

## Abdominal TB Presented As Right Psoas Muscle Abscess

<sup>1</sup>Mr.Mohammed A.Abusin , <sup>2</sup> DR.Tagwa Ali, <sup>3</sup>DR. Mohammed Rajab , <sup>4</sup>DR. Elaf Omer ,<sup>5</sup>DR.Ruba Mohammed

<sup>1, 2,3,4,5</sup> General surgery, Ibrahim Malik Hospital , 11115, Sudan.

### Abstract

Psoas muscle abscess is an uncommon presentation of abdominal TB, we described a 55 years old Sudanese male presented with a history of constitutional symptoms and history of right groin mass. Our patient denied any history of TB infection or contact with TB patient. Computed tomography scan revealed a right psoas muscle abscess. A US guided biopsy of the abscess was carried out and sent to histopathology, which showed mycobacterium tuberculosis infection. The patient was treated with antituberculous therapy and an ultrasound guided surgical drainage of the abscess. But our patient then developed signs of acute intestinal obstruction and underwent exploratory laparotomy, in which he was discovered to have a small bowel stricture as a complication of his abdominal TB. ileostomy was done, and a couple of days later the patient was discharged on good medical condition and antituberculous therapy.

### Introduction

Tuberculosis is an infectious disease caused by Mycobacterium tuberculosis and remains a health problem, especially in developing countries [1]. Abdominal tuberculosis (TB) is a very common form of tuberculosis compromising around 5 percent of all cases of TB worldwide.

Risk factors for development of abdominal TB include cirrhosis, iv infection, diabetes mellitus, underlying malignancy, malnutrition, treatment with antitumor necrosis factor agent, corticosteroids, and use of continuous ambulatory peritoneal dialysis [2]. The most common forms of the disease involve the peritoneum, intestine, and liver [3, 4, 5]. Clinical manifestations and presentations are diverse depending on the involved organ within the abdominal cavity.

One of the rare presentations of abdominal TB is psoas abscess. Psoas abscess is regarded as a rare disease in the medical literature. In 1992, the worldwide reported occurrence of psoas abscess was 12 cases per year, constituting a total of 434 reported cases [6]

The pathophysiology of psoas abscess derives from its anatomic associations, with four basic mechanisms for abscess formation described. Infection may stem from (a) direct extension from an adjacent structure (e.g., abscess resulting from Crohn's disease or osteomyelitis); (b) haematogenous seeding; (c) suppurative lymphadenitis; or (d) trauma resulting in hematoma formation with subsequent seeding [7]. The abscess may track in a variety of directions, leading to its presentation as a superficial mass palpable over the iliac crest, in the buttock, or along the upper thigh after emerging from beneath the inguinal ligament [7].

### Case presentation:

A 55 years old Sudanese man presented to Karima teaching hospital on the 21th of August with a history of right groin mass and constitutional symptoms, his medical history was insignificant for TB infection or contact with TB patient and has been diagnosed with a right inguinal hernia based on abdominal ultrasound and was operated on accordingly in Karima teaching hospital on the 28th of August. Intraoperative, there was pus discharge from the site of incision, the operation ended and the incision was closed. Later, the patient developed signs of sub acute intestinal obstruction (vomiting and constipation) after which he was referred to us in Ibrahim Malik teaching hospital on the 5th of September 2022. The patient presented to us with a right

groin mass, vomiting for 10 days, constipation and constitutional symptoms. We then requested a CT abdomen which was diagnostic of right huge psoas muscle abscess.

An investigation was requested, which is shown in the table below:

Table 1: Shows the investigations and results:

Investigation	Results
WBC	11,6
HGB	14,4
PLT	147
RBG	98
S.Na	134
S.K	3.3

The patient was then sent to Fadiyal hospital for an ultra sound guided drainage of the abscess. A fluid biopsy was sent to histopathology which showed mycobacterium tuberculosis growth.

The patient denied any history of TB infection or contact with a TB patient. He was started on antituberculous medication.

4 days later, the patient started to develop signs of acute intestinal obstruction (vomiting, absolute constipation, abdominal pain and distension).

NG tube was introduced which was draining actively with no air, which indicated close loop obstruction. The patient was planned to undergo urgent exploratory laparotomy. Intraoperative, the small bowel was dilated and a stricture was found causing closed loop and an iliocecal mass for which a DE functioning ileostomy was carried out.

