

## Place of Percutaneous Drainage in Secondary Psoas Abscesses

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### Abstract

### Original Research Article

**Introduction:** We report a series of fifteen cases of secondary psoas abscess, while lifting diagnostic and therapeutic challenges posed by the disease causal. **Materials and Methods:** Monocentric retrospective study over five years from January 2003 to December 2007. Studies made on clinical records, operating Records, radiology and bacteriology. **Results:** 15 cases aged 14 to 72 years with an average of 31.4 years with a slight male: 6 to 9 men women and a sex ratio of 1.5. The diagnosis was made by the tandem ultrasound scanner and six cases were due to Crohn's disease, three after appendicitis, two on tuberculosis spondylodiscis, and two on tumors of the colon, one in diverticulitis and post traumatic. Germs are found most gram-negative bacilli of gastrointestinal origin. In addition to antibiotics, eight were made in emblematic of more than three cases per skin after drainage. While in four cases percutaneous drainage was effective. **Conclusion:** The secondary psoas abscess is rare. Due to a few specific symptoms diagnosis can be delayed and hide the disorder that we must always find and treat, thereby altering care: Surgery combined with antibiotic therapy is the most effective treatment. Drainage percutaneous and antibiotic keeps their place in the treatment of secondary psoas abscess; At least it allows better conditions in the surgical treatment in a second time.

**Keywords:** Psoas Abscess – Surgery – Percutaneous Drainage.

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## INTRODUCTION

Secondary psoas abscesses are the consequence of a neighboring disease, digestive, renal, or osteoarticular. Due to non-specific symptoms, diagnosis may be delayed and obscure the underlying pathology, which must always be sought and therefore influence diagnostic and therapeutic management. We report a series of 15 cases of secondary psoas abscesses, while raising the difficulties posed by the causal condition.

## MATERIALS AND METHODS

This is a retrospective study that collected 15 cases of psoas abscess treated between January 2003 and December 2007. It is a study based on clinical records, imaging, surgical reports, pathology reports and bacteriological study of samples.

## RESULTS

Over a six-year period, 15 cases of secondary psoas abscesses were collected, with an average age of 31.4 years and extremes of 14 to 72 years. A slight male predominance was observed: 9 men for 6 women; that is, a sex ratio of 1.5. The right side is the most affected

with a rate of 73%: 11 cases out of 15. This can be explained by the predominant etiology of digestive origin: Crohn's disease and appendicitis. The other etiologies were represented by two cases of Pott's disease, two colonic tumors were revealed by psoas abscesses; one at the level of the cecum (Fig1) and the other at the sigmoid level. Note the particular case of secondary post-traumatic psoas abscess which was revealed two months after a left lumbar trauma. Rectosigmoidoscopy revealed diverticulitis responsible for a case of left psoas abscess (fig2), which responded well to antibiotics and CT-guided drainage; colectomy was performed two months later. The clinical signs were non-specific; the most constant symptom was persistent flank pain with posterior and lumbar radiation. Fever was present in only eight patients or 54%; while psoriasis was found in only six patients or 40%. All our patients had an ultrasound scan followed by a CT scan; the latter was more effective in two cases of appendicitis (Fig3). CT scan established the etiological diagnosis in 12 cases or 80%. Antibiotic therapy after pus sampling was initially broad-spectrum targeting Gram-negative bacilli. The germs were found in ten cases (67%): 9 digestive Gram-negative bacilli and one staphylococcus in the post-traumatic case; the culture of the sample remained negative in 5 cases including the

two subjects who presented with Pott's disease; with a culture on two positive on Lowenstein medium giving the diagnosis of tuberculosis, while in the second the diagnosis was made on the presence of Caseum on the anatomopathological study. Even with the secondary nature of these abscesses, percutaneous radioguided drainage allowed remission in 4 patients: two Crohn's diseases, one Pott's disease and in the post-traumatic case. It also allowed curative surgery to be performed in

better conditions in 3 patients: Two Crohn's diseases and in sigmoiditis (Table I). Two deaths occurred in our series, representing a 13% mortality rate, both after surgery; the first in a malnourished patient followed for Crohn's disease, the second in an elderly subject who presented with an abscessed sigmoid tumor, operated on urgently and died in a septic shock.

