her leukocytosis had resolved, but the CRP remained modestly elevated at 32 mg/L (normal <5 mg/L). A CT scan showed only a small residual psoas fluid collection. The IV antibiotics were continued for another three weeks. A follow up CT at eight weeks revealed complete resolution of the abscess and normalization of the inflammatory markers.

**DISCUSSION**

Iliopsoas abscess is a relatively rare entity, typically more common in immunocompromised patients. This patient presented without fever, which may have been suppressed in this case by the non-steroidal anti-inflammatory medications she was taking for pain control. She did not have any recent surgery, or obvious involvement of adjacent structures such as the spine, hip, gastrointestinal or genitourinary tracts. We suspected that the abdominal wall abscess that had been incised and drained just a month prior to admission may have caused transient bacteremia with seeding of the psoas muscle. Although no blood cultures were collected at that time to confirm bacteremia, the wound cultures obtained did grow MSSA with the same antibiogram pattern as the psoas isolate from our facility.

This diagnosis can be easily missed in the outpatient setting in the absence of typical co-morbid conditions predisposing to primary psoas abscess, such as diabetes mellitus, IV drug abuse, immunosuppression or prior abdominal or pelvic surgeries. It is also important to remember that primary psoas abscesses do tend to occur in young adults or children.

CT scan with contrast remains the diagnostic modality of choice. *Staphylococcus aureus* is the most common etiologic organism. Successful management depends on adequate drainage and effective antibiotics.

We conclude that it is imperative for clinicians to maintain an index of suspicion for a psoas abscess in patients with worsening hip or back pain, even if the patient is young, immunocompetent and without a history of trauma to the area. Low back pain that radiates to the flank and hip, impedes ambulation, and is associated with a positive psoas sign on exam should raise suspicion for a psoas abscess. Additional findings of impressive leukocytosis (>10,000) and elevated inflammatory markers suggest systemic disease secondary to iliopsoas abscess. The rarity of the condition and non-specific symptoms, in the setting of high morbidity, make the diagnosis essential.

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**References**


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