

Case Report

Gluteal abscess: diagnostic challenges and management

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Abstract

Gluteal abscess is a well-documented presentation of a caries spine and other local bony foci of tuberculosis. Still, during a PUBMED data search, only one report of vertebral tuberculosis presenting only as a gluteal abscess in adults was found in English medical literature. The current article describes a case of tuberculosis of the lumbar spine with gluteal abscess as the only clinical feature, in an immunocompetent young adult.

Key words: gluteal abscess; tuberculosis; lumbar spine; percutaneous aspiration

J Infect Dev Ctries 2010; 4(5):345-348.

(Received 05 September 2009 – Accepted 04 December 2009)

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Introduction

A search for spine infection with *Mycobacterium tuberculosis* presenting only as a gluteal abscess was conducted concurrently with PUBMED data dated until August 2009 using the following medical subject headings: adult, gluteal abscess, and spine tuberculosis. This search showed that only one such case had been reported previously in English medical literature. Therefore, this article describes an extremely rare case of spine infection with *Mycobacterium tuberculosis* in an adult presenting only as gluteal abscess. Further, we also discuss the diagnostic challenges, management and outcome.

Case Report

A 27-year-old male carpenter presented with left gluteal swelling of one month's duration. He had loss of appetite and discomfort in the gluteal region, especially while sitting. The swelling had enlarged gradually, and the condition was not associated with backache and fever. There was no history of pulmonary tuberculosis.

On clinical examination, a fluctuating mass was found in the left-side gluteal region. The size of the mass was 8-12 cm. There were no signs of neurologic deficit, and no discharging sinus. The most prominent part of the swelling was in the posterior inferior aspect of left gluteal region and the skin over that part was indurated over an area of 2 x 3cm. The patient's temperature was 38°C on initial

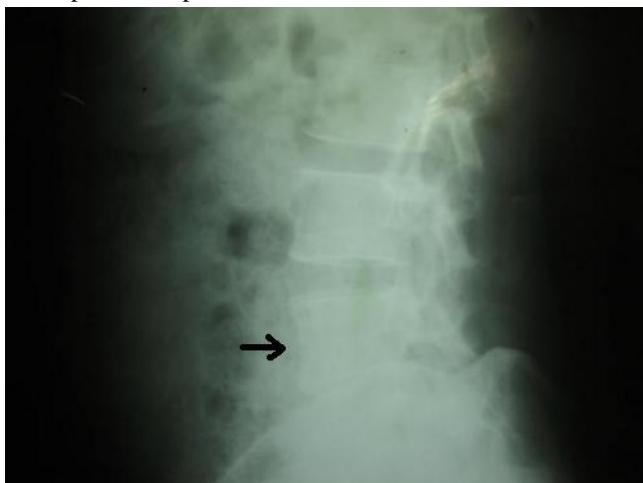
examination. Laboratory investigations showed an ESR of 105 mm/hour and Hb of 11 g/100 ml. Chest radiograph was normal.

Radiogram of the pelvis and hip showed normal hip and sacroiliac joints. Radiogram of lumbosacral spine was also normal. There was neither collapse of vertebral bodies nor diminution of disc space. End plates were intact in the radiogram (Figure 1). Greenish yellow pus was aspirated by fine needle (without fluoroscopy control) from the gluteal region and microscopy showed epithelial cells surrounded by lymphocytes in the configuration of a tubercle (Figure 2).

We suspected vertebral tuberculosis and primary gluteal tuberculous abscess. Computerized tomography (CT) study of the lumbar region with and without contrast enhancement was done. CT showed destruction of the anterior two thirds of the left side of the fifth lumbar vertebra with a cavitations opening into the paravertebral tissues in the posterior aspect (Figure 3). Contrast CT showed left gluteal abscess (Figure 4). Aerobic culture of the operative specimen showed no growth. Lowenstein-Jensen medium yielded growth of *Mycobacterium tuberculosis*. A diagnosis of tuberculosis of the fifth lumbar vertebral body of anterior type with left secondary gluteal abscess was made.