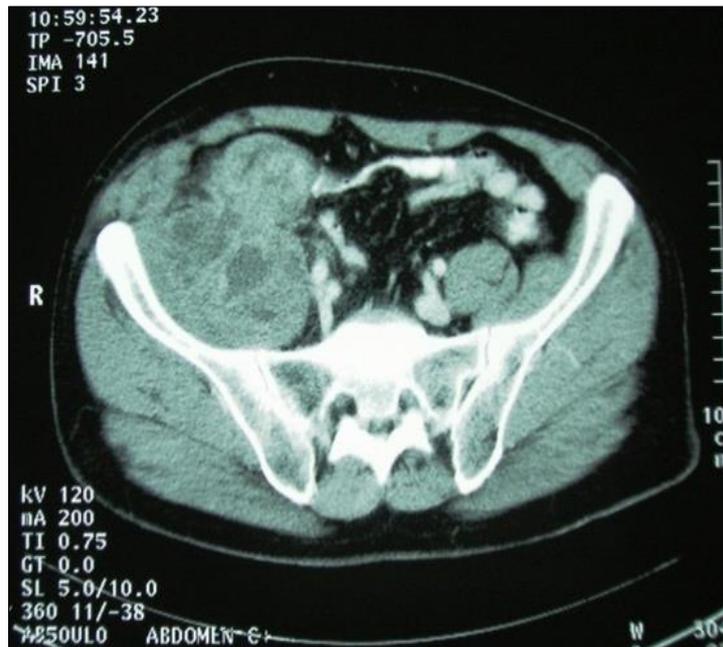


Figure 1: Psoas abscess secondary to cecal tumor

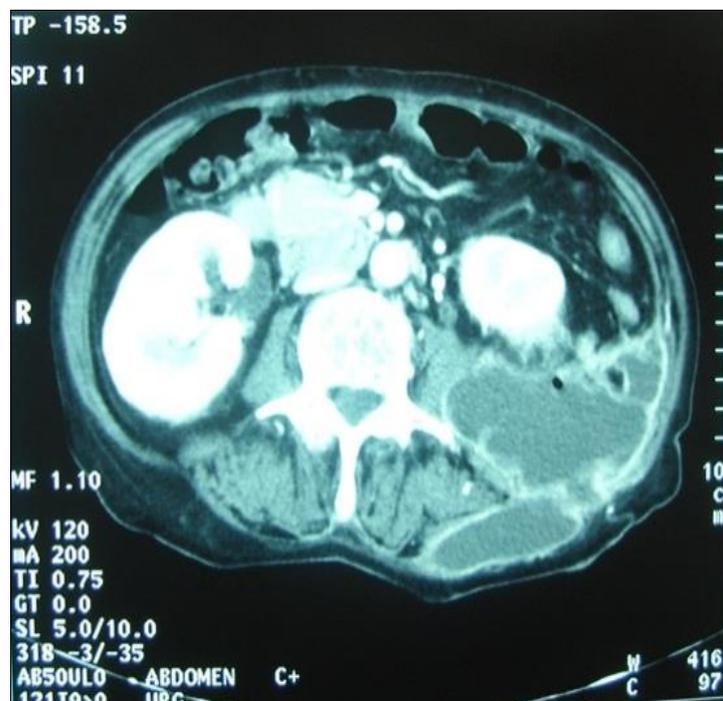


Figure 2: Left psoas abscess secondary to sigmoiditis



**Figure 3: Acute appendicitis complicated by psoas abscess**

## DISCUSSION

Psoas abscesses are secondary in 30% of cases [1]. In 1881, MYNTER first described acute psoitis by classifying them into primary and secondary forms [2]. They are said to cause 5 to 10% of abdominal suppurations [3, 4]. Classically, secondary psoas abscesses are common in developed countries, but currently primary abscesses are regaining ground due to the resurgence of immunocompromised pathologies such as AIDS [5]. In our series, 79% of hospitalized psoas abscesses were secondary out of 19 cases of psoas abscesses hospitalized during the same period: this can be explained by the recruitment of a predominantly adult population, knowing that primary psoas abscess is more common in children [6]. The psoas muscle originates from the twelfth thoracic vertebra and the lumbar spine, inserting itself by two distinct anterior and posterior planes separated near the lumbar spine by a cellular interstice in which the branches of the lumbar plexus and the ascending lumbar vein run, these two planes merge and head towards the internal part of the iliac fossa to join the iliacus muscle. The psoas is related above to the diaphragm, inside to the spinal column, posterolaterally to the quadratus lumborum and in front to the peritoneum. It is related to the kidney, ureter, pancreas, peritoneum, small intestine, colon and lymph nodes, by which any nearby inflammatory disease can be the cause of an abscess.

The pathologies involved in secondary psoas abscesses are diverse [7-9]:

- Digestive: Crohn's disease: 60%, appendicitis: 16%, diverticulitis and digestive cancers: 11%.
- Bone: spondylitis, especially tuberculous, sacroiliitis and osteomyelitis, they would represent 10% of cases.
- Urological: Pyonephrosis and perineal infections; The absence of this etiology in our series is explained by the presence of a urology

department in the same hospital which manages this type of condition.

The clinical signs of psoas abscesses are nonspecific, and fever, back pain, and sometimes psoitis are mainly found [3, 4]. The physical examination is not very contributory to the diagnosis but it allows it to be oriented, it is summarized in a sensitivity of the flank or iliac fossa with a palpable mass in 50% of cases [10]. The biological tests point towards an inflammatory syndrome with hyperleukocytosis and increased C-reactive protein, while blood cultures are usually negative [3]. Imaging is the diagnostic vault: Abdominal X-ray