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Case Report

A Patient Presented as Gluteal Abscess Diagnosed to be a Case of Pott's Spine with Psoas Abscess: A Case Report

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Abstract

A gluteal abscess can be a manifestation of Pott's spine. The most common cause of gluteal abscess is parentral drug administration using contaminated needles. Other causes include infected hematoma, seroma, posttraumatic sepsis and spread of intrapelvic sepsis to the gluteal region. Here a case is presented where a middle-aged female patient was admitted for the complain of recurrent gluteal abscess for 1 year for which surgical drainage was done several times outside before coming to the present hospital. She developed complain of lower back since few months which was ignored by the patient herself. She had other complained of other constitutional symptoms. Later on investigation it was diagnosd to be a case of pott's spine which has sinus track to gluteal muscle.

Keywords: ***Gluteal abscess, Pott's spine, Gluteal muscle.***

Introduction

Pott disease, although rare, is a severe and often debilitating form of extrapulmonary tuberculosis, preferentially affecting and destroying vertebrae and intervertebral discs with permanent neurological sequelae if not diagnosed and managed early [1]. It is responsible for about 1%–2% of all tuberculosis (TB) cases and 50% of all musculoskeletal forms of TB, with the thoracolumbar vertebrae as the most affected [2].

Tuberculosis is a continuing problem especially in developing countries despite the availability of effective chemotherapy. Around 1-2% of tuberculosis patients have involvement of the skeletal system and 50% of them involve the spinal column [3]. Most spinal involvement of tuberculosis occurs in lumbar spine region and some of those are also presented with psoas abscess [4].

Tuberculosis of the spine is a significant health issue, particularly in regions where it is prevalent. Currently spine tuberculosis accounts for nearly half of all skeletal tuberculosis cases. According to previous epidemiological studies, the involvement of the sacral spine is very rare, ranging from 0 to 6.3% of all spine tuberculosis cases [5]. The reasons behind the low occurance of sacral tuberculosis have not been clearly described in previous literature. However, it is hypothetised that the sacrum's anatomical vascularity, local oxygen levels and dissemination pattern of the mycobacteria from the primary foci may contribute to its rarity [6].

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The rarity of this subgroup of disease produced some difficulty especially in diagnosing the exact etiology of the symptoms, as it may mimic other diseases such as pyogenic infection or malignancy. Gluteal abscess is a rare presentation of spinal tuberculosis and is more commonly associated with pyogenic infection in the parianal region [7]. In spine TB, cold abscess formation is a common occurance, with a prevalence ranging from 55-86%. When it comes to the sacral spine, presacral abscess is the most frequently observed presentation, accounting for about 40% of cases [8].

The final presentation of the cold abscess may extend to the ischiorectal fossa, submascular gluteal abscess, Psoas sheath, lumbo-dorsal region (Petit's triangle) or even more distally to the medial side of the thigh, popliteal fossa or medial side of Achilles tendon [9]. This scenario is unlikely because the absence of systemic infection and the patient's immunocompetent status. The MRI images has shown that the extension of the abscess was mostly occurred on the posterior and lateral side of the thigh, which was not in accordance with the previous hematogenous theory.

In most cases of spine TB abscess, percutaneous drainage is the recommended method of treatment, provided there is no indication for spinal stabilisation [10,11].

Open debridement and biopsy are warranted in several cases, where the diagnosis is still unclear thus adequate tissue sample has to be obtained. Estimated volume of the abscess is also a consideration in determining the method of evacuation.

Case Report

A 26-year-old female patient came to the emergency for the complain of high-grade fever since 3 to 4 days, shortness of breath since 2 days, vomiting since 2 days and generalised weakness. She had h/o gluteal abscess on left side, which was recurrent since 1 year. Several times it was drained and last drainage was done 3 days back only. Patient was kept on broad spectrum antibiotics, antipyretics, and other supportive treatment. Initially the presentation was due to septicemia due to gluteal abscess with septicemia and AKI. Patient was diabetic also. There was hypoglycemia, RBS was 45 mg%, BP 135/90 mmHg, Pulse 114 bpm, Spo2 99%. 25 % Dextrose was infused. there was few episodes of hypoglycemia over few days. Surgical and Nephrological reference was taken. In view of low urine output and deranged KFT, dialysis was done for few days till it resolved completely. Surgical drainage was tried but no content came out so pus swab was taken and sent for culture. So, HrUSG of gluteal region on infected side was done and pus was collected which revealed nothing. HRCT thorax was done in view of shortness of breath. After few days MRI lumbar spine was also done which revealed findings s/o Pott's spine. Patient was kept on antituberculous drug and discharged after stabilisation.

Following Investigations were done

A) HRCT Thorax

Few (at least 2 calcified nodules are seen in post segment of right lower lobe. Another calcified nodule seen in lateral segment of left lower lobe.

