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Can iliopsoas bursitis be an early indicator of advancing hip osteoarthritis?

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Abstract

One of the most common causes of groin pain in older patients is hip joint arthritis. We present 2 patients in their 60's with severe groin pain consistent with iliopsoas bursitis and mild hip joint arthritis. Co-existing iliopsoas bursitis in the setting of mild hip joint arthritis is a rare finding and this created diagnostic and therapeutic challenges. Medical records, imaging studies, and surgeries for 2 patients were reviewed. Both patients underwent ultrasound guided steroid aspirations and injections into both their iliopsoas bursa and hip joints yielding little benefit. Within several months both patients had radiographic progression of their degenerative arthritis leading to total hip replacement with relief of all symptoms. Coexisting iliopsoas bursitis and mild hip joint arthritis has not been widely reported in the literature. We propose that iliopsoas bursitis can be an early indicator for advancing hip osteoarthritis.

Keywords: Groin pain, hip osteoarthritis, iliopsoas bursitis

Introduction

The iliopsoas bursa encases the iliopsoas muscle/tendon as it courses over the anterior hip joint. Inflammation of the iliopsoas bursa can sometimes create a fluid-collection and is a common cause of groin pain^[1]. As a hip joint flexor, inflammation of the iliopsoas can cause pain with active hip flexion, passive hip extension, and sometimes popping or clicking. Co-existing iliopsoas bursitis and hip joint arthritis has been rarely reported. Tormenta *et al.* found iliopsoas bursitis to be present in only 2.2% of the 860 evaluated patients with hip osteoarthritis, and in only 4 patients (0.5%) who had earlier stages of hip osteoarthritis^[2]. Additionally, Dan *et al.* looked at 544 patients between 2010 and 2019 with end-stage hip osteoarthritis who were undergoing hip replacement surgery^[3]. They found only 37 (6.8%) of those patients to have co-existing iliopsoas bursitis. There may have been a higher prevalence of iliopsoas bursitis in the latter study since they only included cases of end-stage osteoarthritis with a high proportion of developmental dysplasia of the hip.

While iliopsoas bursitis has been described in the setting of trauma and pathological processes like rheumatoid or hip osteoarthritis, our cases are unique in that iliopsoas bursitis occurred in the setting of mild hip osteoarthritis. This association is uncommon, and no other source to our knowledge describes the therapeutic and diagnostic challenges this can create. Our patients had severe groin pain that was atypical of mild hip joint arthritis which led to further imaging revealing hip flexor inflammation. This led to localized cortisone injections into the bursa which unfortunately were not beneficial. Ultimately both patients underwent hip replacements as their joint deterioration progressed resulting in resolution of all symptoms.

Case Report

Patient 1

The first patient is a 66-year-old male who presented in April 2020 with a complaint of occasional right groin pain. Physical exam revealed pain in the right groin with pivoting motions, occasional catching sensation in the right groin and an antalgic gait. Active flexion of his hip also caused increased discomfort. X-rays showed mild degenerative changes consistent with Kellgren and Lawrence grade 1^[4] in both hips (Fig. 1a). An MRI scan was ordered to check for occult bone problems since symptoms were more than expected for his grade of arthritis.

MRI showed mild degenerative arthritis as well as a large 10 cm by 4 cm by 3.5 cm fluid collection along the psoas tendon. (Fig. 1b and 1c).

The patient underwent ultrasound guided iliopsoas bursa aspiration which produced 30 cc's of serous fluid (Fig. 1d) followed by injection of 40 mg methylprednisolone acetate and 2 cc's of 1% lidocaine. Laboratory analysis of aspirated fluid was negative for crystals and cultures were negative. He had partial relief of the sharp anterior groin pain for 1-2 weeks. 4 weeks later, he underwent a right hip joint steroid injection which also only provided 1-2 weeks of partial improvement.

2 months later he underwent another ultrasound guided aspiration of the right iliopsoas bursa yielding 50 cc's of a yellow fluid followed by injection of the right iliopsoas. He reported no relief and had progressive difficulty with walking. Physical exam revealed further loss of motion in the right hip and continued difficulty actively flexing the hip but good tolerance of passive hip flexion. X-rays now revealed further loss of articular cartilage to grade 4, particularly in the superior aspect (Fig. 2a). With increasing symptoms and progressive radiographic loss of hip articular cartilage, the patient elected to proceed with total hip replacement surgery (Fig. 2b). At his 3-month follow-up the patient was very satisfied with complete relief of symptoms and return to his baseline function.

Patient 2

The second patient is a 64-year-old female who presented in July 2020 with right hip pain. On physical exam she had good motion in her right hip, but it caused groin and lateral hip discomfort at the endpoints of motion. X-rays of the hip revealed moderate grade 2 cartilage loss and some subchondral sclerosis in the hip (Fig. 3a).

