Vulval Tuberculosis- An Unusual Presentation of Disseminated Tuberculosis


Abstract
Extrapulmonary involvement can occur in isolation or along with a pulmonary focus as in the case of patients with disseminated tuberculosis. Vulval TB is very rare and the presentation can be quite variable, and may be misdiagnosed as sexually transmitted disease. We herein report a young lady with disseminated TB presenting as Vulval TB.

Introduction
Disseminated TB is described as concurrent involvement of at least two non contiguous organ sites of body or involvement of bone marrow by Mycobacterium TB. Gut constitutes 9% of TB and complicates 3-4% of patients with pulmonary tuberculosis. 1 TB of vulva and vagina constitutes 1% of cases of TB.

Spinal TB is the most common form of skeletal TB constituting 1% of cases. 2 It is most commonly of paradiscal variety. TB of vulva and vagina constitutes 1% of cases of TB.

Extrapulmonary involvement can occur in isolation or along with a pulmonary focus as in the case of patients with disseminated tuberculosis. Vulval TB is very rare and the presentation can be quite variable, and may be misdiagnosed as sexually transmitted disease. We herein report a young lady with disseminated TB presenting as Vulval TB.

Case Report
A 21 year old young married lady, having delivered a baby 6 months ago presented with history of on and off episodes of intermittent fever and white discharge per vagina, the onset concurring with her first trimester of pregnancy. Subsequently she noticed lesions in her genitalia and it was biopsied and treated for candidiasis at a local hospital. She underwent Cesarean section in view of breech presentation of the baby. Two months post delivery she developed intermittent fever associated with dry cough and loss of appetite for which she was referred from an outside hospital for persisting symptoms. She had no close contact with TB and had no past history of TB.

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Significant findings on examination were pallor and temperature of 99°F and right non tender cervical lymph node 1 x 1 cm. She was underweight. She had reduced intensity of breath sounds in left infra scapular and infra axillary area. She had vegetative growth over her right labia majora with multiple pus discharging areas. Multiple erosions and ulcerations were also seen on the vaginal mucosa. There were no focal neurological deficits at admission. She was evaluated for the possibility of – Vulval TB?

Genital Malakoplakia. Her investigations revealed: (Table 1) and genital lesion biopsy (Figure 1a, b, c) showed granulomas. She was not willing for a diagnostic endometrial curettage. She was

Table 1: Investigations

<table>
<thead>
<tr>
<th>Investigation</th>
<th>Result</th>
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<tbody>
<tr>
<td>Hemoglobin</td>
<td>8 g/dl</td>
</tr>
<tr>
<td>Peripheral blood smear</td>
<td>Normocytic Normochromic</td>
</tr>
<tr>
<td>Total count</td>
<td>3,800 cells/ cumm</td>
</tr>
<tr>
<td>Differential count</td>
<td>P76 L21 E2 MI</td>
</tr>
<tr>
<td>ESR</td>
<td>130 mm/hour</td>
</tr>
<tr>
<td>LFT</td>
<td>Within normal limits</td>
</tr>
<tr>
<td>HIV 1 and 2</td>
<td>Negative</td>
</tr>
<tr>
<td>Chest X ray P/A (Figure 3 a, b)</td>
<td>Patchy pneumonia in left mid and basal zone with mild obliteration of CP angle with? Pleural thickening</td>
</tr>
<tr>
<td>Sputum for AFB-3 samples</td>
<td>Negative</td>
</tr>
<tr>
<td>USG Thorax</td>
<td>Minimal lamellar pleural effusion -15 cc ; inaccessible to diagnostic aspiration</td>
</tr>
<tr>
<td>USG Abdomen</td>
<td>Mild splenomegaly with minimal free fluid in the pelvis. Endometrial thickness: 5 mm</td>
</tr>
<tr>
<td>Biopsy from right labial lesion (Figures 2 a, b, c)</td>
<td>Epidermal hyperkeratosis; dermis showed granulomas composed of epithelioid histiocytes and lymphocytic infiltration</td>
</tr>
<tr>
<td>Biopsy of right cervical lymph node and cold abscess histopathology (Figure 1)</td>
<td>Lymph node displayed reactive follicular hyperplasia; cold abscess curettage specimen showed areas of caseous necrotic material with scattered epithelioid histiocytes and occasional Langerhan's giant cells suggestive of tubercular granuloma</td>
</tr>
</tbody>
</table>

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diagnosed with Pleuro-Pulmonary TB with Vulval TB and was started on weight adjusted anti-tubercular therapy. Ten days into the treatment, she had a swelling of 1x1.5 cm size near the right sternoclavicular joint and anterior to Manubrium sterni. Excision biopsy and cold abscess curettage (Figure 2) showed caseous granuloma reinforcing the diagnosis. Patient continued to have persistent fever inspite of anti-tubercular drugs for 4 weeks. She complained of recent onset minimal weakness in the right foot while walking. Neurological examination revealed weakness in right dorsiflexors (3/5) with sluggish ankle jerk with sensory loss in L5 dermatome. She demonstrated no other neurodeficits.

A relook revealed left paravertebral soft tissue opacity in Chest X ray at T7, T8, T9 levels? Epidural abscess (Figure 3b). Her CT dorsal spine revealed destructive lesion involving the left pedicles and transverse process of D5 and D9 vertebrae with moderate sized soft tissue swelling along the left paravertebral lesion extending into left lateral spinal canal at D5 to D9 vertebral levels with compression and displacement of underlying thecal sac.