Subcentric hyperdense lymph node seen in right paratracheal region.

Rest of other structure were normal.

Impression: Few calcified nodules in both lungs. old granulomatous etiology.

B) Pus Swab C/S showed Enterococcus Faecium. (Sensitivity to inj. Linezolid, inj erythromycin)

C) Blood Culture was sterile after 5 days of incubation at 37˚C.

D) MRI Lumbo-sacral Spine with total imaging matrix (TIM)

1. Left Psoas muscle appears bulky with T2 hyperdense area measuring ~34× 32× 93 mm (volume 50 cc) noted within and extending to left paravertebral muscle..? Abscess.
2. Similar T2 hyperdense pocket of collection measuring ~ 13.5 ×13× 25 mm is noted in right psoas muscle.
3. Increased T2 signal intensity noted in the proximal fibres of bilateral psoas muscle, likely inflammatory.
4. Heterogenous T2 hyperintensity noted in L3 and L4 vertebral bodies with alterd T2 signal intensity of L3-L4 with loss of IV disc space is noted likely spondylodiscitis.
5. T2 hyperdense area noted in epidural space extending from L2-L4 vertebral level.? epidural abscess. It is causing central canal stenosis (6mm) and narrowing of left lateral recess and neural foramina of L3-L4 vertebral bodies.
6. Rest of visualised vertebrae are normal in height, alignment, outline and signal intensity.
7. Rest of the IV discs normal in height with maintained signal intensity.
8. No disc bulge/herniation.
9. Ligamentum flavum normal in thickness. Facet joints normal
10. Lower spinal cord and conus medullaris are normal in signal intensity.

TIM:

Straightening of cervical spine is noted.

Impression: Heterogenous altered signal intensity area involving L3 and L4 vertebral bodies with intervening disc space and surrounding soft tissue inflammation as described? Sponylodiscitis with psoas abscess.

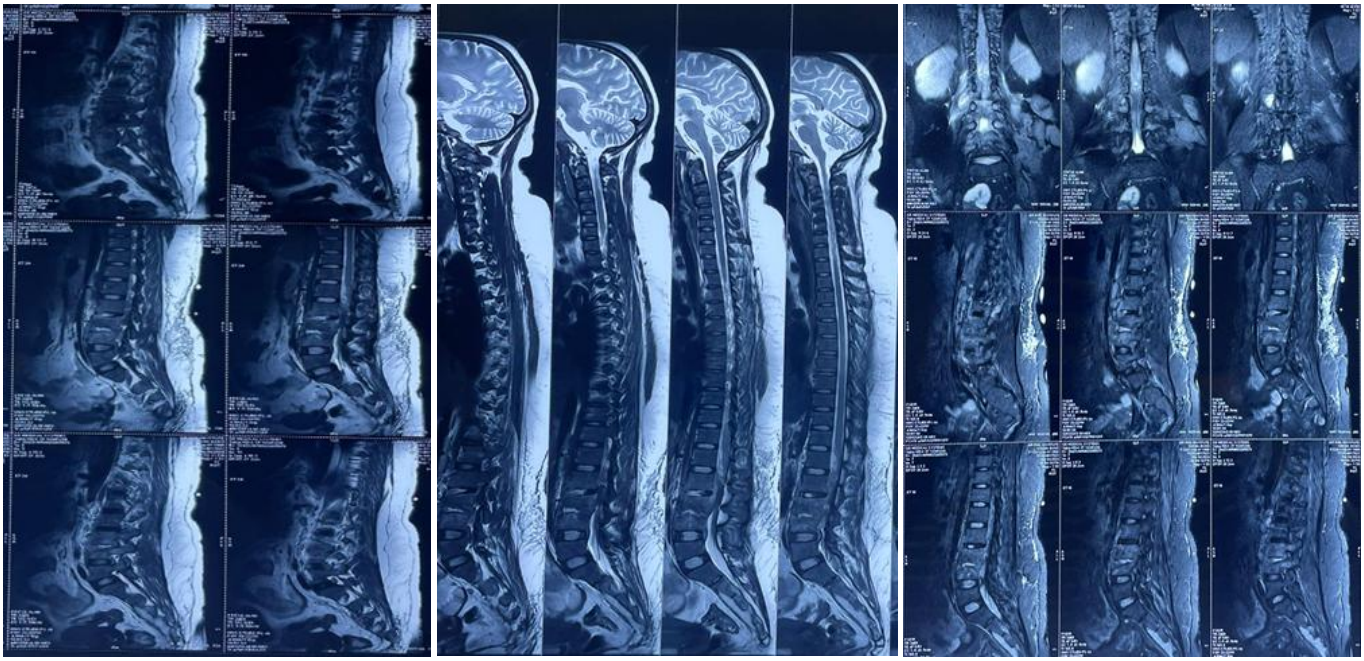


Figure 1: L3 and L4 Vertebral Bodies with Intervening Disc Space and Soft Tissue Involvement