The patient was continued treatment with antituberculous drugs ATD, and after close monitoring and follow up, the patient passed flatulence per rectum and was discharged on good medical condition, with the stoma functioning well awaiting for its reversal, and it was reversed successfully a couple of months later.

### Discussion:

A psoas abscess presenting as abdominal TB could be primary or secondary.

Primary psoas abscess occurs due to haematogenous or lymphatic spread from a distant site, while secondary psoas abscess occurs due to direct extension of a nearby infectious process. Mycobacterium tuberculosis remains a common cause of psoas abscess in developing countries. Although the patient had fever and flank pains, the third component of the triad of psoas abscess, which is psoas spasms, was not evident despite the extensive abscess; this is not strange as the classical triad occurs in less than 50% of the patients [2]. Ultrasonography is diagnostic of psoas abscess in 70% of cases while CT scan is diagnostic of abscess in 90% [2].

The CT scan in our patient showed classical features of psoas abscess. Our patient's response to antituberculous therapy strengthens our diagnosis.

High figures of ESR and CRP are suggestive of TB infection, but with our patient they weren't requested. Mycobacterium psoas abscess is usually associated with spinal tuberculosis due to spread of the infection from lumbar vertebrae, however, as with this patient, psoas abscess can occur in the absence of the spinal disease. This is either secondary due to direct invasion from adjacent structure or from haematogenous spread [1]. Abdominal CT is the chief modality for diagnosing psoas abscess, but ultrasound is also useful for drain

insertion and for monitoring resolution. Percutaneous drainage combined with antituberculous therapy is usually sufficient for treatment, and patients rarely require open surgical drainage.

Treatment with antituberculous medication and drainage of the abscess are usually enough for recovery. The open surgery is rarely required, but in our case it was done because the patient developed absolute constipation and signs of intestinal obstruction which was a stricture in the ileocecal junction developed as a complication of abdominal pain.

### **Conclusions:**

This report highlights a case of abdominal TB presented as psoas abscess, which was successfully managed with a combination of medical and surgical treatment. TB related health education should emphasize the availability of anti TB drugs, funding should be provided for surgical management for good outcome and abdominal TB should be an expected possible diagnosis in patients presenting with a groin mass.

### **Ethics approval and consent to participate**

Consent was obtained from the patient.

### **List of abbreviations**

TB: Tuberculosis

CT: computed tomography

WBC: white blood cells.

HBG: haemoglobin.

RBG: random blood sugar.

S,NA: serum sodium.

S,K: serum potassium.

### **References:**

1. ELMajdoubi H, EL Yahyaoui M, Baiss M, Bouzroud M, Aboulfeth EM, Najih M, et al. Abdominopelvic Mass Revealing Tuberculosis in a Young Woman. *Case Rep Surg.* 2021;2021:1–4.
2. Wellmann MH, Tariq HA, De Jager-Wood C. Case report demonstrating abdominal tuberculosis presenting as an irreducible para-umbilical hernia. *Int J Surg Case Rep [Internet]. Surgical Associates Ltd;* 2020;75:75–7. Available from: <https://doi.org/10.1016/j.ijscr.2020.09.004>
3. Rathi P, Gambhire P. Abdominal Tuberculosis. *J Assoc Physicians India.* India; 2016 Feb;64(2):38–47.
4. Debi U, Ravisankar V, Prasad KK, Sinha SK, Sharma AK. Abdominal tuberculosis of the gastrointestinal tract: Revisited. *World J Gastroenterol.* 2014;20(40):14831–40.
5. Evans RPT, Mourad MM, Dvorkin L, Bramhall SR. Hepatic and Intra-abdominal Tuberculosis: 2016 Update. *Curr Infect Dis Rep [Internet].* 2016;18(12):45. Available from: <https://doi.org/10.1007/s11908-016-0546-5>
6. Vaz AP, Gomes J, Esteves J, Carvalho A, Duarte R. A rare cause of lower abdominal and pelvic mass, primary tuberculous psoas abscess: A case report. *Cases J.* 2009;2(11):2–5.
7. Harrigan RA, Kauffman FH, Love MB. Tuberculous psoas abscess. *J Emerg Med.* United States; 1995;13(4):493–8.