

Sacral Tuberculosis: Never Ignore Buttock Pain

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Abstract

TB infection other than pulmonary is quite challenging to diagnose due to non-specific signs and symptoms (18). Spine being the commonest site of skeletal TB which account approximately 50% from reported cases (17). Spinal TB can be associated with pulmonary infection, however in less than 1% of cases occurs in the absence of pulmonary involvement (3,7,10,15). Isolated sacral TB is rare entity and patient usually presented with lower back pain with or without neurological involvement (12). Here we presented a case of sacral TB which was not associated with neurological impairment.

Keywords: Sacral Tuberculosis

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Case

A 43-year-old gentleman without medical problem was referred to orthopedic team with complaint of unresolved and prolonged fever for 2 months. Right buttock pain which radiated to right thigh region 6 months history. Pain worsened during ambulation and relieved with rest or analgesia. He had no weakness or numbness of lower limbs. There was no bowel or urinary incontinence. Patient had constitutional symptoms e.g., weight loss and loss of appetite, however no history suggestive of TB infection such as night sweat, hemoptysis and denied history of contact with TB patient. During his first presentation, he was admitted to medical ward for pyrexia of unknown origin.

On physical examination, the patient was pallor and cachexic. His cardiovascular, respiratory and abdomen were unremarkable. However, there was tenderness at sacral region with no obvious swelling seen. On neurological examination, no positive findings were elicited. Motor and sensory of upper limb and lower limb intact, reflexes were normal. Straight leg raising test was negative. Perianal sensation was intact. No anal tone laxity. His gait was normal.

During admission he had persistent spiking temperature otherwise hemodynamically stable. His blood investigations suggestive for chronic inflammation. His hematology tests were as follows; total white blood cell count (TWBC): $5.51 \times 10^9/L$, hemoglobin (Hb): 7.8 g/L, hematocrit (HCT): 24.8 %, platelet: $429 \times 10^9/L$. As for biochemical test, sodium (Na): 125 mmol/l, potassium (K): 4.8 mmol/l, urea: 4.6 mmol/l, creatinine: 62 $\mu\text{mol/l}$, Erythrocytes Sedimentation Rate (ESR): 52 mm/hr (raised), C-Reactive Protein (CRP): 72 mg/L (raised). Chest x-ray showed no evidence of pulmonary infection.

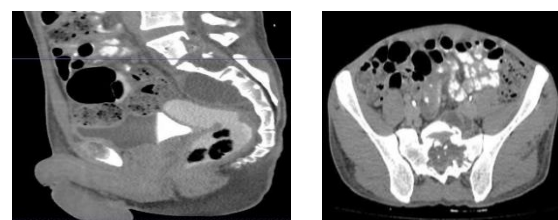
TB test panels such as Mantoux test, sputum for acid fast bacilli and mycobacterium tuberculosis culture and sensitivity (C&S) were carried out however the results all were negatives. CT scan contrast enhanced of lumbosacral was done to this patient on 15/9/2019. On CT pelvis revealed multi-loculated rim enhancing lesion at pre sacral space. The collection extends from the level S1 to S4. The lesion extends postero-inferiorly causing narrowing of the spinal canal from S1 till S4 as well as destruction of posterior vertebral body of S1, S2 and S3. Lumbosacral X-ray showed lytic lesion in sacral bone.

The patient underwent transpedicular percutaneous biopsy of S1 under local anesthesia to make the diagnosis. Histopathological examination (HPE) reported suppurative granulomatous inflammation. Otherwise, bone biopsy for MTB C&S and polymerase chain reaction were negative. He was treated with anti-tubercular therapy (rifampicin, pyrazinamide, ethambutol and isoniazid) after the biopsy. After 2 months on antitubercular intensive course treatment, the patient responded well. His buttock

pain is improving and able to ambulate without support. Anti TB was continued for 12 months duration.