Anti-tuberculous chemotherapy (ATT) was started that included isoniazid (300 mg/day), rifampin (600 mg/day), ethambutol (800 mg/day) and

Figure 1. Radiogram of lumbosacral spine showing neither collapse of vertebral bodies nor diminution of disc space. End plates of the vertebral bodies are intact.



pyrazinamide (1,500 mg/day) for two months. This was followed by six months of isoniazid and rifampin three days a week. Additionally, 250 ml of purulent fluid was aspirated from the left gluteal region under antituberculous drug coverage initially, and the patient required two more aspirations over the next four weeks to drain the collection from the gluteal region. Antigravity Z pattern was used for aspiration. After one month of instituting ATT and 3 aspirations from the gluteal region to drain the cold abscess, the patient showed good clinical improvement. He gained weight and the gluteal abscess had disappeared by the one-year follow-up.

Discussion

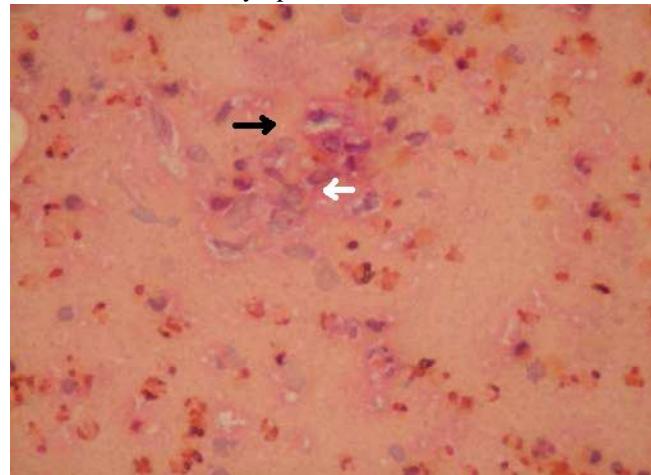
Pott's spine can present as abscesses or sinuses away from the spine along the course of blood vessels and nerves or along the facial planes. Abscess from dorsolumbar or lumbar spine can track down the psoas sheath to reach the iliac fossa, lumbar triangle, or the upper thigh, even as far down as the knee [1].

Gluteal abscess is the rarest of all presentations of Pott's spine. Kumar *et al.* reported a case of tuberculosis of the sacrum with cauda equine compression presenting with gluteal abscess in a child. The cold abscess spread along the branches of the aorta to reach the gluteal region [2]. This may be the cause of gluteal abscess in our patient also. Unfamiliarity with this presentation may lead to mistaken diagnosis and inappropriate treatment.

Although Mousa described a case of Pott's spine presenting only as gluteal abscess, this presentation appears to be much less common in adults than is

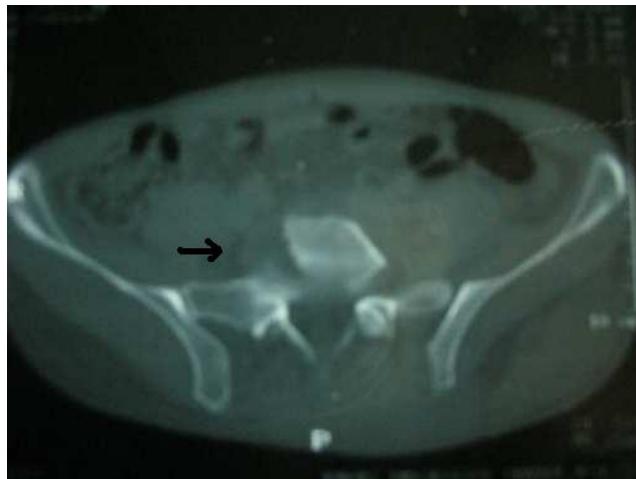
caries spine presenting as cold abscess in other sites that have also been previously reported. In the case described by Mousa [3], the patient was a malnourished (probably immunocompromised) old man presenting with recurrent gluteal abscess. Plain lumbar spine radiograph showed only calcification of the left psoas region with relatively normal vertebrae. MRI and CT of the spine were not taken in that patient and the location of the primary site of *Mycobacterium tuberculosis* infection is unclear. Moreover, medical records showing the initial management of the gluteal abscess were not available and it was a case of concomitant spine infection with *Mycobacterium tuberculosis* and other pyogenic bacteria.

