

Case Report

Psoas abscess due to mycobacterium tuberculosis: a case report

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ABSTRACT

Iliopsoas abscess (IPA), a collection of pus in the iliopsoas compartment that has traditionally been classified into primary and secondary according to its origin, is an infrequent condition worldwide. Mostly active TB is confined to the lung, but approximately 15% are extrapulmonary. The most common types of extrapulmonary TB are, in descending order of frequency, pleural, lymphatic, bone and joint, genitourinary, miliary disease, meningitis, and peritonitis. Tuberculosis (TB) remains as one of the leading opportunistic infection in patients in developing countries. Here we report a rare case of psoas abscess of tubercular origin in patient who presented with back pain and limping. Diagnosis is done based on history, physical examination, plain radiology, microbiological investigation and CT scan of abdomen which revealed a large psoas abscess caused by *M. tuberculosis*. Patient was diagnosed as psoas abscess due to Mycobacterium tuberculosis and treated empirically with DOTS category I and significant functional improvement was noted on follow up.

Keywords: Back pain, CT scan, Psoas Abscess, Percutaneous drainage, Tuberculosis

INTRODUCTION

Psoas abscess is a rare condition with vague presentation and insidious onset making diagnosis difficult particularly for primary care physicians.¹ TB spine represents 50% of skeletal TB, 15% of extra-pulmonary TB and 2% of all cases of TB.² At the beginning of the 20th century psoas abscess was mainly caused by tuberculosis of the spine (Pott's disease).³ When Pott's disease was common, *Mycobacterium tuberculosis* was a frequent cause of psoas abscess. Currently, either *S. aureus* or a mixture of enteric organisms including aerobic and anaerobic gram-negative bacilli are usually isolated from psoas abscess.⁴

CASE REPORT

A 45 years old female was admitted in ward with chief complaints of pain in the back for 1 year, with exacerbation 4 months back and low-grade fever for 6

months. Patient appeared alright 1 year back, when she started complaining of pain in back. She neglected to take the medicine and again 4 months back had exacerbation of pain in back which was limiting her activity, followed by pain in the abdomen more on left side which was dull aching and radiating to the umbilical area. H/o multiple joint pain. No h/o TB, HT, DM, bronchial asthma. No h/o previous hospitalization or surgery. She has two children with normal delivery.

Patients general condition was moderate, had low grade pyrexia (101° F). PR-80/min. BP-120/80mm/Hg. Cardiovascular system, respiratory system, central nervous system was within normal limit.

Local examination

On inspection, lateral flexion was restricted on either side along with restricted forward bending and extension possible but terminally painful. On palpation, thrust

tenderness present on left paraspinal area at T-L spine and tenderness present at T12-L1 spine. Swelling and crepitation were not appreciated, toe movement present.

Laboratory investigation

Hb-10gm%, ESR-48mm, TLC-6800/cumm, DLC-N-60/L-35/M-4/E-1, RBS-60mg/dl, blood urea-33mg/dl, serum creatinine- 0.99mg/dl., blood group- O+ve, Mantoux skin test-negative (5mm), HBsAg-negative, HIV1/2- Non-reactive.

Radiological investigation

X-ray chest was within normal limit. X-ray spine showed destructive lesions at T11-T12 vertebra and narrowing of their intervening space. CT scan of abdomen revealed large ill-defined hypodense lesion in the left iliopsoas suggestive of iliopsoas abscess. USG Abdomen revealed psoas abscess on left side.

Microbiological investigation

Collection of Sample- USG guided aspiration of pus was done from psoas abscess under all aseptic precaution as shown in Figure 1 and sent for AFB staining, AFB culture and sensitivity, aerobic culture and sensitivity.



Figure 1: Collection of sample.

Microscopy

On gram staining showed moderate pus cells but no organism. Ziehl Neelsen's staining was negative for acid fast bacilli in direct smear examination.

Cultural characteristic

On aerobic culture media growth was not observed. AFB culture on Lowenstein-Jensen medium showed dry, rough, tough, raised and wrinkled creamy white to buff colored colonies after 4 weeks of incubation. Gram variable bacilli were seen on gram staining from culture.

