

## Case Report

### Primary tubercular psoas abscess: a rare presentation

Kiran Chawla<sup>1</sup>, Annet D'Souza<sup>1</sup>, Shyamsunder Bhat N<sup>2</sup>, Chiranjay Mukhopadhyay<sup>1</sup>

Department of Microbiology<sup>1</sup> and Orthopaedics<sup>2</sup>, Kasturba Medical College, Manipal, Karnataka, India

#### Abstract

Primary tubercular psoas abscess is a rare clinical entity and has seldom been reported in an otherwise healthy person. Here we report an interesting case of primary tubercular psoas abscess in an immunocompetent male with no other traceable source.

**Key words:** psoas abscess; primary tubercular abscess

*J Infect Dev Ctries* 2012; 6(1):86-88.

(Received 07 May 2011 – Accepted 30 August 2011)

Copyright © 2012 Chawla *et al.* This is an open-access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

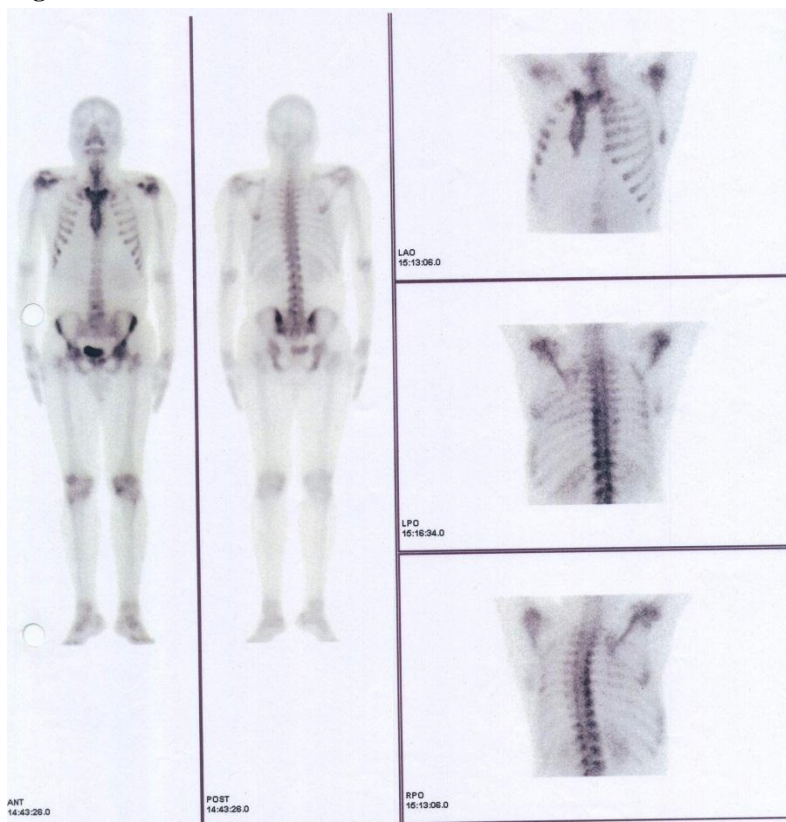
#### Case report

A 35-year-old male ayurvedic doctor was admitted to a tertiary care hospital with complaints of pain associated with movements in the left hip joint, low-grade persisting fever, progressive loss of appetite, and loss of weight for the last six months. Chest examination was within normal limits and there was no lymphadenopathy. The patient had a history of cholecystectomy two years earlier. There was no past or family history of tuberculosis, hypertension, or diabetes mellitus. He was earlier treated for enteric fever due to significant Widal titre levels and the fever subsided. Meanwhile the patient travelled to Kuwait for a month, where he again had fever and was treated with paracetamol for fever and diclofenac ointment for hip pain. As he returned to India, Brucella agglutination test revealed a significant titre of 1:320. The patient was treated with doxycycline and rifampicin for 10 days by a local physician. The Brucella agglutination test was repeated after treatment and the titre was found to be 1:160, whereas erythrocyte sedimentation rate was 120 mm at the end of the first hour. Peripheral blood smear revealed hypochromic microcytic anaemia with neutrophilia and thrombocytosis. The patient was further continued with intravenous paracetamol and doxycycline. However, fever was still persistent despite treatment and the patient stopped working. As there was no improvement, he was admitted to our tertiary care hospital. On examination, blood tests showed HBsAg positive for hepatitis B and raised C-reactive protein (88.1mg/L). Titres for the Brucella

agglutination test and widal test were negative. Blood and urine cultures were sterile. Other serological tests for HIV, antinuclear antibody, rheumatoid factor and HBcAg were negative. Ultrasonography of the abdomen indicated mild splenomegaly. Echocardiogram was normal. A bone marrow trephine biopsy was performed and sent for histopathology; however, it was not possible to form a conclusion because of the inadequate sample size. Bone marrow culture yielded a growth of *Pseudomonas spp.*, which was probably an environmental contaminant. Technetium-99 m bone scan did not show any hot spots in the spine (Figure 1). Magnetic resonance imaging of the hip joint (done outside) indicated inflammatory changes in the ala of the sacrum on left with a large collection in the left iliopsoas muscle and pre sacral space communicating with the gluteal region through the sciatic notch suggestive of abscess (Figures 2A and 2B). Repeated ultrasonography indicated loculated fluid (approximately 540 ml) collection with internal septations involving the left iliacus and psoas muscle measuring 25 x 6.7 x 6 cm and extending up to the insertion of the iliopsoas muscle.

