

## C A S E R E P O R T

## Groin pain caused by iliopsoas synovial cyst treated with endoscopic approach. A case report

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**Summary.** The diagnosis of iliopsoas synovial cyst is a rare finding. The normal approach to treat this condition has been conservative therapies or open surgery, with its associated complications and morbidity. The arthroscopic – endoscopic surgery is less invasive and with an increase in complications and days of hospitalization. We report the case of a 70-year old woman with clinical and imaging signs of a fluid-filled cyst near iliopsoas distal tendon. After fluid aspiration, the patient reported symptom-free interval of several weeks, but then groin pain and swelling feeling return, increased with hip movements. The cyst was removed through arthroscopy approach and the iliopsoas tendon was released. The removal of iliopsoas synovial cyst is necessary to avoid complications such as pain and functional limits. Arthroscopy has the advantage of less soft-tissue damage and quicker recovery. The treatment of associated tendon pathology can be done. Hip arthroscopy can be a safe and effective technique for the removal of iliopsoas synovial cyst. ([www.actabiomedica.it](http://www.actabiomedica.it))

**Key words:** ilio-psoas, groin pain, synovial, cyst, endoscopic surgery

### Introduction

Chronic pain with or without a palpable inguinal swelling near groin and hip region has many potential causes and is a frequent problem in the population with a lot of underlying pathologies (1). The most common regard osteoarthritis, joint contracture, muscle and tendons strains, inguinal or femoral hernia, bursitis, stress fracture, or femoro-acetabular impingement (2).

Even previous arthroplasty can lead to an unexplained groin pain (3). We have previously described two causes of pain after total hip replacement, due to anatomical problems such as iliopsoas impingement or heterotopic ossification (4, 5).

Irritation of the iliopsoas tendon due to the presence of an idiopathic cyst is a rare and underestimated cause of dull groin pain and functional disability of the hip with a real rare incidence. Pain specific to iliopsoas tendonitis includes activities such as hyperextension of

the hip, forced flexion, and activities of daily living like ascending stairs (6).

A synovial cyst is usually an enlarged iliopsoas bursa in communication with the capsule of the hip joint. Increased secretion in arthritic joints may cause distension of this bursa. Generally, inguinal mass could be a late complication of hip arthroplasty and these symptomatic cysts usually need removing by an anterior approach (7).

Imaging plays an important role in the diagnosis of these entities, using conventional radiographs, ultrasound (US) and magnetic resonance (MRI) (8). MRI and US are valuable in diagnosing pathology in patients with groin pain (9).

This article presents a case of a 70-year old woman affected by Horton arthritis with clinical, ultrasound and magnetic resonance imaging signs of a fluid-filled sac cavity near iliopsoas distal tendon. Three ultrasound-guided cystic fluid samples were

performed. The analysis reported synovial fluid. After each aspiration, the patient reported symptom-free interval of several weeks, followed by groin pain and swelling feeling that increased with hip movements. Finally, magnetic resonance imaging of the hip showed a surface fluid-filled cyst in anatomical proximity to the iliopsoas distal tendon and pectineus muscle. The cyst was removed through arthroscopy approach and the iliopsoas tendon was released.

### Case report

A 70-year old woman presented to our attention, with inguinal swelling and groin pain since about two years. She was affected by Horton arthritis. Ultrasound analysis reported a fluid buildup of 4 x 5 cm large. A magnetic resonance survey was done. It showed the same fluid collection located between iliopsoas and pectineus muscles, displacing the neurovascular bundle but with independent anatomical relationships.

A rheumatological evaluation was done. After this investigation an ultrasound-guided cystic fluid aspiration was performed with a 60cc evacuation of synovial fluid, yellow colored, normal viscosity. The fluid was analyzed in our laboratories. Chemical-physical and microbiological exam showed synovial fluid without evidence of leukocytes and microbial growth.

Other 2 aspiration were performed. The symptoms used to relief after cyst aspiration but then increase again showing the recur of the mass.

One year after the first medical evaluation, a clinical orthopedic examination revealed rotational groin pain and painful movements after forced flexion over 100°. A palpable swelling laterally of the neurovascular bundle of about 3 cm could be observed. Palpation consistence was tight, sliding on the superficial planes, and its limits were rather net. She presented slight pain on palpation, and it increases with hip mobilization. The skin presented normal color and temperature.

