

# Psoas Abscess (Presentation; Assessment and Management)

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This study was done in North surgical ward at Mayo hospital during the period between January 2000 to January 2002. The objective of the study was to know the presentation of psoas abscess in emergency and out patient department, its assessment and management In our general surgical unit during 24 months period 12 patients were discovered to have a psoas abscess. 8 of 12 cases were secondary to spinal tuberculosis, renal pyonephrosis and colonic adenocarcinoma. 4 cases appeared to be primary collection. A high index of suspicion is required to diagnose and treat the condition promptly, in order to minimize the significant morbidity and mortality. Radiological guided percutaneous aspiration is often successful in treating primary collection but open drainage is usually in secondary cases.

**Key words.** Psoas abscess, percutaneous aspiration, open drainage

Infection from lumber spine or lower part of the retroperitonium may track along the psoas muscle and present lumber swelling or swelling just below the inguinal ligament. Psoas abscess is not a rare condition; usually the cases are secondary to dissemination from spinal tuberculosis. The spread from neighbouring structures is less common in Pakistan. Primary abscess formation is more common, where staphylococcus aureus is the cultured organism in 90% of primary lesions<sup>2</sup>. Haematogenous spread is thought to occur with organisms originating from a distant location. The pathogen from secondary abscess are related to the under lying condition. There has been an increase in the percentage of primary purulent collection thought to be secondary to immunocompromised state associated with malnutrition and increased incidence of intravenous drug abuse<sup>3</sup>. Tuberculosis is a disease of malnutrition and over crowding. Other predisposing factor include poor general health, chronic disease, silicosis and diabetes. In developed world psoas abscess is a rare condition. In 1992 only 434 cases has been reported in developed world<sup>1</sup>. Usually cases are secondary to spread from neighbouring structures e.g., appendicitis, diverticulitis, inflammatory bowel diseases and colonic adenocarcinoma. A high index of suspicion is required for diagnosis as the presenting symptoms are varied and non specific<sup>4</sup>.

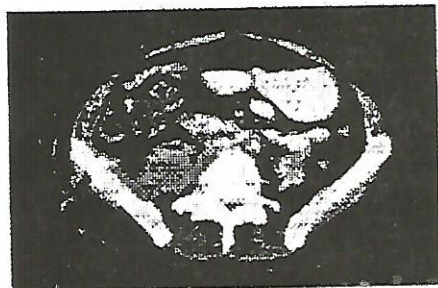


Fig 1 CT scan showing pus and gas within right psoas muscle

## Patients and results

Between January 2000 and January 2002, Seven female patients and five male patients with average age of 52 years (range 30-72 years) were diagnosed as having a psoas abscess the methods of presentation are summarised in table 1. Most of the patients presented with findings of an abdominal mass or sinus or abscess in the groin or iliac fossa. Six patients developed malaise, asthenia, weight loss, mild fever and night sweats. Four patients presented with malaise and swinging pyrexia. These patients had no identified adjacent pathology. Staphylococcus aureus was only organism cultured from these patients. Therefore it was concluded that psoas abscesses were primary in these patients. None described the classical limp, associated with psoas muscle irritation. Eight abscesses were considered to be secondary in nature. Tubercle bacilli and mixed enteric flora were cultured in these abscesses.

All patients under went ultrasound examination of the abdomen and pelvis, which successfully diagnosed the cavity in 7 patients. Computerized tomography was required to diagnose the other patients. X ray lumber spine, montoux test and ESR were done in all patients. In 6 patients x ray spine showed patchy areas of rarefaction and lost of joint spaces. Initially percutaneous aspiration was attempted under radiological guidance in 5 patients and open drainage was done in one patient.

After drainage of abscess in patients with spinal tuberculosis, triple therapy remain the treatment of choice and comprised of rifampicine, isoniazid, and either ethambutol or PAS. The out come was fibrous ankylosis. In four patients with primary psoas abscess, 3 patients were treated with percutaneous aspiration and one with open drainage along with systemic antibiotic. In two patients with secondary abscess formal surgical drainage was done after a period of conservative treatment with systemic antibiotic and parenteral nutrition

Table 1: Summary of Cases

Age	Presentation	Diagnosis	Actiology	Organisms	Drainage
45	Discharging Sinus on Iliac fossa	CT USS	Primary	S. aureus	Open
72	Flank Mass	USS Barium studies	Adenocarcinoma	E. Coli/Bacteroides	Open
55	Flank Mass Groin Abscess	CT USS	Pyonephrosis	E. Coli	Open
35	Groin Abscess	USS X ray spine	Spinal Tuberculosis	Tubercle Bacilli	Percutaneous
40	Groin Abscess	USS X ray spine	Spinal Tuberculosis	Tubercle Bacilli	Percutaneous
42	Peritonism	USS X ray spine	Spinal Tuberculosis	Tubercle Bacilli	Open
59	Groin Abscess	USS X ray Spine	Spinal Tuberculosis	Tubercle Bacilli	Percutaneous
37	Groin Abscess	USS X ray spine	Spinal Tuberculosis	Tubercle Bacilli	Percutaneous
65	Groin Abscess	USS X ray spine	Spinal Tuberculosis	Tubercle Bacilli	Percutaneous
41	Groin Abscess	CT USS	Primary	S. aureus	Percutaneous
30	Groin Abscess	CT USS	Primary	S. aureus	Percutaneous
55	Groin Abscess	CT USS	Primary	S. aureus	Percutaneous

