CASE REPORT

ILIOPSOAS BURSITIS—AN UNUSUAL PRESENTATION OF METASTATIC BONE DISEASE

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SUMMARY
Diagnostic uncertainty concerning the nature of an enlarging inguinal mass in an elderly male with a short history of hip pain was resolved by a combination of ultrasound and magnetic resonance imaging (MRI). Subsequent investigations showed that the enlarged iliopsoas bursa, which contained a number of atypical cells, was an unusual presenting feature of a destructive metastatic lesion in the right hip.

KEY WORDS: Iliopsoas bursitis, Neoplasm, Metastatic carcinomatous arthritis.

POINTS of potential friction between ligaments and the skin overlying bony prominences are often protected by lubricating bursae. The iliopsoas bursa lies lateral to the femoral vessels in a position between the capsule of the hip joint and the iliopsoas muscles. A variety of inflammatory and degenerative diseases of the hip joint can produce weakening of the capsule anteriorly, thereby allowing communication between the joint space and the adjacent iliopsoas bursa. The mode of presentation of iliopsoas bursitis reflects the direction and magnitude of enlargement of the bursa and it can therefore present as hip pain, an enlarging mass in the groin or may cause symptoms which are the result of compression of structures closely applied to the enlarging bursa. Even in specialist musculoskeletal units, the clinical diagnosis of this condition is often not made and its many and varied presentations lead therefore to unnecessary investigation and inappropriate treatment.

CASE REPORT

A 77-yr-old man with chronic rheumatoid arthritis presented with a 3 month history of increasingly severe right hip pain and a 1 month history of an enlarging mass in the right groin. He was anorexic and had lost 10 lb in weight during the preceding 10 months. Rheumatoid arthritis had been diagnosed 40 yr previously; it initially required second-line therapy, although during the last 5 yr the disease had been quiescent and required only symptomatic therapy. The patient gave a long history of exertional dyspnoea and he had smoked heavily for over 50 yr.

He walked with an antalgic gait. Examination of the right hip revealed flexion to 100°, but extension was limited and no internal or external rotation was possible. A fluctuant non-pulsatile, non-tender mass (5" x 3") was present in the right groin. No cough impulse was palpable and bowel sounds were not heard over his mass. The femoral artery was palpable medially over the mass and a bruit was audible over the artery. Abdominal examination revealed a smooth-edged liver enlarged to four finger breadths due to associated emphysema and chronic obstructive airways disease. He had the typical changes of nodular rheumatoid arthritis. Clubbing, lymphadenopathy, and signs of anaemia and liver disease were all absent. A firm clinical diagnosis was not made at this time.

An ultrasound scan of the mass revealed a complex elongated structure closely related to the right hip joint. It was mostly cystic in nature, but contained some echogenic elements with no flow on Doppler to suggest an aneurysm (Fig. 1). An effusion within the hip joint could not be

FIG. 1.—Ultrasound of right groin, transverse scan. There is a complex cystic mass containing some solid elements. The femoral vessels are located over its medial aspect.


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FIG. 2.—Pelvic radiograph showing a large destructive lesion in the right acetabular roof, eroding into the hip joint.

demonstrated. An enlarged iliopsoas bursa was considered the most likely diagnosis. Ultrasound of the abdomen showed an enlarged liver of homogenous texture and no abdominal masses. The spleen and kidneys were normal, and there was no para-aortic lymphadenopathy and no free peritoneal fluid.

An X-ray of the pelvis revealed a destructive lesion in the right acetabular roof which had eroded into the hip joint (Fig. 2). Aspiration of the mass revealed clear fluid which contained only a few polymorphs and lymphocytes. Crystals were absent and culture failed to grow any organisms. Cytological examination of the fluid, however, revealed a number of atypical cells. Positive results from a series of investigations revealed an ESR of 40 mm/h, a CRP of 42 mg/l and an alkaline phosphatase of 437 IU/ml (normal range <115 IU/ml). The chest radiograph showed enlarged lung fields and flattened diaphragms with no hilar lymphadenopathy and no lung lesions. An MRI scan confirmed the presence of a distended iliopsoas bursa in communication with an effusion in the hip joint (Fig. 3). An isotope bone scan demonstrated multiple areas of abnormal uptake compatible with metastatic deposits in the right scapula, spine and ribs. Histology of tissue obtained by biopsy of a deposit in the scapula showed the tissue to be poorly differentiated adenocarcinoma, negative on immunocytochemistry for Prostate Specific Antigen (PSA) and thyroglobulin. The site of the primary tumour was not identified. He was referred for palliative radiotherapy of the right hip.