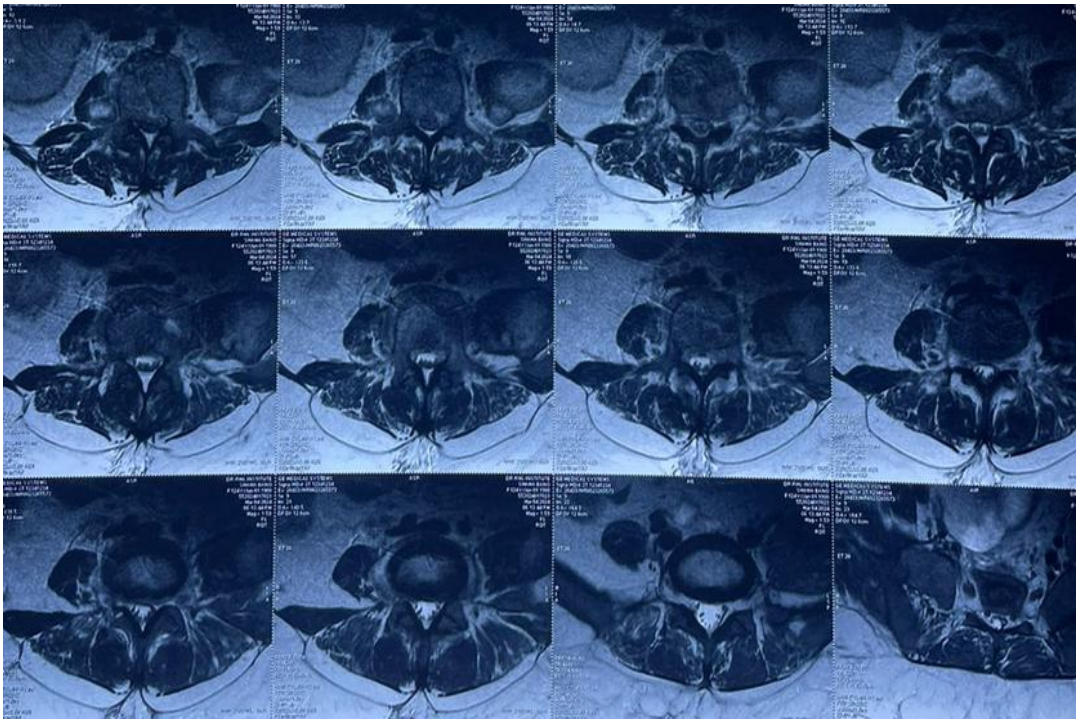
HrUSG Right Gluteal Region

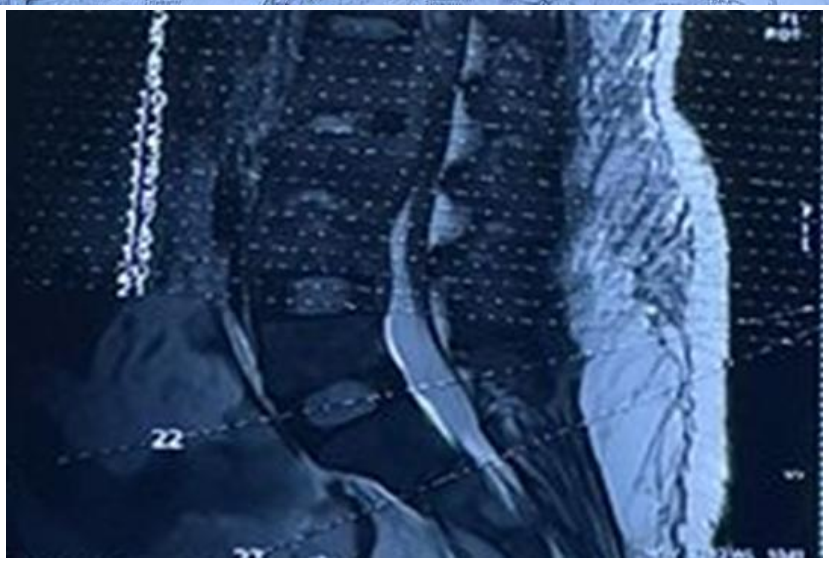
Report 1.

Few (at least 2) ill-defined deep collection is seen in right gluteal region abutting the underlying bone measuring ~10 cc in inferolateral part and ~6cc in upper part of gluteal region. They are seen opening to outside through thick and long tracts.