A RX and a new RMN were done looking for any anatomical changes of the cyst. The imaging showed no change compared to previous surveys (figure 1), confirming the presence of a large cyst near the iliopsoas tendon, in a generalized osteoarthritis condition (figure 2). In consideration of the no improvement in

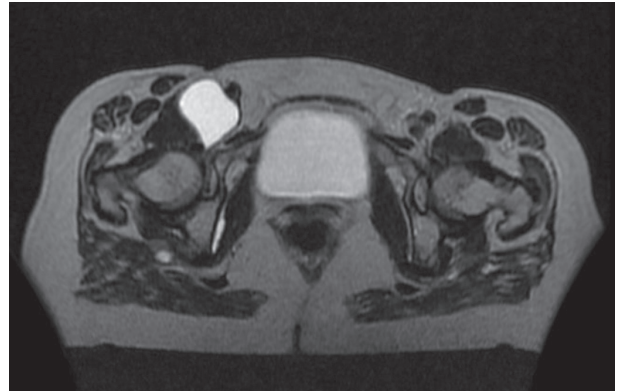


Figure 1. RMN shows cyst near iliopsoas tendon

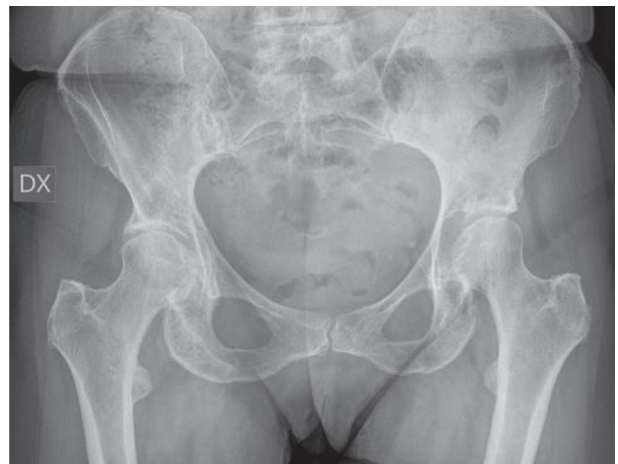


Figure 2. Osteoarthritis hip condition

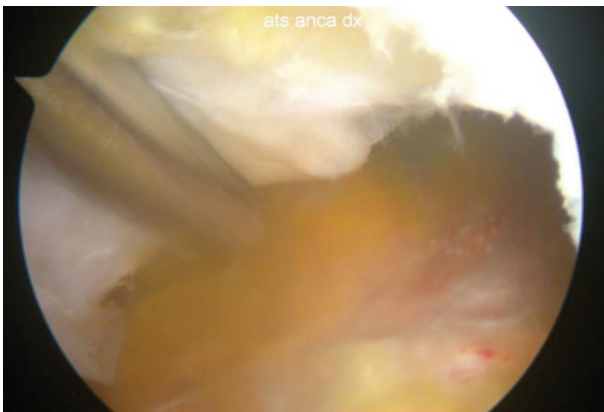
symptoms, the clinical and imaging status, a surgical indication was given. It had been decided for an endoscopic removal, using the instruments of hip arthroscopy.

The patient underwent resection of the cyst via an anterior and antero-lateral "arthroscopic" approach (figure 3) doing an extracapsular arthroscopic approach (10). Surgical approach confirmed that the cyst originated from the iliopsoas tendon muscle. A relationship to the hip joint was not present. The cyst was opened with limpid synovial liquid leaking (figure 4). The lateral wall and part of the medial part were removed. Iliopsoas tendon was partially released.

Postoperative non active hip flexion activities were allowed. There were no complications in wound healing. The patient was pain free a few weeks post-operatively. At 12-month follow-up, the patient was



**Figure 3.** Arthroscopic approach



**Figure 4.** Iliopsoas cyst with synovial liquid inside

symptom free. Activities of daily living were possible without any problems.

## Discussion

The primary groin pain without an apparent cause, is part of a wide differential diagnosis. Causes can be

different, and among these there may be the presence of a cystic lesion near iliopsoas tendon. Rarely this type of disease can be treated arthroscopically. From this point of view the cyst can be para labial, and it can be caused by an impingement iliopsoas (11). An even more rare occurrence in the literature, it can be derived from iliopsoas. The final effect is an inflammation of the iliopsoas tendon with clinical manifestations such as pain on palpation and active and passive mobilization of hip.

The diagnosis of iliopsoas tendonitis may be difficult. Different imaging modalities like radiograph, ultrasound and CT may be helpful to exclude bursitis, tendinitis or other causes.

Falvey et al. have studied how MRI has an important value in the evaluation and diagnosis of inguinal pain (12). Magnetic resonance imaging is the most sensitive study to determine soft tissue pathologies (13).

The therapeutic approach must be multidisciplinary. The surgical one should be the last option to be considered.

In our patient, groin pain was due to a cystic formation near iliopsoas tendon. Clinical and imaging investigation (ultrasound, CT) ruled out any other causes. The first therapeutic choice was for a conservative approach; after a year of no improving of the symptomatology, it was decided for a surgical treatment.

Iliopsoas tendonitis should be considered in the differential diagnosis of all patients with the presented symptoms. Other causes should be ruled out. Temporary pain relief can be achieved by local aspiration. For final therapy, a surgical treatment, consisting of the removal of possible cysts with the release of iliopsoas tendon is recommended.

**Conflict of interest:** Each author declares that he or she has no commercial associations (e.g. consultancies, stock ownership, equity interest, patent/licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article

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