Figure 1: X-ray of lumbosacral spine anteroposterior and lateral views showed lytic lesion at sacrum



2a



2b

Figure 2a: CT scan lumbosacral showed destruction of sacrum bone with multiloculated rim enhancing. Blue arrow: destruction of posterior vertebral body of S1, S2 and S3. Orange arrow: multi-loculated rim enhancing lesion at pre sacral space. **2b:** CT scan bone setting show destruction of posterior vertebral body of S1, S2 and S3

Discussions:

Tuberculosis (TB) is a known health problem in the world especially in developing country. In Malaysia, TB are common either pulmonary or extrapulmonary (16). Around half of cases of spinal TB originated from the hematogenous spread of infection either from pulmonary or extra-pulmonary to spine (50%). However, isolated spinal TB in the absence of a primary or pulmonary infection is rarely occur. (5).

Even though the global cases of spinal TB have increasing, the lower spine involvement such as lumbar and sacral is uncommon with less than 5% of reported cases

(1,4,9,13,14). In 1985, Dayras et al has reported the first case of isolated TB infection to sacrum. This case was a 13-year-old girl, presented with lower back pain and x-ray show osteolytic mass in her sacrum. She recovered after completed a course of anti-tuberculosis treatment (4). Subsequent case was reported in 2004 by Wellons et al. The patient also presented with lower back pain and lower limb neurological deficit, which recovered with medical treatment (18). Another case report of TB with sacrococcygeal Involvement by Osman et al; presented with isolated lower back pain with no neurological deficit. Patient's symptoms were improved after completed a course of anti-tuberculosis chemotherapy (11).

We reported a case of sacral TB without neurological involvement. The sacrum is an uncommon site for TB and the incidence of neurological symptoms is relatively low. As for this patient, the only complaint was buttock pain with no neurological manifestations. Diagnosis of sacral TB for this patient is quite challenging and patient admitted to ward for weeks to make the diagnosis. During admission, patient persistently had high grade fever despite of antibiotic given. Multiple blood and radiological investigations taken to establish the diagnosis.

TB workout was done but all tests came back as negative. Furthermore, non-specific symptoms that the patient had may put a diagnostic dilemma to the treating physician. X-ray and CT scan of lumbosacral bone were done to look for any involvement and destruction of the bone. X-ray showed lytic lesion of sacrum bone while CT scan revealed rim enhancing collection at sacrum with bony destruction. The final report of CT scan was bone lesions with sequestrum, osteosclerosis and soft tissue abscess is an important element to make the diagnosis [19,20]. CT scan can be used to detect and diagnose the abscess within the vertebral canal in case of other biochemical and microbiological findings were negative. Differential diagnosis for osteolytic lesion at sacral bone as listed: Aneurysmal bone cyst, Chordoma, Multiple Myeloma and Ewing's Sarcoma. The diagnosis confirms by transpedicular percutaneous biopsy taken, HPE reported as suppurative granulomatous inflammation.

Transpedicular percutaneous biopsy was choose due to its low risk, cost effectiveness and can be done by giving local anesthesia (2). MRI was not proceeded in this patient, as confirmation of diagnosis has been made and furthermore patient has no neurological symptoms. Anti-tuberculosis medication (rifampicin, pyrazinamide, ethambutol and isoniazid) was given. After intensive course of treatment, patient symptoms improving, and this patient was decided to continue maintenance phase (rifampicin, isoniazid) and completed the treatment course for 1 years. Prior to biopsy no treatment for spondylodiscitis was started. Repeated CT scan lumbosacral contrast enhanced was not done on 2/11/2020: no pre sacral space collection and no

worsening bony destruction. No surgical intervention or drainage was done as symptoms resolved and by imaging no evidence of remnant of worsening infection.

Conclusion:

If patient presented with isolated buttock pain, we must think of there is pathological process such as lytic sacrum was happening. Holistic history taking, thorough physical examination, appropriate investigations, and high degree of suspicious may help in establishing the diagnosis. Modern imaging such as CT scan can be used to diagnose TB sacrum. Correct diagnosis must be made to provide good management for the disease which has good response to anti tuberculosis treatment.

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