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*Case Report*

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# Iliopsoas Bursitis Mimicking Deep Vein Thrombosis

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**ABSTRACT**

Iliopsoas bursitis is characterized by distension of the iliopsoas muscle bursa due to synovial fluid and/or hypertrophic synovium. It could be associated with hip disease. Very rarely, iliopsoas bursitis can cause compression of the femoral vein and cause edema of the lower limb. Diagnosing iliopsoas bursitis can be difficult, and imaging is usually required to differentiate iliopsoas bursitis from other differential diagnosis. We present the case of a 58-year-old men with massive iliopsoas bursitis with compression of the femoral vein. He underwent echo-guided aspiration of the bursitis, with regression of the edema and improvement in pain complaints.

**Keywords:** Bursistis, Iliopsoas Bursistis, Echo-Guided, Femoral Vein Compression

## Introduction

The iliopsoas (or iliopectineal) bursa is the largest synovial bursa in the body, is present and is bilateral in 98% of adults [1-2]. In approximately 15% of adults, the bursa presents communication with the hip joint [1]. It is located posterior to the iliopsoas muscle, lateral to the femoral vessels and nerve and covers the hip joint capsule. It is adjacent to the thinnest and most vulnerable portion of the anterior capsule and reduces tendon friction over the hip joint during muscle activation and joint movement [3-4].

Iliopsoas bursitis is characterized by distension of the iliopsoas muscle bursa due to synovial fluid and/or hypertrophic synovium [4]. Hip disease is usually associated with it, however isolated bursitis is also present [1]. In the absence of hip diseases, inflammation and distension of the iliopsoas bursa can be caused by rheumatological diseases, gout, infection, trauma, or overuse injuries.

In some cases, iliopsoas bursitis is characterized for anterior hip or groin pain, which could irradiate for thigh [2]. In rare cases, it can cause venous thrombosis of the femoral vein. Enlargement of the bursa can compromise circulation at this level, through extrinsic compression of the femoral vein [5]. Depending on the deep location and difficulties in reproducing symptoms, there is a long period between the onset of symptoms and their diagnosis [5-6].

We present a rare case of iliopsoas bursitis that resulted in clinical deep vein thrombosis of the femoral vein.

## Case Report

Male, 58 years old, with history of obesity and degenerative osteo-articular pathology in hips, complaint of pain in the left hip associated with edema of the ipsilateral lower limb with approximately 15 days of evolution, with progressive worsening.

On physical examination, he presented pain in the left hip, worse in inguinal region, which worsened with active and passive mobilization; associated with edema of the thigh and leg, without local inflammatory signs.

The complete blood count, liver, kidney, thyroid function and inflammation indices (V.E.S. and CRP) were normal.

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The radiological examination of the pelvis showed signs of coxarthrosis on the left (Tönnis grade 3) (Figure. 1).

Due to the unavailability of echo-Doppler, a tomography angiography was performed which documented an "extensive hypodense pseudonodular lesion with well-defined contours and without post-contrast enhancement centered mainly on the anteromedial surface of the left hip joint, with extension to the iliopsoas and pectineus muscles, measuring approximately 9.7cm in craniocaudal diameter. It causes mass effect with compression of the common femoral artery and vein, associated with retrograde femoropopliteal venous dilation, suggestive of left femoropopliteal deep vein thrombosis".

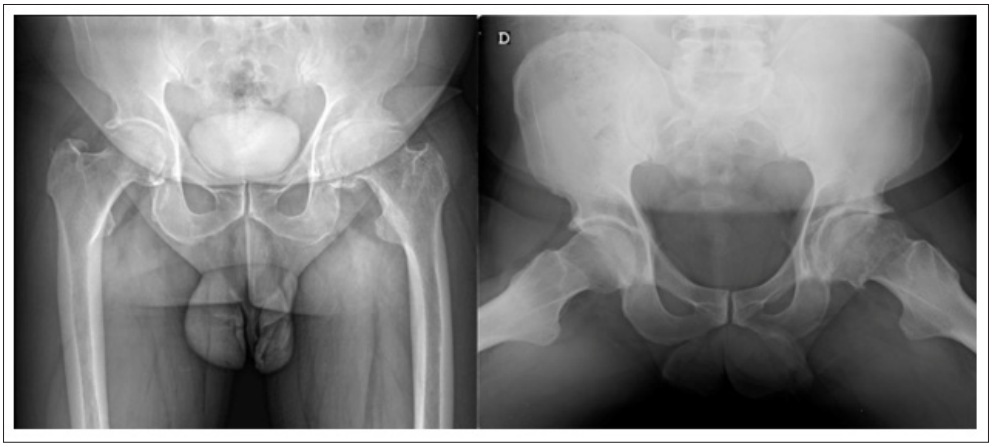


**Figure 1:** Hip x-ray Demonstrating Bilateral Hip Arthrosis (Tönnis grade 3).

The patient subsequently underwent an MRI which reported "very severe arthrosis with rupture of the labrum in the left hip. In this joint there is a massive joint effusion, with nodular synovitis, with intra-articular free bodies and ascending bursitis in the psoas sheath, measuring 12cm in longest longitudinal axis and 4x4.6cm in longest longitudinal axis. There are signs of thrombosis of the common and deep femoral vein on the left" (Figure. 2).