The left iliopsoas abscess was drained by open lateral approach and was sent for microbiological investigations and histopathology. Gram stain showed moderate pus cells but no bacteria. Aerobic culture was sterile. Ziehl Neelsen's staining was positive for acid-fast bacilli (1- to 3 bacilli could be seen in the whole smear). Polymerase chain reaction performed for *M. tuberculosis* was positive.

**Figure 1.** Normal Technitium 99m bone scan



**Figure 2A.** No osseous lesion seen in the sagittal section of lumbar spine of T2 MRI scan



**Figure 2B.** T2 MRI axial section at hip joint level showing psoas abscess tracking along greater sciatic notch to gluteal region



Histopathology indicated tuberculous granulation tissue. The patient was started on anti-tubercular treatment. Fever and pain subsided. Follow-up of the patient showed afebrile status and considerable improvement in his health.

## Discussion

Iliopsoas abscess, a collection of pus in the iliopsoas compartment, was first described by Mynter in 1881, who referred to it as psoitis [1]. It may be classified as primary (30% cases) or secondary (70% cases), depending on the presence or absence of underlying disease [2]. The primary type is caused by hematogenous or lymphatic spread of bacteria, usually from an occult source [3]. It is usually seen in immunocompromised patients such as diabetics or alcoholics. The commonest organism causing this type of abscess is *Staphylococcus aureus* (88%), but other organisms such as streptococci (5%) and *Escherichia coli* (3%) may also be responsible [4].

The secondary type of iliopsoas abscess occurs as a result of local extension of an infective process. The two most common conditions leading to this type are the peritoneal inflammatory process and spinal pathology [3]. In fact, in developing countries, tuberculosis spine (Pott's disease) is considered the most common cause of psoas abscess [5,6]. About 5% cases of Pott's disease develop psoas abscess. However, occurrence of psoas abscesses as primary presentation of tuberculosis (as in our case), without any active infective focus elsewhere, has seldom been documented [7].

Most of the cases of primary psoas abscess, as reported in the literature, present with good general health but with subacute or chronic symptoms (as with our case) [8]. These unusual clinical features may also lead to delay in diagnosis. Patients usually (35% cases) present with a triad of symptoms: flank or back pain, limitation of hip movement, and fever [9]. In this particular case, the patient had symptoms of low-grade fever and pain in the left hip for six months but was treated initially for typhoid fever and brucellosis according to the laboratory investigations performed outside our facility.

Diagnosis of primary psoas abscess needs high clinical suspicion, meticulous clinical examination and radiology (CT/MRI are considered the gold standard), microbiological investigations and histopathology. Furthermore, other sources of infection in lung, spine, hip, genitourinary or gastrointestinal tracts must be ruled out [10]. In our patient, radiological investigations led to the

diagnosis, which was later confirmed by microbiological and histopathological reports of the drained pus. It was diagnosed as primary tubercular psoas abscess as no other source of tuberculosis was traceable.

Psoas abscesses are usually treated with ultrasound guided percutaneous drainage (PCD) and appropriate antitubercular therapy (ATT) [11]; however, some patients may require surgery. Our patient responded well to open drainage followed by ATT (on Rifampicin, Isoniazid, Ethambutol and Pyrazinamide for six months) correlating with the fact that primary psoas abscess has better prognosis than that of secondary to other causes.

## Acknowledgement

We are thankful to our radiology and medicine faculty for their support.

## References

1. Mynter H (1881) Acute psoitis. *Buffalo Med Surg J* 21: 202-210.
2. Mallick I, Thoufeeq M, Rajendran T (2004) Iliopsoas abscesses. *Postgrad Med J* 80: 459-462.
3. Adelekan MO, Taiwo SS, Onile BA (2004) A review of psoas abscess. *Afr J Clin Exper Microbiol* 5: 55-63.
4. Ricci MA, Rose FB, Meyer KK (1986) Pyogenic psoas abscess: worldwide variations in etiology. *World J Sur* 10: 834-843.
5. Procaccino JA, Lavery IC, Fazio VW, Oakley JR (1991) Psoas abscess; difficulties encountered. *Dis Colon Rectum* 34: 784-789.
6. Roy S (1969) Cold abscess in caries spine. *J Ind Med Ass* 53: 240-244.
7. Cubukcu S, Gurbuz U, Cevilkol C, Aktan S, Tuncer T (2006) Primary psoas abscess presented with only low back pain. *Turk J Phys Med Rehab* 52: 137-140.
8. Vaz AP, Gomes J, Esteves J, Carvalho A, Duarte R (2009) A rare case of lower abdominal and pelvic mass, primary tubercular psoas abscess: a case report. *Cases Journal* 2: 182.
9. Berge VM, Marie S, Kuipers T, Janz AR, Bravenboer B (2005) Psoas abscess: report of a series and review of the literature. *Neth J Med* 63: 413-416.
10. Yoo JH, Kim EH, Song HS (2009) A case of primary psoas abscess presenting as buttock abscess. *J Orthopaed Traumatol* 10: 207-210.
11. Gupta S, Suri S, Gulati M, Singh P (1997) Ilio-psoas abscesses: Percutaneous drainage under image guidance. *Clin Radiol* 52: 704-707.

## Corresponding author

Dr Kiran Chawla  
Associate Professor  
Department of Microbiology, KMC Manipal  
Karnataka, India 576104  
Telephone: 91-08202922322  
Email: arunkiranchawla@yahoo.com

**Conflict of interests:** No conflict of interests is declared.