**Case histories**

1. A 45 years old woman presented with a discharging sinus on her right iliac fossa. Sinogram failed to demonstrate a fistula. Culture grew only staphylococcus aureus. Fistula healed after open drainage.
2. A 72 years old woman presented with a mass in her left flank and left sided groin abscess. The psoas abscess was demonstrated on ultrasound scan and open drainage was performed. Later barium studies revealed a carcinoma of descending colon which was successfully resected.
3. A 55 years old woman presented with a mass in her right flank and right sided groin abscess. CT scan revealed a right psoas abscess with communication to right kidney. An intravenous pyelogram revealed a none functioning right kidney. Right nephrectomy and open drainage of right psoas abscess was done.
4. Six patients ages 35 yr. M, 40 yr. M, 42 y M, 59 yr. M, 37 yr. F, 65 yr F,. One male patient presented with peritonism due to rupture of psoas abscess in to peritoneal cavity. Laparotomy and drainage of abscess was done. Other three males and two females presented with groin abscesses. They all complained of chronic backache. Montoux test was positive in four cases. ESR was raised in all patients. No organism was cultured within 42 hours. Radiographs of spine revealed patchy area of rarefaction and loss of joint spaces of lumbar vertebrae. Spinal tuberculosis was diagnosed. Percutaneous aspiration was done which was repeated several times and triple chemotherapy was started in all patients and patients recovered after treatment
5. Three patients, two female, one male ages 45 years F, 30 year F and 55 year M presented with groin abscess. All these patients were malnourished. Two of them were diabetic. Ultrasound scans revealed psoas abscess in all cases. Percutaneous aspiration was done. The culture revealed staphylococcus aureus. CT scan revealed no pathology in abdomen. Patient recovered

after systemic antibiotic and percutaneous aspiration of abscess.

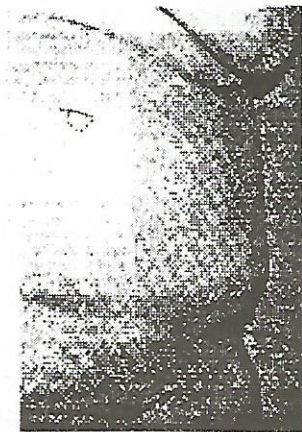


Fig 2 Tuberculosis abscess in the left iliac fossa

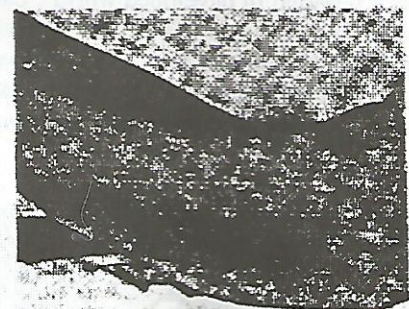


Fig 3 Tuberculosis abscess due to spinal disease extending behind the left inguinal ligament in to femoral triangle

**Discussion**

Psoas abscess is common in Asia. In developed world it was an un common condition but now it is no longer the case. Gruenwald et al. in 1992 reviewed 434 cases of psoas abscess described in literature<sup>1</sup>. Ricci et al. Concluded that most of psoas abscess presenting in Asia and Africa were

primary compared with only 18.7 percent in Europe<sup>2</sup>. In our study we also concluded that primary abscess is common in less developed country because of immunocompromised condition of patients which was due to increased incidence of diabetes, hepatitis and poor nutritional state of patients. Santaella et al. discovered secondary abscess was most commonly associated with gastrointestinal pathology such as inflammatory bowel disease, diverticular disease or adenocarcinoma of colon, all of which are common in developed country<sup>4</sup>. In our society we concluded that secondary psoas abscess are due to spinal tuberculosis as tuberculosis is a common disease in Pakistan. Where as inflammatory bowel disease, diverticular disease and adenocarcinoma of colon are uncommon in Pakistan.

Psoas abscess still present a diagnostic challenge as presentation of psoas abscess is vague and varied. Ill defined symptomatology may delay the diagnosis. CT scan considered to be almost 100% accurate, compared to 60% for ultrasound<sup>6</sup>. CT Scan delineates the extent of cavity and may diagnose the underlying pathology.

Ricci et al suggested that percutaneous aspiration under radiological guidance is appropriate for primary unilocular collection and open drainage is suitable for secondary abscess<sup>2</sup>. We concluded that in secondary psoas abscess due to tuberculosis, per cutaneous drainage alongwith anti tuberculosis chemotherapy is appropriate. Our experience concluded that with percutaneous aspiration, patients require no hospital stay.

It is important to treat the condition in time as it is associated with significant morbidity and mortality (18.9% for secondary abscess)<sup>2</sup>.

In our study we observed that mortality is higher when treatment is delay and approaches 100% when pyogenic abscesses are un drained but in cold abscess if it is not infected, morbidity and mortality is low therefore repeated aspirations are required to prevent secondary infection in cold abscess. If psoas abscess is suspected, blood culture and ultrasound scan are advised to know the site and extent of the pathology. If it is unhelpful, CT scan is advised. Enteric flora in pus or blood, need further investigation. No flora within 42 hours suggest montoux test, ESR and X rays of spine to find the tuberculosis. If culture shows Staphylococcus aureus, it suggest primary disease process Antibiotic therapy should be started immediately and abscess should be drained promptly, either by open method or percutaneously depending upon thickness of pus and loculi of abscess cavity

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