DISCUSSION

The iliopsoas bursa is the largest synovial bursa in the body and the most important bursa around the hip. It is interposed between the iliopsoas muscle and the anterior surface of the capsule of the hip joint (Fig. 4). It is present bilaterally in 98% of adults [1]. The bursa extends from the inguinal ligament superiorly to the lesser trochanter of the femur, and is flanked by the femoral vein, artery and nerve. It lies adjacent

FIG. 3.—MRI scan. Axial T2 weighted image demonstrating a high signal fluid mass anterior to the right hip, and communication with an underlying hip effusion.
to the thinnest part of the hip joint capsule, and a defect in this capsule will allow communication between the hip joint and the bursa. Such a defect is common and has been observed in 14% of normal cadavers [1]. It is felt to be an acquired condition since this finding was not present in children. Raised intra-articular pressure, friction from the overlying iliopsoas tendon, or a weakening of the capsule may all contribute to the development of communication between the hip joint and the iliopsoas bursa [2]. Under these circumstances, the iliopsoas bursa acts as a volume reservoir for the hip joint and is sometimes referred to as a synovial cyst. Iliopsoas bursitis is usually associated with both inflammatory and degenerative diseases of the hip joint, the conditions most commonly associated with it are rheumatoid arthritis [3] and osteoarthritis [4]. Rarely, cases due to synovial chondromatosis [5], avascular necrosis [6] or tuberculosis [7] have been described. In most instances, a long duration of hip disease is typical [7]. In the absence of hip disease, inflammation and enlargement of the iliopsoas bursa may also occur as a result of trauma or sports injuries associated with vigorous hip flexion and extension [8].

One of the difficulties involved in arriving at the correct clinical diagnosis of iliopsoas bursal enlargement is that the symptoms are both non-specific and varied, consisting mainly of pain, a palpable groin mass or lower limb swelling. The mode of presentation is often determined by the magnitude and direction of enlargement. A palpable groin mass has a broad differential diagnosis, whilst a retroperitoneal extension of the bursa may confuse the physician by presenting as either a palpable abdominal or pelvic mass [9], or may produce clinical signs which are due to compression of lower limb lymphatics, the femoral vein or femoral nerve [10]. Rarely, displacement of abdominal viscera occurs [11]. Although anterior hip pain is the earliest and most frequent symptom associated with iliopsoas bursal enlargement, the pain may also be referred to the abdomen, the thigh or knee joint. Occasionally, the bursa may undergo rupture or become infected.

The diagnosis, as in this case, is best achieved by a combination of ultrasound and MRI scanning. Ultrasound is the modality of choice for demonstrating the predominantly cystic nature of the mass, and its relationship to the femoral vessels. It may occasionally reveal a hip effusion, and can be used to guide needle aspiration of the bursa. The clear advantage of MRI is that it provides optimal anatomical definition, and can demonstrate the communication between the bursa and joint cavity, thus precluding the need for arthrography or bursography. CT scanning is also appropriate, but it is inferior to MRI in demonstrating an effusion in the hip joint. Plain radiographs are mandatory for the assessment of underlying articular disease of the hip. The contribution of MRI here adds to the list of conditions in rheumatology where MRI plays an important diagnostic role [12].

Our case is of particular interest because an enlarging painful iliopsoas bursa was the presenting feature of metastatic disease. Previous associations with malignant disease consist only of one case report where iliopsoas bursitis was associated with a primary chondrosarcoma [13]. A Medline search from 1966 has failed to find other associations. The plain radiographic finding of a destructive lesion in the roof of the (right) acetabulum and the presence of atypical cells within bursal fluid indicate spread of malignant cells from the metastatic deposit into the joint space and bursa. Pre-existing inflammation associated with rheumatoid
arthritis may have already produced direct communication between the hip joint and the bursa, therefore facilitating the rapid increase in the size of the bursa seen in our patient. The clinical diagnosis was not made prior to investigation, but ultrasonography quickly suggested the correct diagnosis, and the MRI scan demonstrated the communication with an effusion of the hip and its aetiology.

Although infrequent documentation of isolated cases suggests a low prevalence, iliopsoas bursitis may be more common since the recent application of diagnostic imaging studies has led to increased awareness of this condition. To most clinicians, including those specializing in musculoskeletal disorders, the condition remains unfamiliar and because its presentation can be so varied it is often not considered as a cause of symptoms involving the inguinal area, the lower limb and abdomen. Ultrasound is the quickest and most cost-effective way of demonstrating the bursa and its contents, whilst CT and MRI provide a better appreciation of the regional anatomy and associated hip joint disease. The appropriate application of these modalities may prevent unnecessary investigation and inappropriate treatment.

REFERENCES