Figure 2. Fine needle aspiration biopsy from the gluteal region showing epithelial cells surrounded by lymphocytes in the configuration of a tubercle under light microscopy with 8 \times magnification (Black Arrow). White Arrow shows slipper- or carrot-shaped epithelioid cells with elongated nuclei and abundant cytoplasm.



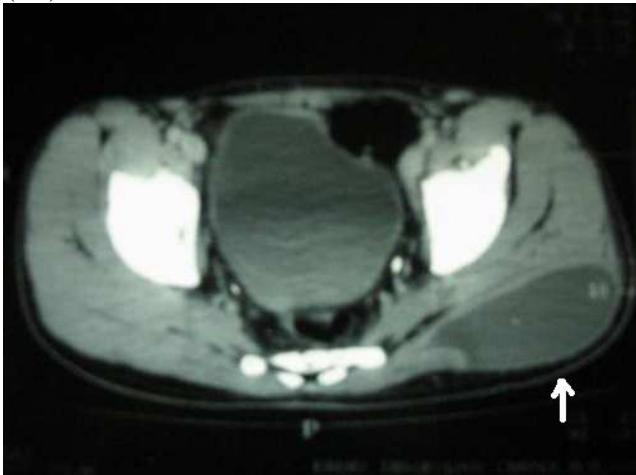
In the case described in this report, the patient also had an isolated gluteal abscess with a relatively normal lumbar spine plain radiogram. In patients presenting with gluteal abscess, it is mandatory to consider tuberculosis of the spine a potential diagnosis. Direct smear, fine needle aspiration biopsy and acid fast bacilli culture should be done in all patients. Microscopic examination of the aspiration cytology would reveal typical tubercles in an untreated course of shorter duration of the disease. Epithelial cells surrounded by lymphocytes in the configuration of a tubercle are adequate, helpful evidence of tuberculous pathology in a patient who has been diagnosed so clinicoradiologically. As

Figure 3. Computerized tomography (CT) showing destruction of anterior two thirds of the fifth lumbar vertebra with cavitations opening in paravertebral tissues in the posterior aspect.



shown in Figure 2, epithelioid cells are slipper- or carrot-shaped cells with elongated nuclei and abundant cytoplasm [1]. It would be appropriate to make a diagnosis of tuberculous infection if any one of the above three investigations is positive. We believe that it is advisable to take an MRI of the lumbar and sacral vertebrae to detect early destructive lesions in such cases. We also believe that in settings where MRI is not available, as in our case, computerized tomography of the lumbar and sacral vertebrae should be taken as a plain X ray may not yield positive evidence of tuberculous pathology of the spine in the early stages.

Figure 4. Contrast enhanced Computerized Tomography (CT)



Literature on therapeutic aspiration of a cold abscess from the gluteal region is scanty. A study by Dinc et

al. showed the usefulness of CT guided aspiration in tuberculous pelvic and gluteal abscesses [4]. Tuberculous gluteal abscess is superficial. Without unnecessarily exposing patients to repeated radiations, the abscess can be easily drained by simple aspiration in an antigravity Z pattern. Instead of repeated aspirations, a continuous drainage method and continuous washing using a negative pressure occlusive dressing system were not used in our case because of the patient's cultural beliefs. Furthermore, we wanted to minimize the changes of sinus tract formation. *Salmonella* infections, amoebic gluteal abscesses, injection site abscesses (especially after intramuscular chloroquine injection), Crohn's disease, and carcinoma of the colon are the differential diagnoses that should be kept in mind while treating patients with chronic gluteal abscess [5-9].

Conclusion

Tuberculosis of lumbar vertebra can present as gluteal abscess in immunocompetent adults. Proof of tuberculous disease can be obtained by submitting the aspirate from the abscess for culture, direct smear, and cytological study simultaneously. MRI or computerized tomography of the lumbar and sacral vertebrae should be done in all patients presenting with gluteal abscess irrespective of the presence or absence of spinal symptoms or signs. Repeated aspirations may be necessary for symptomatic relief. Simple percutaneous aspiration in an antigravity Z pattern method can obtain good results.

Acknowledgements

We thank Dr. R. V. Asha for critical review of the manuscript. We also thank P. Kiran IIT, Mumbai, for correcting and proofreading of the manuscript.

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Conflict of interests: No conflict of interests is declared.

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Conflict of interests: No conflict of interests is declared.