

Spinal Tuberculosis :Presenting as Retroperitoneal Lymphadenopathy, Obstructive Uropathy, Chronic Renal Failure, and Back pain - A Case Report

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Abstract

More and more cases of back pain are being referred for rehabilitation due to better outcome of rehabilitation measures. A correct diagnosis is the most important deciding factor for accurate management. The tendency to oversimplify back pain can often lead on to serious complications.

A young male patient with a diagnosis of chronic renal failure with outflow obstruction under investigation for cause of anaemia was referred to Deptt. of Physical Medicine and Rehabilitation for management of back pain. On detailed assessment, he had dull low back ache for 2-3 years which aggravated over past eight months. The pain was tolerable and disturbing problem was retention of urine and inability to void at will. He had grade 3 tenderness over lower thoracic and lumbar vertebral spinous processes and severe paraspinal muscle spasm. There was mild exaggeration of thoracic kyphosis. His preliminary investigations revealed anaemia, elevated erythrocyte sedimentation rate (ESR) and impaired renal function. Skiagram of thoracolumbar spine showed reduced heights of T12 and L1 vertebral bodies and decreased disc spaces between T11-T12 and T12-L1 vertebrae. C.T. scan of thoracolumbar spine revealed severe destruction of T12, L1 and L2 vertebral bodies with pre and paraspinal soft tissue mass with an epidural extension and retroperitoneal lymphadenopathy. With the initiation of antituberculous treatment (three months) patient had some clinical improvement and is still under close follow up.

Though spinal tuberculosis is a common cause of back pain, the symptoms and signs are often masked. There are various reports of unusual presentations of spinal tuberculosis. A strong clinical suspicion and systematic approach to the patient's problem is the key to correct diagnosis, lack of which might cause serious unwarranted complications.

Introduction

Back pain is a very common problem for which patients seek a Psychiatrist's help. Most of the patients are referred by a specialist in some other field for rehabilitation and they might have a certain diagnosis. This case report points out that, a detailed assessment of the patient along with the

relevant investigations and confirmation of the diagnosis is mandatory before initiation of therapy to avoid serious complications.

Tuberculosis of the spine has to be considered in the differential diagnosis while evaluating a case of back pain especially in a young adult. Vertebral tuberculosis is the most common form of skeletal tuberculosis. However, usual symptoms and signs may be absent even in cases of active vertebral disease¹.

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A case is reported where the complications of spinal tuberculosis were the prominent problems for the patient. The primary pathology which is curable went undetected.

Case Report

History

A twenty four year old male patient was referred from the Renal clinic to the Deptt. of Physical Medicine and Rehabilitation for management of back pain. Patient had the following complaints.

- Dull low back ache for two to three years and aggravated for eight months.
- Difficulty in initiation of micturition for one year

The patient had dull ache over his lower back which he found was tolerable. There was no radiation of pain either to the lower limbs or to the abdomen and he did not notice any tingling sensation or numbness over his feet. During the past eight months, he has noticed that pain aggravated while sitting or standing for a long period of time and that the pain was relatively more at night. He had occasional episodes of low grade fever which was difficult to quantify. There was no history of cough with expectoration. He did not report loss of weight or loss of appetite but malaise was present. A family history of tuberculosis could not be elicited.

During this period, the patient developed difficulty in initiating micturition. He had normal bladder sensations and adequate sphincter control but could not initiate voiding. This problem alarmed him and immediately he sought the help of a Urologist. He was being investigated and treated at Urology and Nephrology departments. With the above features in mind, the patient's clinical condition was assessed in detail.

Clinical Examination:

The patient had mild pallor on general examination. Generalized lymphadenopathy was

absent. He was afebrile and blood pressure was within normal limits. His respiratory system was clear with no added sounds. Liver and spleen were not palpable per abdomen and there was no free fluid. Cardiovascular system was within normal limits.