One month later the patient returned with increasing discomfort in the groin having progressive difficulty lifting her leg, walking, and getting in and out of a car. Physical examination showed the patient had a limp protecting her leg, difficulty extending her hip, and marked limited motion. Ultrasound guided steroid injection of the hip joint was performed using 80 mg methylprednisolone acetate and 2 cc's of 1% lidocaine.

Unfortunately, the injection only helped for one week and she complained of recurrent discomfort in the hip. Physical exam revealed an antalgic gait, moderately limited hip range of motion and active hip flexion was especially uncomfortable. MRI showed iliopsoas bursitis with a multiloculated 4 cm long fluid collection positioned along iliopsoas tendon (Fig. 3b). An ultrasound guided aspiration of the bursa yielded viscous fluid and only a few cc's could be aspirated. This was followed by injection of the psoas tendon with 40 mg methylprednisolone acetate and 3 cc's 1% lidocaine. One week later she reported no benefit from the iliopsoas tendon injection.

One month following the psoas tendon aspiration/injection the patient was becoming increasingly frustrated with continued severe pain in the right groin and anterior thigh.

Active hip flexion was intolerable, but she was able to tolerate passive hip flexion to at least 100 degrees. X-rays were obtained and showed progressive deterioration of the right hip joint (Fig. 4a) to grade 3. She elected to have total hip replacement surgery through an anterior approach that did not reveal any unusual fluid collections around the iliopsoas tendon. Postoperatively she had an excellent recovery with resolution of all symptoms (Fig. 4b).

Discussion

Evaluating the source of groin pain can be challenging. Clinical presentation including patient age, hobbies, injuries, medical history, and athletics, can help distinguish between the various diagnoses. In patients over 50 years old, however, osteoarthritis is one of the most common causes of groin pain ^[5] and was the initial consideration in both patients presented here. Initial x-rays, however, showed only minimal articular cartilage loss so MRI scans were performed to look for other etiologies leading to the finding of co-existing iliopsoas bursitis in both patients. MRI scans are not typically necessary in the older patient population presenting with groin pain since radiographs are often consistent with hip arthritis. For the patients presented here, however, the MRI findings of iliopsoas bursitis helped explain their atypical severe groin pain and difficulty with active hip flexion. Both patients had moderately rapid progression of their osteoarthritis leading to total hip replacement 4 to 5 months following presentation. Hip replacement for both patients was successful at resolving all symptoms suggesting the cause of the bursitis was the arthritis.

We utilized ultrasound guided injections with the hope that it would be helpful both diagnostically and therapeutically regarding both patients' iliopsoas bursitis. This has been proven to be a reliable, relatively safe test in differentiating sources of hip pain ^[6] in the diagnosis of iliopsoas bursitis by evaluating the response the patient has to the injections at various anatomic locations. Unfortunately, in our patients, the response to aspirations and injections of the bursa was only marginally beneficial. Utilizing injections as a diagnostic tool while also creating a therapeutic benefit was not as helpful as we hoped.

Given the progression of osteoarthritis followed by complete resolution of the patient's symptoms after hip replacement surgery, it would suggest that the mild hip arthritis was the sole cause of the iliopsoas bursitis. In patients with extreme groin pain, marked discomfort with active hip flexion and only mild radiographic findings, consideration of iliopsoas bursitis would be appropriate, and it may be an indicator for progressive hip joint deterioration. Further research is warranted to evaluate the relationship and mechanism of pathogenesis between iliopsoas bursitis in the setting of mild hip joint osteoarthritis.

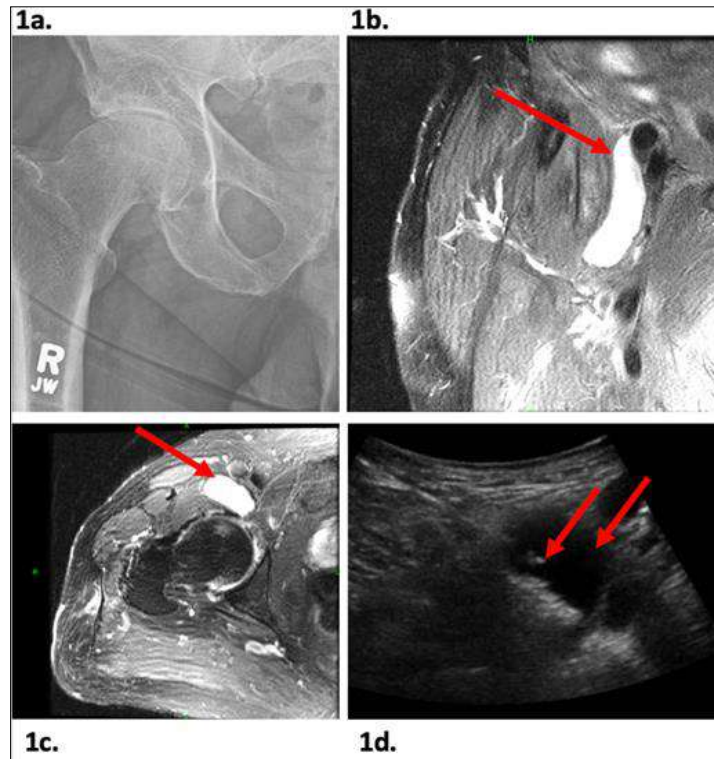


Fig 1: (1a) Patient 1’s April 2020 x-rays showing mild degenerative changes in the hip joint. (1b) and (1c) Patient 1’s MRI of the right hip. Approximate 10 cm long by 4 cm AP by 3.5 cm transverse right sided iliopsoas bursal fluid collection. (1d) Patient 1’s ultrasound guided right iliopsoas bursa injection.