MRI showed (Figure 4a): altered signal intensity lesions involving multiple vertebrae in the dorsal and lumbar region with moderate soft tissue collection with peripheral enhancement on left side extending posteriorly from D3 to D7-8 levels. Minimal anterior soft tissue lesion was also noted at D3-4 level. Patient underwent neurosurgical intervention in the form of D4-6 laminectomy with decompression of the cord and excision of the mass and continued to be on ATT. She has completed her intensive phase of treatment and is into her fifth month of continuation phase. She is doing well with no further complaints. Her neurological impairment has also improved.

Tuberculosis in the child was ruled out with appropriate investigations and the child was put on prophylactic medications and necessary precautions were advised.

This case highlights the unending ways Tuberculosis can manifest. Vulval TB is a rarity and may be misdiagnosed as a sexually transmitted disease. DISSEMINATED TB presenting as Vulval TB stretches further into the realm of rarity. Tuberculosis remains pertinent even to date in developing world especially as more and more of atypical presentations come to the fore.

Discussion

Vulval TB was first described in 1881. There may be hormone dependence of infection given that 80% of cases occur in the reproductive age. Lesions are usually ulcerative rather than hypertrophic. Suppuration and ulceration may occur of the inguinal lymph nodes. The diagnosis of the cervical and vulvovaginal TB is usually made by histological examination of cervical and vulvovaginal biopsy specimen. Isolation of the mycobacterium is the gold standard for diagnosis. A third of cases are culture negative. Therefore, the presence of typical granulomata is sufficient for diagnosis.

The differential diagnosis for granulomatous disease of the cervix includes Amoebiasis, Schistosomiasis, Brucellosis, Tularemia, Sarcoidosis, and Foreign body reaction.

Hematogenous or lymphatic dissemination is the most common mode of spread from an active site of infection to female genital tract. Infection may also spread from the contiguous intra-abdominal sites through the fallopian tubes. It can also be
due to primary spread by a male partner due to involvement of epididymis and seminal vesicles. It can present as hypertrophic lesions resembling malignancy and less often as chronic non-healing ulcerations in the vulva.

Our patient had non-healing ulcers and vegetative growth probably as a consequence of hematogenous dissemination.

Spinal TB has the following distribution: Thoracic - 42%, Thoraco-lumbar - 12%, Lumbar - 26%, Cervical -12%, Cervico-dorsal - 5% and Lumbo-sacral - 3%. Infection begins in the cancellous area of vertebral body and destroys the epiphyseal cortex, intervertebral discs and adjacent contiguous vertebrae. Presence of cold abscess implies advanced disease. Anterior wedging is common in thoracic spine involvement; it takes close to 3-5 months for bony destruction to become visible on X ray. And more than 30% loss is required to produce radiolucency. Tuberculosis of thoracic and thoraco-lumbar regions is the most common cause of paraplegias.

Griffiths, Seddon and Roaf classified tuberculous paraplegia in two grades, Grade A and Grade B;

Grade A with early onset, within 2 years after onset of symptoms of tuberculosis, and Grade A paraplegias (Pott’s paraplegia) have also been described as:

Grade I: The patient is not aware of the problem. On clinical examination, there are signs of compression, usually exhibited by long tract involvement signs or segmental paresis. The patient is able to walk.

Grade II: There is evident spasticity but the patient is able to walk, often with “jumpiness” in the gait. Long tract involvement signs are significantly present.

Grade III: The patient is bed-ridden and has spastic paraplegia in extension with demonstrable neurological deficits, both sensory and motor.

Grade IV: Paraplegia occurs with flexor spasm. There is bladder and bowel involvement and total sensory and motor loss. The prognosis is poor.

Grade B with late onset, i.e. after more than 2 years. It might be due to disease recrudescence, mechanical pressure as a result of severe kyphosis, inadequate blood supply to the spinal cord as a result of slow exsanguination resulting in a fibrous cord and patchy meningitis. Grade B, in general, has a poor prognosis.

The typical fusiform “Bird Nest” epidural abscess is commonly seen below the 4th dorsal vertebra. A very large abscess on both the sides of the aorta with broadening of the mediastinum and the lower margin extending to the level of the medial arcuate ligaments is a common finding. Abscess can sometimes be globular in shape which indicates accumulation of pus under tension. Intra spinal spread of abscess into extra-dural space cannot normally be detected on routine radiograms. MRI can distinguish underlying mechanism of neural compression by differentiating between bony and soft tissue lesions which has direct influence on treatment policy.

Our patient had spinal TB involving predominantly the
transverse elements which is uncommon with paravertebral abscess. She had a cold abscess in Manubrium sterni which is again a rare finding linked to either intercostal drainage from spine or can also be due to primary chest wall TB.

Antero-lateral decompression for a para-vertebral mass is primarily an extra-pleural approach and involves partial excision of the vertebral body so that the pressure on the cord is relieved. Usually, two or three ribs are removed for about 2 to 3 inches at their vertebral end. Laminectomy is indicated only if there is posterior element disease with cord compression. Anterior spinal fusion is done in all cases where an antero-lateral or a trans-thoracic decompression has been done.

TB remains a ceaseless wonder with its diverse and atypical presentations. This case brings forth the rare features of a very common disease.

Acknowledgements

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References