Case Report

A Rare Cause of Hip Pain: Primary Tuberculous Psoas Abscess. Case Report

Carlos Cano1*, Roberto G. Alconada1, Germán Borobio1, Diego A. Rendón1, Laura Alonso2, David Pescador1 and Juan F. Blanco1

1Department of Trauma and Orthopaedic Surgery, Health Center Complex of Salamanca, Spain
2Department of Anesthesiology and Perioperative Medicine, Health Center Complex of Salamanca, Spain

Abstract

Tuberculous abscesses in the iliopsoas muscle are usually secondary to Pott’s disease or spinal tuberculosis. Another possibility is direct extension from nearby structures or hematogenous spread from a distant focus.

We present the case of a 74-year-old immunocompetent man who was diagnosed with psoas abscess with no other apparent focus.

The objective of this article is to keep in mind the possibility of primary tuberculosis in the form of an abscess in the psoas in order to help in its complex diagnostic approach, as well as review the most adequate diagnostic and therapeutic methods that has been published in the few references existing in the literature.

ABBREVIATIONS

MRI: Magnetic Resonance Imaging; HIV: Human Immunodeficiency Virus

INTRODUCTION

The iliopsoas abscess is a purulent collection in the iliopsoas muscle compartment, and it was first described in 1881 by Mynter, who referred to it as “psoitis” [1]. It can be classified as primary (30%), when there is no an underlying process even though that could be a hematogenous or lymphatic spread of the bacteria from a hidden focus; or secondary (70%), when it is the result of local extension from a nearby infectious focus, for example any peritoneal organ or the spine. In fact, in developed countries, Pott’s disease is the most common cause of tuberculous abscess in the psoas [2].

Its diagnosis requires high clinical suspicion based on the clinical history of the patient, as well as an exhaustive physical and radiological examination. Diagnostic certainty is obtained with the microbiological and histopathological results of the samples obtained [3].

Early diagnosis and treatment are essential to prevent complications, such as the extension to nearby structures or the process chronification.

CASE PRESENTATION

We present a case of a 74-year-old male immunocompetent patient who is admitted in our department with pain on the right hip and inguinal region for the last two months, accompanied by evening persisting fever. The only relevant antecedent in his medical history was a right hip dysplasia caused by a fracture which received orthopedic treatment during his childhood. Regarding his family history, the patient reports that he has an adopted son from Central Africa.

The clinical examination reveals a very reduced mobility of the right hip (due to long-term ankylosis), with pain upon flexion and external rotation of the joint. No fluctuating mass was observed on palpation and there were no external signs of infection.

The analytical control only reveals a nonspecific elevation of C-reactive protein (1.86). All the other markers were within normal margins.

The hip X-ray shows destruction of the joint due to long-term ankylosis (Figure 1). No pathological findings were obtained in the chest X-ray.

In view of the unspecific nature of the symptoms, a bone scan is performed to assess the tumor/infection process. No pathological enhancement was observed in the study with Gallium.
The hip MRI reveals a collection on the anterior side of the hip, 7.7 x 5.3 x 7.1 cms in size, immediately posterior to the tensor fasciae latae muscle, the iliopsoas muscle tendon and the sartorius muscle. The medial and cranial portion of the abscess is located inside of the pelvis (Figure 2). No intraarticular extension was observed.

Due to the large dimensions of the collection, it is surgically drained through Watson-Jones approach, and samples for the microbiological and histopathological study were obtained. The gram stain and the aerobic cultures were negative. Ziehl-Neelsen’s staining was positive for acid-fast bacilli. The diagnosis is confirmed with positive polymerase chain reaction for M. Tuberculosis.

The patient is referred to the Department of Infectious diseases with diagnosis of primary tuberculous psoas abscess due to the absence of other foci: no pathological chest X ray, no gastrointestinal or genitourinary symptoms and no spine pain. He starts the anti-tuberculosis treatment with rifampicin 600 mgs and ethambutol1200 mgs due to the sensitivity profile of the mycobacteria. Four months later, the patient is still in treatment, there is a clear clinical improvement and there are no signs of recurrence of the abscess in the follow-up controls.

**DISCUSSION**

The iliopsoas compartment is an extraperitoneal space that contains the iliopsoas and the iliacus muscles. The psoas major is a long muscle that runs across the extraperitoneal space and connects the mediastinum from its cranial origin located in the transverse processes of thoracic vertebra 12, and the lesser trochanter, where it joins the iliacus muscle as a tendon.

Due to this large extension, there are many neighboring structures that can create a secondary abscess in the psoas. In 1986, after a review of 367 cases, Ricci established that the most common cause of secondary abscess in the psoas was Crohn’s disease [4]. These data are questioned in the article by Navarro et al., who determined that the most common origin of secondary iliopsoas abscess is the vertebral osteomyelitis in 35% of cases. In this article Crohn’s disease only accounts for 3% of cases of secondary abscess [5].

In the case of primary abscess of the psoas, it usually appears in patients with some predisposing factor, such as diabetes mellitus, kidney failure, HIV infection or other circumstance that compromises the immunological state of the patient.

Most of the cases of primary abscess that have been published in the literature do not seem to affect the general state of the patient, with a subacute or chronic unspecific evolution which tends to delay diagnosis [6]. Berge et al. described a classic triad of symptoms of psoas abscess: lumbar pain, limitation of hip mobility and fever [7]. In our case, the patient only presented hip pain and evening fever of two months of evolution (we cannot be sure that the limitation in hip mobility was not due to the destruction of the joint caused by the dysplasia).

The review by Ricci et al. shows several etiological agents of the disease. In the case of secondary abscess, the most commonly isolated species were *Escherichia coli* and *Bacteriodes spp*. The most common agent in the case of primary abscess is *S. aureus* (88%), although there are other published causes, such as brucellosis, trichinosis, typhoid fever or *Pneumococcus*. More recently, Navarro-López et al. have reviewed 124 cases and published the same most common etiological agents: *S. aureus* (43%) in case of the primary abscess and *E. coli* (25%) in case of secondary abscess. Primary tuberculous psoas abscess in a patient without any other apparent focus and without any previous predisposing pathology is an extremely rare process that has very rarely been published [8].

During the diagnostic stage of the tuberculous abscess it is important to look for any possible focus of infection: lung, spine, hip, genitourinary system and gastrointestinal tract. Only once that these foci have been ruled out we can talk about a primary abscess.

The tuberculous abscess of the psoas requires a multidisciplinary management. Usually, it is possible to carry out
an ultrasound guided percutaneous drainage, although in some cases it is necessary to perform a surgical drainage due to the extension of the abscess (as in our case), always accompanied by adequate therapy with anti-tuberculous drugs that will depend on the sensitivity spectrum of the mycobacteria [9]. In our case, rifampicin 600 mg and ethambutol 1200 mg were enough. The average duration of the antituberculous treatment in the published literature was 9 months.

This treatment plan reports good results in the reviewed literature, and most of the patients have shown good prognosis (better in the primary cases than those secondary to other diseases) [4].

REFERENCES