Report 2. (After few days)

Two Hyperechoic tracts noted in right gluteal region at mid gluteal and infero-lateral region. No obvious deep collection is noted. However, residual tracts are noted.





Ultrasound whole abdomen

Liver is enlarged in size (~16.6 cm), normal shape and echotexture.
No focal lesions.
GB partially distended.
Portal vein prominent ~12.3 mm.
Pancreas normal.
Spleen enlarged ~ 13cm.
B/L kidney normal in size except they are bulky and edematous with mildly raised renal cortical echogenicity and maintained CMD.
Urinary bladder, uterus, ovary normal.

Hb 9.8 gm/dl →7.9→ 7.7 →6.9→7.63→6.8→7.6
TLC 11.71×103/µl→9.96
Platelet count 50,000/cmm
→94000/cmm→1,50,000/cmm→1,38,000/cmm

HBsAg-ve, Anti HCV -ve HIV -ve
Serum potassium 5.6 mmol/l
Serum sodium 125 mmol/l
Serum urea 150.73 mg/dl → 162 mg/dl →130.54 mg/dl→121.30 mg/dl→130mg/dl→48.88mg/dl→75mg/dl→45.80mg/dl
Serum creatinine 10.40 mg/dl→8.77 mg/dl→7.78 mg/dl→9.09mg/dl→3.45mg/dl→4.02mg/dl→2.72mg/dl
Serum Calcium(ionic) 1.12mmol/l
CK-total 22.05 U/L
HSCRP 141.61 mg/dl →63.76 mg/dl→34.21 mg/dl→30.48mg/dl
ESR 92 mm/hr
Procalcitonin 7.53 ng/ml
Urine routine protein +, blood ++, WBC 20-30 /HPF, RBC 15-20 /HPF

Discussion

Tubercular abscess is usually due to direct extension from the neighbouring joint or by hematogenous or lymphatic spread from the pulmonary and extrapulmonary site, and primary focus may not be detected in every case [1,6]. This case presented unusually as a gluteal abscess in a patient with septicemia and AKI. When patient started complaining of backache and unable to sit, MRI lumbosacral revealed lumbar vertebral destruction and psoas abscess that had tracked into the retroperitoneal space to the gluteal region. Pott's spine refers to the destruction of the vertebral body and intervertebral disc by Mycobacterium tuberculosis (MTB) and also be called TB spondylodiscitis [2].

There was no neurological deficit. Except that patient was unable to lift herself up to sit. It was assumed that due to gluteal abscess patient was not able to sit. There was no sensory, motor involvement, reflexes were normal. The infection usually spreads from the respiratory tract through the hematogenous system or by lymphatics from paraaortic lymph nodes, with preference for the thoracic and lumbar vertebrae and will usually involve two or more contiguous vertebral bodies and their respective intervertebral discs results in vertebral collapse.

The infection typically spreads through the respiratory tract through the blood stream or lymphatic system, with a preference for the thoracic and lumbar vertebrae. It usually affects two or more adjacent vertebral bodies and their respective intervertebral disca, causing their destruction [12]. Consequently, the affected vertebrae collapse, leading to kyphosis and gibbus deformity [13]. In our case, L3 and L4 vertebral bodies with intervening disc space and surrounding soft tissue inflammation was seen with diagnosis of Spondylodiscitis with psoas abscess.

Diagnosing extrapulmonary tuberculosis (TB) can be challenging, especially in settings with limited diagnostic capabilities. The clinical presentation is often non-specific [14]. Less than 40% of patients with extrapulmonary TB exhibit typical TB symptoms like fever, weight loss, malaise and night sweats. On the other hand, back pain and lower limb weakness are the most commonly reported symptoms, present in about 80% and 73% of patients, respectively [1]. Late diagnosis can lead to kyphotic deformity due to the collapse of the anterior spinal elements and even neurological deficits caused by spinal cord or nerve root compression [1].

Gluteal abscess was the main presentation in present case, though pus swab had AFB-ve and CBNAAT negative. However, HrUSG gluteal region showed sinus with deep collection.

Conclusion

Gluteal abscess and extrapulmonary TB in the form of lumbar vertebral involvement are not common entities. MRI has an accurate diagnostic and pathophysiological significance, therefore it should not be delayed just because of relatively high cost. Pott"s spine /extrapulmonary TB should be searched in case of unresolving gluteal abscess.

Declarations

Ethical Approval

The ethical approval was not required as patient's identity was not disclosed.

Conflicts of Interest

The authors declare that there is no conflicts of interest.

Author's Contribution

Jyoti Verma did the plan of manuscript preparation, investigations and management, Jyoti Pankaj have contribution in literature review, interdepartmental references and timely as required inward management and Tabish Abbasi have contribution in sampling and collection of reports.

Data Availability Statement

Data is all made available in the manuscript.

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