without preparation may show antalgic scoliosis, obliteration of the psoas margin with sometimes gas clearings (Fig4) or bone lesions such as spondylitis or sacroiliitis. Ultrasound has a specificity of 40% [11]. Computed tomography has a specificity of 95% [12], also allowing to search for digestive, bone or renal pathology. Magnetic resonance imaging has equivalent sensitivity to computed tomography, however with better definition when bone pathology is associated, it is also of interest for the differential diagnosis of hematomas and tumors [13]. Other tests may be requested in search of a causal pathology. Upper or lower digestive opacification would allow to objectify a digestive pathology such as Crohn's disease or diverticulitis. Intravenous urography is less and less used and is replaced by uro-CT scan [14].

Treatment has greatly benefited from advances in imaging, thus percutaneous drainage is gaining ground in the management even in the presence of the secondary nature of these abscesses; thus allowing savings on the parietal damage of surgery.

Antibiotic therapy is initially broad-spectrum to cover gram-negatives and anaerobes of digestive origin [15], it will be modified according to the data from the samples of the collection and possibly blood cultures and will be maintained for three weeks after removal of the

drains [14-16]. In the case of tuberculous abscess, treatment will be for at least six months. Ultrasound- or CT-guided percutaneous drainage retains a good place in the treatment of secondary psoas abscesses, it allows remission in 60% of cases in Crohn's disease [17], at least it allows the surgical procedure in good conditions; While noting the savings on the damage to the wall in patients who are candidates for multiple interventions. The drainage must be of large caliber and maintained for about three weeks according to the majority of authors [18,19]. In the case of tuberculous etiology, medical treatment is rarely sufficient on its own, it most often requires percutaneous drainage and rarely surgery remains necessary [20, 21]. The mortality rate in secondary psoas abscesses is 19% [5-9], this rate would be higher when drainage is performed by primary surgical route [2-22].

## CONCLUSION

Percutaneous drainage remains a valuable approach in the management of secondary psoas abscesses. At the very least, it allows for better conditions in surgical treatment at a later stage. An etiological investigation should be undertaken in the face of any psoas abscess to avoid overlooking a secondary cause, which has greatly benefited from advances in medical imaging, particularly computed tomography.

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