

Isolated Psoas Abscess due to Mycobacterium Tuberculosis

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ABSTRACT

Introduction: Psoas abscess is a collection of pus in the iliopsoas. It was divided into two groups as primary and secondary according to their origin. The most common bacterial cause is *Staphylococcus aureus*, including methicillin-resistant *S. aureus* (MRSA). Mycobacterium Tuberculosis is a rare cause of psoas abscess.

Case report: In this case, we aimed to show psoas abscess due to Mycobacter tuberculosis in a case who presented to hospital with nonspecific symptoms and weight loss.

Conclusion: It is more common in underdeveloped and developing countries. Symptoms and signs of psoas abscess include back or flank pain, fever, inguinal mass, limp, anorexia, and weight loss. The presenting symptoms may be nonspecific.

Keywords: Psoas Abscess, Mycobacterium Tuberculosis

INTRODUCTION

Psoas (or iliopsoas) abscess is a collection of pus in the iliopsoas muscle compartment. The incidence is rare, but the frequency of this diagnosis has increased. It is more common in males than females. The median age of patients is 44 to 58 years in developed countries. Psoas abscesses may be divided into primary and secondary abscesses according to its pathogenesis. Primary psoas abscesses are most frequently due to infection by a single organism.¹ Secondary psoas abscess may be monomicrobial or polymicrobial. *Mycobacterium tuberculosis* is a frequent cause of primary psoas abscess in regions where tuberculosis is common.² We report a case of extensive unilateral iliopsoas abscess due to Mycobacterium tuberculosis in a female patient.

CASE REPORT

A 47-year-old female was admitted to outpatient clinic with 11 kg weight loss in the last 1 year and long-term weakness. Despite weight loss, she had no appetite problems. Her complaints increased within the last 2 months. The patient had hypothyroidism and iron deficiency anemia. She was non-smoker and did not consume any alcohol.

Patient's general condition was moderate, had low grade pyrexia (37 °C). Blood pressure was 90/60 mmHg, her pulse rate was 86 beats/min and respiratory rate was 14 breaths/min. The patient's appearance was cachectic. Her chest examinations was clear to auscultation, and her cardiac examination showed regular rhythm without any murmurs, gallops, or rubs. No adenopathy was noted. Abdominal examination revealed normoactive bowel sounds and a soft, non-tender abdomen without masses, distention, or organomegaly. The genital examination showed no evidence

of mass or hernia.

Laboratory findings revealed a white blood cell count of 7,960 /uL with 82% segmented neutrophils, 12% lymphocytes, and 6% mononuclear cells. The hemoglobin and hematocrit were 10.5 g/dL and 31,5% respectively, with 280,000 uL platelets and a low mean corpuscular volume. Electrolytes, blood urea nitrogen, creatinine, and glucose were all within normal limits, as were coagulation studies. Sedimentation rate was 40 mm/h and CRP was 93 mg/L. Chest x-ray and ECG study was normal.

CT scan of abdomen revealed large ill-defined hypodense lesion in the right iliopsoas, which was suggestive of iliopsoas abscess. (Figure 1,2) Collection of Sample by USG guided aspiration of pus was done from psoas abscess under aseptic precautions. Gram's stain method revealed numerous white blood cells without bacteria. Blood and urine cultures were obtained, and the aspirate was sent to Gram's staining, acid-fast staining, bacterial and mycobacterial cultures. There was no proliferation of organisms in blood or abscess cultures. Fibrinous material, polymorphic leukocytes and sparse lymphocytes were detected in the pathology specimen taken from the abscess. TBC-PCR was performed from the patient's abscess, which resulted as positive. The patient's treatment was started immediately. The patient was

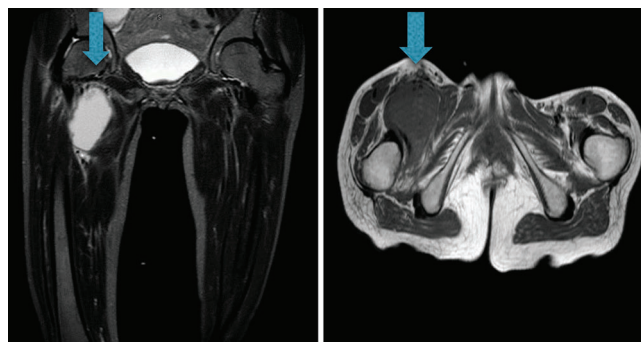


Figure-1 and 2: Right iliopsoas muscle psoas abscess

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transferred to the Infectious Diseases Unit for subsequent follow-up and treatment.

