SHORT REVIEW

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Iliopsoas abscess: a commonly fatal entity

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Abstract

This article aims to provide a short review about iliopsoas abscess diagnose and management. The mortality has been reported up to 19% of the cases and that is the reason why and a prompt diagnose and treatment is essential.

Keywords

Iliopsoas, infection, abscess.

Introduction

An iliopsoas abscess is a rare clinical entity that consists in a collection of pus in the iliopsoas muscle compartment. It usually affects one side of the patient but bilateral abscesses have been reported.

The psoas muscle arises from the tip of the transverse processes and the lateral aspects of the vertebral bodies between the 12th thoracic and the 5th lumbar vertebrae. It courses inferiorly across the pelvic brim, anterior to the capsule of the hip joint and beneath the inguinal ligament, forming a tendon with the iliacus muscle, that arises from the iliac fossa, and both of them insert into the lesser trochanter of the femur. The iliacus muscle is a hip flexor and the psoas major allows the hip and trunk flexion, hip external rotation and trunk lateral flexion.

This condition is commonly associated with chronic immunocompromised patients. An iliopsoas abscess can be primary or secondary. Primary iliopsoas abscess occurs due to hematogenous or lymphatic spread of infection from a distant site and is more common in children. It is a potential fatal condition, and affected patients often die of complicating sepsis. Secondary iliopsoas abscess is the most common presentation. It is usually related to hip arthritis, spondylitis, intraabdominal pathologies such as Crohn disease and genitourinary infections(1). In their retrospective analysis of 124 cases Navarro et al(2) reported that only 27 cases were primary abscesses. The right side was the most frequently affected by 43.6% percent against 52.4% in the left side and 4% on both sides.

The majority of patients with iliopsoas abscess in Asia and South Africa have primary abscess, while secondary iliopsoas abscess is more common in Europe (3).

Presentation & Clinical Exam

The classic triad of lower back pain, fever and limping described by Mynter in 1881 (4) is just present in about 30% of the patients. Clinical exam may reveals initial symptoms typically nonspecific including fever, malaise, and vague abdominal pain (5).

Examination could be difficult because of the deep localization of the collection. The patients usually present a moderate hip and knee flexion as well as a middle hip external rotation.

Figure 1. CT scan depicting a right iliopsoas abcess (arrow)

Diagnose

The reported mortality is up to 19% and that is why the early diagnosis is so crucial (6). Iliopsoas abscess should be included in the differential diagnoses in patients presenting with fever, leg pain, antialgic gait with limited hip movement. Even if these symptoms are the most common, the clinical presentation could be more unspecific. The differential diagnoses include diverticulitis, appendicitis, muscle strain (groin), meralgia paresthetica, sciatica, renal colic/ pyelonephritis, endometriosis, primary Ewing sarcoma (can rarely originate from the spinal column), septic arthritis of the hip, and abdominal aortic aneurysm. It must be taken into account that even if hip arthritis is mentioned as differential diagnosis, it may be the cause of a secondary iliopsoas abscess due to the communication between the virtual intracapsulary space at the iliopsoas muscle through the iliopectineal bursa in about 15% of the cases. When the patient has a total hip replacement, the psoas abscess can also provoke the infection of the arthroplasty (7).

In most cases the patients present high levels of C-reactive protein and leucocytosis. Imaging (MRI, CT scan and ultrasound) is the most important tool for the diagnosis. Although MRI has shown to be more sensitive than CT in intraabdominal abscesses, in our environment, CT scan is more available and give us crucial decision making information in a short period of time (7,8).

This fact is important in relation with an entity that is potentially fatal. CT is also an excellent tool that allows us to

Table 1. Imaging sensitivity.

	Overall sensitivity	Sensitivity from symptom day 1 to symptom day 5	Sensitivity from symptom day 5
Plain CT	78 %	33 %	100 %
Enchanced CT	86 %	50 %	100 %
MRI	88 %	50 %	100 %

Abbreviations: CT, computed tomography; MRI, magnetic resonance imaging. Data obtained from Takada et al (8)

perform a percutaneous drainage. However, CT and MRI can fail to notice psoas abscess in its early stage (Table 1) (8).

Only 60% of the abscesses can be detected with ultrasound; this is why ultrasound is considered as a second choice for the diagnosis but it may be useful as guidance for percutaneous drains placement.

Responsible microorganisms may be identified in abscess fluid, blood but also other samples like urine, stool and sputum.

Staphylococcus aureus is responsible of most of the primary iliopsoas abscesses while *Escherichia coli* is the main causative organism in secondary iliopsoas abscesses (5).

Treatment

Drainage and culture matched antibiotics are the two pillars of the therapy. In small abscesses, the drainage guided by ultrasound or CT seems to be an effective therapy.

Surgical debridement is most of the times the treatment of election. Retroperitoneal approach according to the ilioinguinal approach described by Letournel (9) shows an excellent exposition and allows a satisfactory debridement of this territory. It has been also described the arthroscopic debridement for cases with concurrent septic arthritis of the hip joint, and this could be a less aggressive option of surgical treatment (10). For both approaches, it is recommended to leave postoperative suction drains.

Intraoperatively microbiology samples should be taken in order to start an antibiogram matched antibiotherapy as soon as possible, and eventually the debridement could be repeated depending on the clinical course of the patient.

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Conflicts of interest statement

The authors certify that they have no affiliations with or involvement in any organisation or entity with any financial interest, or non-financial interest in the subject matter or materials discussed in this manuscript.

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