AFB staining from culture showed slender, slightly curved bacilli with rounded ends occurring in small clumps, approximately $3\mu\text{m} \times 0.3\mu\text{m}$ bright red in color suggestive of acid fast bacilli as shown in Figure 2.

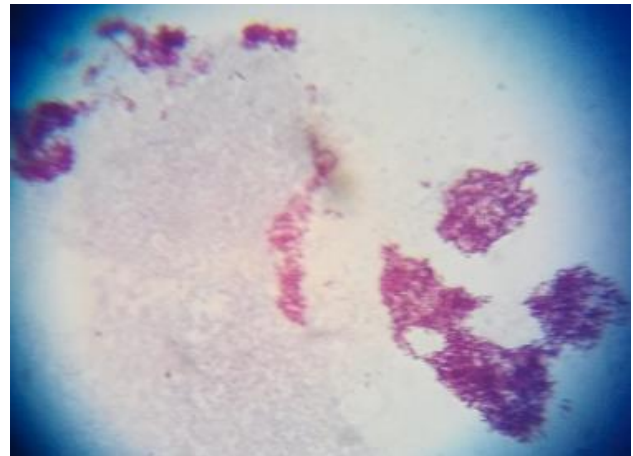


Figure 2: Acid fast bacilli on Zeihl Neelsen's staining.

Culture growth was sent to Kasturba hospital Mahatma Gandhi Institute of Medical Sciences, Sevagram, Wardha for identification and sensitivity against antitubercular drugs. Report showed the growth of *Mycobacterium Tuberculosis* with sensitivity to Ethambutol, Rifampicin, Streptomycin, Isoniazid.

Diagnosis and treatment

A definitive microbial diagnosis can be achieved in this patient through cultures of percutaneous samples from the abscess. Death is usually due to inadequate or delayed treatment, with mortality close to 100% in patients who do not undergo drainage, most often from sepsis. The management of psoas abscess comprises a combination of chemotherapy and open operative drainage. Patient was treated empirically with DOTS category I and significant functional improvement was noted on follow up.

DISCUSSION

Psoas and iliacus muscle-together called as iliopsoas are in the iliopsoas compartment and originate from the lateral aspects of 12th thoracic to 5th lumbar vertebrae, to be inserted to the lesser trochanter of femur. Infections can enter into this muscle form its neighbouring structures like iliac lymph nodes, sigmoid colon and abdominal aorta.⁵ Iliopsoas abscess, a collection of pus in the iliopsoas compartment, was first described by Mynter, who referred to it as psoitis.⁶ Vertebral osteomyelitis and psoas abscess are inter-related infections and share the same risk factors.¹ According to the current series, most cases of IPA are secondary to infectious foci coming from skeletal, gastrointestinal, and urinary origins.

Secondary psoas abscess (in this case) is associated with spread from a contiguous source like gastrointestinal, genitourinary and musculoskeletal infections. Common causes of psoas abscess are Crohn's disease (60%), appendicitis (16%), ulcerative colitis, diverticulitis and colon cancer (together 11%) and vertebral osteomyelitis (10%).¹ Nearly two third of the vertebral osteomyelitis is pyogenic and only one third is tubercular.¹ In this case, plain radiograph findings are also consistent with TB spine as in 91-99% cases. PPD skin test was negative (5mm) in this subject but it is positive in only 66.6% of extra-pulmonary TB cases found in the same study in Chittagong medical college and hospital, Bangladesh.⁷ Van den berge, et al, from Rotterdam, Netherlands had mentioned that two of the patients in their series had a psoas abscess secondary to tuberculous osteomyelitis.³ In India, 5% of skeletal tuberculosis cases develop psoas abscess and this reflects infection and poor socio-economic conditions.

CONCLUSION

In conclusion, tuberculosis is still common in our country. The diagnosis of Pott's disease should be considered in patient who live in endemic region have chronic back pain. Microscopy and culture are recommended to confirm the diagnosis. Pott's spine should be considered in the differential diagnosis of chronic back pain so that the treatment is initiated early and significant disability prevented.

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