DISCUSSION

Psoas abscess was first defined by Mytner in 1881 as a collection of pus and named as psoitis at the time.³ Psoas abscess is responsible from 5-10% of all abdominal suppurations.⁴ Psoas abscess is divided into two groups according to whether there is an underlying etiology, as primary (there is an underlying cause, 30% of the cases) and secondary (70% of the cases). Primary psoas abscess is caused by *Staphylococcus aureus* in 88% of the cases and the bacteria spread, usually from a specific focus via hematogenous or lymphogenous route in especially immunocompromised patients (diabetes mellitus, renal failure, intravenous drug abuse, HIV infection, malignancy, trauma patients or other chronic diseases).⁵ Other organisms that cause primary psoas abscess are streptococci (5%), *Escherichia coli* (3%), and rarely brucella or pneumococci. Secondary psoas abscess results from local extension from an infective process. The most common secondary psoas abscess causes are peritoneal inflammation and spinal pathologies. It was seen that the most common etiology of secondary psoas abscess was Crohn's disease in a study conducted by Rici et al that was comprised of 367 patients.⁶ In developing countries, most common cause of secondary psoas abscess is tuberculosis of the vertebrae (Pott's disease) and 5% of patients suffering from Pott's disease have psoas abscess.³ Apart from all these facts, primary psoas abscess without any presence of an infective focus, as seen in our case, is very rare in the literature.⁶

Most of primary psoas abscess cases are in good medical condition and have chronic or subacute symptoms. This situation may lead to late diagnosis. Patients usually refer to their physicians with the triad of flank pain or back pain, limitation of pelvic movements and fever (35%).³ In our case, there was a presence of 1-year-long right inguinal pain, 11 kg of weight loss, and fluctuating fever that reached 38 °C frequently. Within this one-year long period, the patient's investigations for weight loss, PPD test, and thoraco-abdominal CT scan were performed, and an empirical antibiotic therapy was started in other medical centers that the patient had referred to. After psoas abscess was found in the imaging work, the patient was admitted to our internal medicine clinic for further study.

In order to diagnose primary psoas abscess, clinical suspicion, detailed physical examination, radiology (CT/MRI are gold standard methods), microbiology and histopathology are essential. Also, infections in the lungs, the vertebrae, pelvis, genitourinary system, gastrointestinal system and septic arthritis must be ruled out. The radiologic studies in our case, led the physicians towards the diagnosis and this diagnosis was confirmed by molecular microbiologic studies that were carried out from the drainage samples that was collected for diagnostic and therapeutic purposes as well as pathology reports. Our case was considered as primary psoas abscess because there were no other active infective foci.

Psoas abscesses are usually treated with ultrasound guided percutaneous drainage and appropriate antibiotic therapy, but some cases may require surgery.⁵

Our case that was diagnosed as primary psoas abscess which is known to have better prognosis than that of psoas abscess, responded well to the treatment that consisted of drainage of the abscess performed by interventional radiology clinic and quadruple antibiotic therapy (rifampicin 300 mg 1*2, pyrazinamide 500 mg 1*2, ethambutol 500 mg 1*2, isoniazid 300 mg 1*1).

The case of psoas abscess as the primary presentation of tuberculosis infection is very rare in the literature and the fact that general medical conditions of the patients presents well at the beginning leads to late diagnosis. Tuberculosis should not be ignored in psoas abscess patients as differential diagnoses especially in Turkey, in which tuberculosis infection is frequent, and radiologic, microbiologic and pathologic investigations should be carried out as necessary. Treatment of percutaneous drainage and appropriate antibiotic therapy usually creates well results.

CONCLUSION

This case study emphasized that, a tuberculosis origin should be suspected in patients suffering from psoas abscess who do not respond well to empirical antibiotic therapy and live in endemic areas for tuberculosis.

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