Mild exaggeration of thoracic kyphosis was observed with apex approximately at T12-L1 level. Grade 3 tenderness was elicited on palpation over the spinous processes of vertebrae from T12 to S1 levels. There was severe spasm of paraspinal muscles bilaterally with associated tenderness. There was no renal angle tenderness. Thoracolumbar mobility was grossly restricted in all directions due to pain. No tenderness or restriction of range of motion (ROM) was noted in the cervical spine. Examination of both his lower limbs did not reveal any neurologic deficit and there was no perianal anaesthesia.

Bladder evaluation revealed a large capacity bladder with good compliance and significant PVR. Sphincter EMG (Electro myography) was not performed. Patient was practicing clean self intermittent catheterization (CSIC) technique at three to four hour intervals for voiding and there was no dribbling in between. The occasional difficulty in passing stools was managed with stool softeners and laxatives.

He had the following reports with him during his first visit (Table. 1).

| Parameter | 6-5-02 | 5-6-02(start ATT) | 3-9-02 | 25-11-02 |
|------------|---------------------------|-------------------|--------|----------|
| Hb | 8.1 | 7.8 | | |
| T.C. | 9200 | 7400 | | |
| D.C. | N64L33E2M1 | N72L26E1M1 | | |
| Platelets | 162x10 ³ /Cumm | 217 | | |
| ESR | 46mm | 60 | | |
| Urea | 97 | 96 | 135 | 135 |
| Creatinine | 5.9 | 4.4 | 4.8 | 4.4 |
| Na/K | 146/4.8 | 140/5.8 | | 146/4.9 |
| Ca/P | 9.1/5.4 | 8.9/5.9 | | 8.3/4.5 |
| Bill. Tot | 2.5 | | 0.5 | 0.6 |
| Con/un | 1.0/15 | | | |

| | | | |
|--------------|---------|---------|---------|
| Tot.Prot | 7.2 | 7.4 | 7.5 |
| A/G | 4.0/3.2 | 3.8/3.6 | 3.9/3.6 |
| SGOT/SGPT | 22/11 | 13/18 | 61/66 |
| ALP | 156 | 146 | 292 |
| Urine Prot. | ++ | | |
| Bacteria | +++ | | |
| RBC | 5-6/HPF | | |
| WBC | 30-40 | | |
| 24 Hr.urinde | 6.0 gm | | |
| AIB. | | | |
| Creat. | 1400u | | |
| Urine c/s | E.Coli | E.Coli | |

His ultrasonogram (USG) of kidney, ureter and bladder (KUB) showed mildly enlarged kidneys bilaterally with moderate hydronephrosis and diffuse parenchymal thinning. There was irregular thickening of wall of the urinary bladder with significant post-void residual (PVR) volume. Radiologist gave a diagnosis of features suggestive of neurogenic bladder.

Micturating cysto-urethrogram (MCU) revealed large capacity bladder with very significant PVR.

HBs Ag and HIV tests were negative.

The patient was prescribed Amlodipine 5mg daily for control of his hypertension.

Investigations:

This patient's prior investigation reports could not explain all the clinical findings and so he was further investigated to find out a cause for his back pain which revealed microcytic hypochromic anaemia, raised ESR and elevated serum urea and creatinine levels (Table. 1)

- Skiagram of thoracolumbar spine: Exaggerated thoracic kyphosis and loss of lumbar lordosis, decreased disc space between T11-T12 and T12-L1 vertebrae. Reduction in the heights of vertebral bodies of T12 and L1 vertebrae was marked.
- Non contrast computerized tomography (NCCT) of thoracolumbar spine: There was

evidence of severe destruction of T12, L1 and L2 vertebral bodies. Some erosion was noted in the body of T10 vertebra. There was pre and paraspinal soft tissue mass with an epidural extension ranging from T12 - L2 level causing significant thecal sac compression. There is severe bilateral hydronephrosis and retroperitoneal lymphadenopathy (Figures 1,2).

