Iliopsoas abscess masquerading as 'sciatica'

D W Shields,¹ Patrick G Robinson²

¹Department of Trauma and Orthopaedics, Royal Victoria Infirmary, Newcastle-Upon-Tyne, Tyne and Wear, UK
²Wolfson Medial School, University of Glasgow, Glasgow, UK

Correspondence to
 David Shields,
 dwshields@gmail.com

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SUMMARY

A 35-year-old woman of Indian origin presented with a 5-month history of lower back pain, radiating down the back of her right leg in distribution of the sciatic nerve. Referral was made to the spinal clinic querying sciatica, but a deterioration in her symptoms developed, and the patient presented to the Accident and Emergency department. She was significantly tender at right sacroiliac joint and had positive psoas sign. The MRI scan showed a large iliopsoas abscess causing bony destruction, and extended culture was positive for mycobacterium tuberculosis. The patient was initially diagnosed with sciatica yet had a positive psoas sign and a painful sacrum. It is important that primary physicians are aware of the relations the iliopsoas muscle and the potential effect an abscess can have here. A sinister underlying cause of a patient's sciatic distribution of pain should be excluded before accepting a diagnosis of mechanical back pain.

BACKGROUND

Traditionally, symptoms from an iliopsoas muscle abscess can be attributable to irritation of the femoral nerve as it descends through the psoas muscle emerging at the lower aspect of its lateral border, and passes down between it and the iliacus muscle, behind the iliac fascia. When irritated, it can therefore give symptoms in keeping with this, which include; pain in a dermatomal distribution, hip flexion and knee extension weakness, possible patellar tendon reflex impairment and worsening pain by hip extension. However, in this case, the iliopsoas muscle abscess irritated the L4-S3 nerve roots causing leg pain in distribution of the sciatic nerve.

CASE PRESENTATION

The patient is a 35-year-old woman of Indian origin who has lived in the UK for the last 15 years and who occasionally returns to rural India for visits.

She presented with a 5-month history of lower back pain, radiating down the back of her right leg in distribution of the sciatic nerve. Soon after, she developed progressive anorexia with weight loss and night sweats. However, she had no bowel or bladder disturbances. The patient's general practitioner referred her to the spinal clinic, as a routine referral querying sciatica. Unfortunately, the patient developed an acute deterioration in her symptomatology, and thus presented to our acute services division.

On careful examination of her lower limbs, it was noted she had normal tone through all of the joints. She showed right-sided weakness in her femoral nerve distribution with a Medical Research Council (MRC) score of 4/5 at the hip, knee and ankle. This was thought to be due to pain, rather

than a true weakness. She had normal power on the left side. Sensation was normal in her legs as well as perianally. There was an absent right-knee jerk. She was non-tender at the lumbar spine but was significantly tender at her right sacroiliac joint. The patient's leg was flexed and externally rotated, pain was exacerbated with internal rotation and a positive psoas sign was elicited. The patient's abdomen was soft and non-tender, and she had normal anal sphincter tone.

INVESTIGATIONS

Observations

The patient was saturating at an acceptable 97% on air. She had a respiratory rate of 18 breaths/min, was normotensive at 115/70 and had a heart rate of 82 beats/min. It was noted she had low-grade intermittent pyrexial temperature between 37.5 and 37.9 degrees Celsius.

Her blood tests showed a haemoglobin of 9.2, platelets of 612, a white cell count of 11.4, an increased C reactive protein and erythrocyte sedimentation rate at 116 and 123, respectively, and an albumin of 34. Her chest x-ray was clear and did not show any consolidating lesion and no hilar lymphadenopathy.

The patient was sent for an MRI scan which indicated a large iliopsoas abscess causing bony destruction in the posterior iliac wing, sacrum and L5 vertebra (figure 1).

An ultrasound-guided biopsy and microscopy showed non-specific fibrosis and inflammation.

Cultures were obtained via this ultrasound and were initially negative for acid fast bacilli. However, the extended culture was positive for *Mycobacterium tuberculosis*.

Figure 1 Plain x-ray of the sacrum showing loss-of-bone density on right.

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Table 1 Red and Yellow flags—elements from a patients' history warranting an index of suspicion⁴

Red flag symptoms/signs (possible indicators of serious spinal pathology)	Yellow flag symptoms/signs (indicators of long-term chronicity and disability)
<ul style="list-style-type: none"> ▶ Thoracic pain ▶ Fever and unexplained weight loss ▶ Bladder or bowel dysfunction ▶ History of carcinoma ▶ Ill health or presence of other medical illness ▶ Progressive neurological deficit ▶ Age of onset <20 years or >55 years 	<ul style="list-style-type: none"> ▶ A negative attitude that back pain is harmful or potentially severely disabling ▶ Fear-avoidance behaviour and reduced activity levels ▶ An expectation that passive, rather than active, treatment will be beneficial ▶ A tendency to depression, low morale and social withdrawal ▶ Social or financial problems

Adapted table indicating 'Red' & 'Yellow' flags—elements from a patients' history warranting an index of suspicion.⁴

DIFFERENTIAL DIAGNOSIS

- ▶ Tuberculosis
- ▶ Malignancy
- ▶ Osteomyelitis
- ▶ Brucellosis
- ▶ Actinomycosis

TREATMENT

Patient was then started on quadruple therapy of

- ▶ Rifampicin
- ▶ Isoniazid + pyridoxine
- ▶ Pyrazinamide
- ▶ Ethambutol

OUTCOME AND FOLLOW-UP

12 days into therapy, the patient's neurological symptoms had completely resolved, but sacral pain still persisted. The patient continues to be treated with a full 6-month course of antimicrobials.

DISCUSSION

Iliopsoas abscess is a rare diagnosis¹ but presents with a wide variety of symptoms, due to the large number of anatomical relations. When first described by Mynter² in 1881, most cases

Figure 2 Axial CT (bone windowing) confirming destruction of superior sacral ala. **Figure 3** Contrast CT showing extension of the loculated psoas abscess extending posteriorly through the sacrum.

were secondarily spread from skeletal tuberculosis; however, in Europe, most cases are secondary to intestinal spread, in particular, Crohn's disease.³ With rising incidences of tuberculosis, we must again have a lower index of suspicion (table 1).

The patient was diagnosed with a mechanical cause for her sciatic distribution nerve pain, yet she had a positive psoas sign and a painful sacrum which are not consistent with this diagnosis (figure 2). There are no cases in the literature describing the presentation of an iliopsoas muscle abscess as sciatica. Typically, the femoral nerve is affected by extension of an iliopsoas abscess; however, in this case, the abscess was extending posteriorly and irritating the L4-S3 nerve roots, giving rise to lower back pain and leg pain, which was then exacerbated by osteomyelitic destruction of the sacrum (figure 3). This is a very unusual presentation of an iliopsoas muscle abscess and the pathology that followed was clearly very destructive.

Learning points

- ▶ It is important that primary physicians are aware of the relations of the iliopsoas muscle.
- ▶ An accurate history, and low index of suspicion for tuberculosis should be employed.
- ▶ Iliopsoas abscess should be considered as a differential potential for an abscess in this region to cause both sciatica and femoral nerve symptoms.
- ▶ A sinister underlying cause of a patient's sciatic distribution of pain should be excluded before accepting a diagnosis of mechanical back pain, by way of 'red flags'.

Competing interests None.

Patient consent Obtained.

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