

Pelvic Ring Disruption Secondary To Psoas Abscess Formation

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Citation

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Abstract

This report describes pelvic ring disruption in a 34-year-old female following bilateral psoas abscess formation secondary to multifocal pneumococcal septicaemia of unknown origin. This previously unreported complication of psoas abscess formation was associated with pubic symphysis disruption, sacroiliac joint infection, disruption and latterly arthrosis of the hip joint secondary to infection

The authors believe that aggressive surgical and medical treatment and a high index of suspicion for orthopaedic complications is necessary in patients with a psoas abscess. Repeated x-rays and long term follow-up is suggested.

INTRODUCTION

The psoas major muscle arises from T12 to the L5 vertebrae, extending caudally along the retro-peritoneum and proceeds downwards across pelvic brim and under the inguinal ligament and then anterior to the capsule of the hip joint. The psoas tendon is joined by the fibres of iliacus muscle in the pelvis and together they insert into the lesser trochanter of the femur. The ilio-psoas is the primary flexor of the hip joint and is also an important antigravity postural muscle, which helps humans to maintain an erect posture. The close proximity of ilio-psoas to sacro-iliac and hip joints during its course predisposes these joints to possible spread of infection.

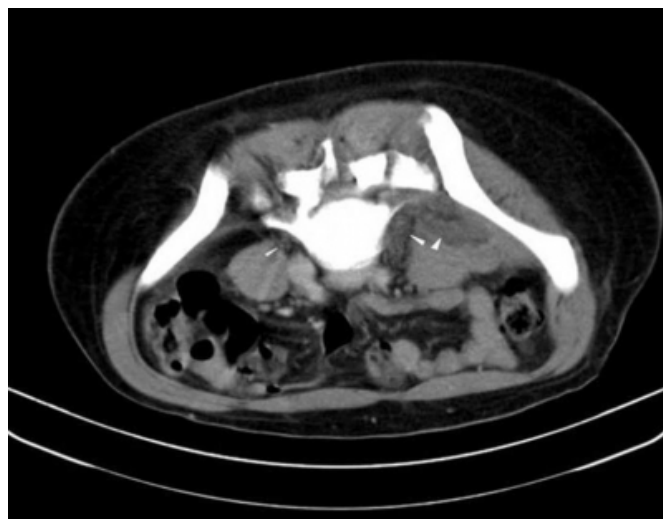
CASE REPORT

A 34-year-old senegalese female, previously fit and healthy was admitted with a 2- week history of fever, pain, and swelling of the right thigh and left wrist. On admission, she was pyrexial and unable to weight bear on the right hip. Haematological and biochemical investigation revealed erythrocyte sedimentation rate of 79, C-reactive protein of 319, and white cell count of 27.8×10^9 with a neutrophilia.

A computerised tomography (CT) scan of the abdomen and pelvis revealed bilateral psoas abscesses tracking from the lumbosacral spine towards both hip joints (Fig 1).

Figure 1

Axial CT image showing large area of low attenuation collection in relation to left psoas (large white arrows) and small area of low attenuation collection in relation to right psoas (small arrow)



The patient was then commenced on intravenous benzyl penicillin and surgical drainage of the thigh and wrist abscesses were performed by the general surgical team. A CT guided aspiration of the left psoas abscess was performed and 25ml of pus was obtained which grew streptococcus pneumonia. Despite multiple investigations no primary focus of infection could be found. Investigation involved gynaecological, surgical and rheumatological teams. The patient was discharged home following a period

of 6 weeks in hospital on intravenous antibiotics.

The patient presented to the orthopaedic team with a painful right hip and difficulty in walking four months post discharge. Examination of the hip revealed 30° of fixed flexion and globally restricted range of movement. There was 1 ½ cm of shortening of the left leg. Movements of the left hip were pain free. X-ray of the pelvis revealed there had been a disruption of the symphysis pubis and sacro-iliac joint on the left resulting in a cephalad migration of the left hemi pelvis. The same x-ray also revealed a destructive arthrosis of the right hip consistent with septic arthritis (Fig 2). An aspiration of the right hip did not grow any organisms in view of the fact this patient had been on a prolonged course of antibiotics.

The patient was investigated with an isotope bone scan that revealed the infection was quiescent. An ESR and CRP confirmed no active infection. Following a 3 months course of oral penicillin (with advice from microbiologist), she underwent an uncemented total hip replacement (Fig 3) and made an uneventful recovery and is now walking pain free with equal leg lengths.

Figure 2

AP x-ray of pelvis showing loss of joint space with femoral head necrosis consistent with septic arthritis. Disruption of pubic symphysis and subluxation of sacro-iliac joint also seen



Figure 3

AP x-ray of pelvis showing uncemented right total hip replacement. Disruption of pubic symphysis noted.



DISCUSSION

Pelvic ring disruption without an associated trauma is a rare event. Pelvic ring disruption due to psoas abscess infection is previously unreported. However, septic arthritis of the hip as a complication of psoas abscess information is well documented². Mycobacterium tuberculosis is a common pathogen in psoas abscess formation and is often secondary to spinal tuberculosis in developing countries; this is rarely the case in developed countries. Ricci et al. noted staphylococcus aureus was the most commonly recovered pathogen in those with primary psoas abscess³. Franco-Paredes et al. reported a case of psoas abscess co-infection with staphylococcus aureus and mycobacterium tuberculosis⁴. In our patient the organism isolated was pneumococcus, which is rare and not reported in the literature.

The treatment of a pyogenic abscess has traditionally included appropriate antimicrobial therapy and surgical drainage. More recently, a trend toward percutaneous drainage has become popular. Haaga reported 82-90 % success with percutaneous drainage in simple psoas abscess formation, but limitations such as size and location of the abscess are important⁵. In our case 25ml of pus was aspirated from the left sacro-iliac joint, but there was no evidence to prove adequacy of drainage.

Despite negative aspiration from the right hip the presumed cause of destruction of this patient's joint was one of infection. As such, a total of 8 months was left between the primary infection of the joint and replacement surgery. At operation leg length was particularly difficult to achieve in view of the significant shortening in the left contralateral leg secondary to hemipelvic disruption.

The authors believe that aggressive surgical and antimicrobial treatment is needed during the hospital stay, and a high index of suspicion for complications and periodic follow up is necessary in patients with a psoas abscess. The consequences are grave if the complications are diagnosed late.

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