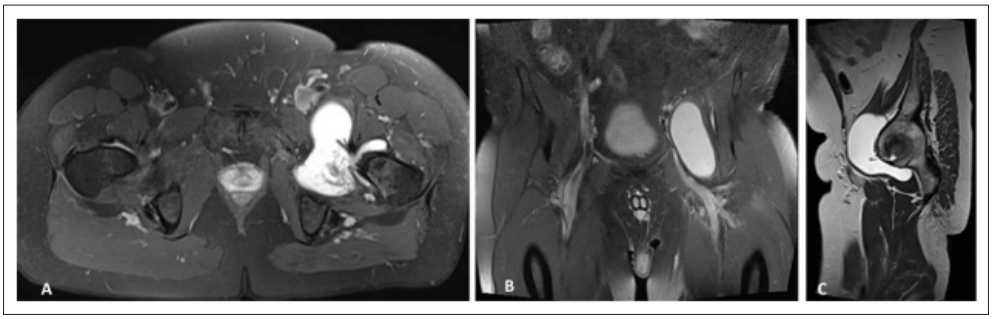


**Figure 2:** Magnetic Resonance Demonstrates a Massive Joint Effusion and Ascending Bursitis in the Psoas Sheath – Axial (A), Coronal (B) and Sagittal (C) Planes

We started treatment for deep vein thrombosis with enoxaparin 1mg/kg, 12/12h and the patient underwent percutaneous drainage under ultrasound control of the bursitis. The differential diagnosis of septic arthritis was excluded – citric synovial fluid with 390/mm3 leucocytes and 28% neutrophils.

On the first day after drainage, the patient had no complaints of pain in the inguinal region and there was a clear regression of edema. The patient completed 3 months of hypo coagulation with enoxaparin. After 6 months of follow-up, the patient had occasionally pain in left hip but without edema. He was proposed for total hip arthroplasty.

**Discussion**

Communication between the iliopsoas bursa and the hip joint is present in only 15% of individuals and can be congenital or acquired [1-4]. Gatc and Green described the connection between bursa and the joint capsule and the presence of hip pathology [1-4]. One or more pathological mechanisms could contribute to this communication, including increased intra-articular pressure, friction from the overlying iliopsoas tendon, a capsule weakened by inflammation, arthritic degeneration, or osteonecrosis of the hip. Sometimes many described conditions can be concurrent [1,5].

Iliopsoas bursitis rarely can cause symptoms related to compression of adjacent vascular and nerve structures: lower limb edema, paresthesia and thrombosis [5]. Iliopsoas bursitis is an infrequent cause of hip pain [1].

In this case, osteoarthrosis of the hip caused this bursitis. The clinical condition is mainly pain in the hip/groin region that worsens with active and passive movement; edema of the lower limb due to compression of the femoral vein occurs less

frequently, because this vessel was located in an anatomical compartment distinct from the bursa [5]. The position of the deep bursa to the iliopsoas muscle often delays the diagnosis [1,5].

Differential diagnosis should include adenopathy, tendinitis of the iliopsoas, trochanteric bursitis, osteitis of the pubis, femoral or inguinal hernia, tumors, cryptorchidism, vascular injuries (aneurysm, pseudo-aneurysm of the femoral artery, femoral arterio-venous fistula) [1,5].

Differential clinical diagnosis is difficult, and imaging is indispensable [1,5]. Ultrasound is the first level imaging technique, which allows detecting the structural characteristics and the vascular behavior of the bursa. The dimensions, the presence of septa and thickening and proliferation of the synovium, as well as the presence of increased vascularization, are all signs of suspected malignancy [1,6]. In our case, the ultrasound wasn't available initially and we use the angio-TC which allowed quantify the bursa fluid, the synovial thickening, the structural conditions of tendons, ligaments and muscles, and diagnosis the presence of thrombosis; and excluded the presence of tumors and lymphadenopathies. The MRI evaluate the spatial and dimensional relationships, characterize of the bursa and the presence of septa or synovial thickenings [1,6].

Initial treatment is conservative (anti-inflammatories and rest). In cases of compression of the femoral vein and deep venous thrombosis, percutaneous drainage is indicated. However, percutaneous drainage has a considerable recurrence rate. Surgical treatment is restricted to the failure of conservative treatment or when there is a recurrence of symptoms [1,5]. For a correct treatment of iliopsoas bursitis it is essential to determine its etiology [1].

Iliopsoas bursitis with compression of the femoral vein is a rare entity, and the diagnosis requires a high degree of suspicion.

No conflict of interest

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