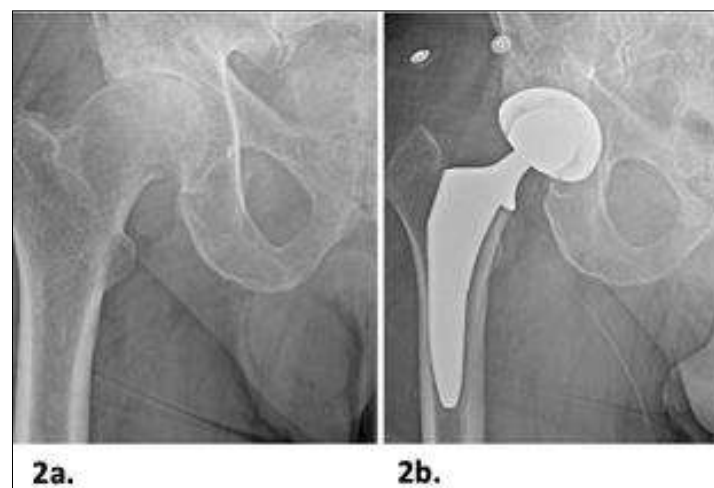


Fig 2: (2a) Patient 1’s x-rays from August 2020. Progressive deterioration of articular cartilage with near bone-on-bone apposition in the superior aspect of the hip joint. (2b) Patient 1’s x-rays from 5-week post right total hip replacement surgery visit.

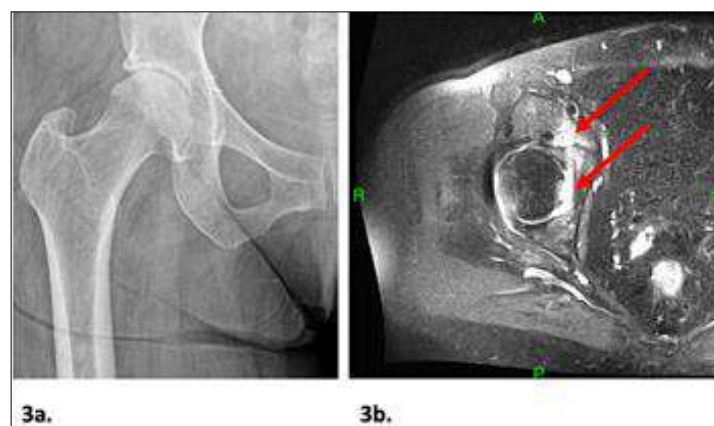


Fig 3: (3a) Patient 2’s X-rays from July 2020 showing moderate cartilage loss. (3b) Patient 2’s MRI of the right hip right multilocular 4cm long fluid collection positioned along the medial side of the iliopsoas tendon.

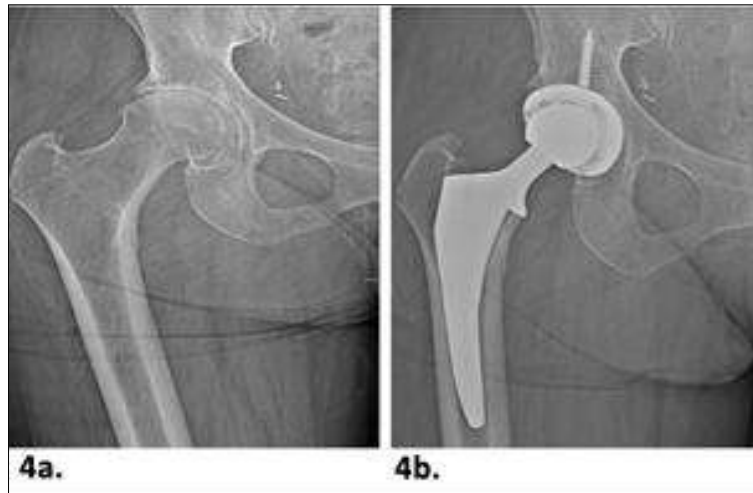


Fig 4: (4a) Patient 2's x-rays from November 2020. Deterioration of the right hip joint and gradual narrowing of the joint space. (4b) Patient 2's x-rays from post right total hip replacement surgery follow up.

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