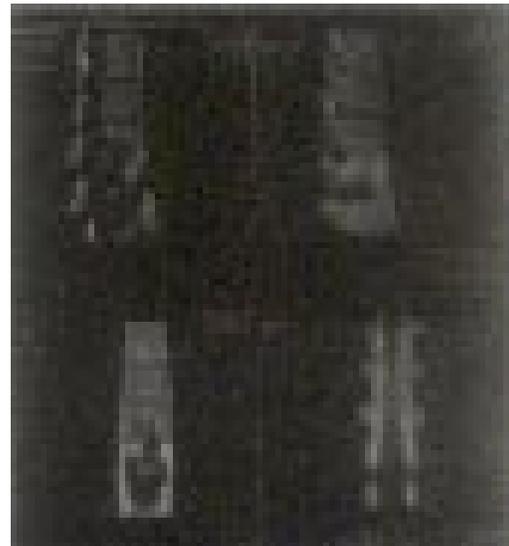


Fig : 1

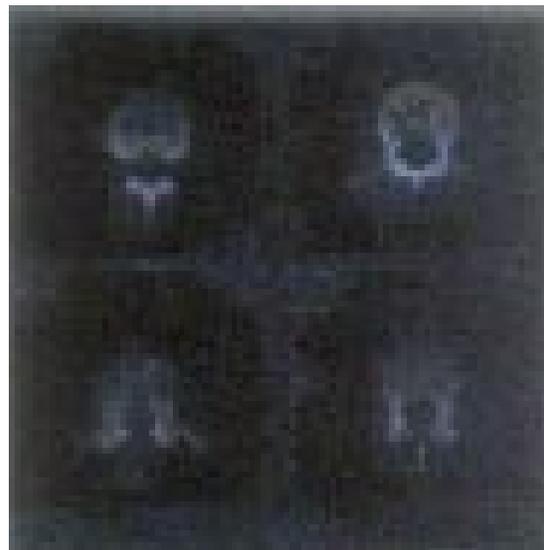


Fig : 2

These findings led to the diagnosis of tuberculosis of the spine (Pott's disease) with retroperitoneal lymphadenopathy, obstructive uropathy, chronic renal failure and renovascular hypertension.

As soon as the diagnosis was established, the patient was started on antituberculous drugs under nephrologist's supervision. Analgesics and antihypertensives were continued. Orthosis was given to support thoracolumbar spine.

After about 6 weeks of therapy, patient had some symptomatic improvement in back pain and is back to his vocation but there has been no improvement in his bladder status and hypertension.

He is on regular follow up with PMR and Nephrology departments.

Discussion

Vertebral tuberculosis (TB) is the most common form of skeletal tuberculosis, and it constitutes about 50% of all cases of tuberculosis of bones and joints, 15% of extra pulmonary TB and 2% of all cases of tuberculosis¹⁻⁴. It is most common during the first three decades. The usual clinical symptoms in active stage of the disease are malaise, loss of appetite, loss of weight, night sweats and evening rise of temperature. A stiff spine, painful on movement and tender on percussion with localized kyphotic deformity and spasm of the vertebral muscles are the usual signs. A cold abscess may be present. A history of tuberculosis in the family may or may not be present. However, several of these symptoms and signs may be absent even in cases of active vertebral disease¹. There are various reports of unusual presentations of spinal tuberculosis⁵⁻¹⁰. In our experience, though the patient had some of the features at examination, which could easily have been overlooked due to the diagnosis of a chronic renal disease. Moreover, they might have been masked at his initial visit to the nephrologist.

Wedge et al reported a delay from onset of symptoms to diagnosis of at least three months in one third of their patients with spinal osteomyelitis- both pyogenic and tubercular and they attributed this to the failure of the initial physician to consider osteomyelitis in the differential diagnosis of back pain associated with a febrile illness⁸. This was the cause of delay in diagnosis of our patient also.

C.T. scan of the spine was considered confirmatory of tuberculosis. Though many authors^{9,11-14} have reported atypical presentations in C.T., we observed classical findings in our patient - paradiscal lesions characterized by destruction of the adjacent bone end plates of the bodies and diminution of the intervening disc¹ which progresses to adjacent vertebral collapse. In such case, bacteriological examination is often unwarranted.

In our case, patient reported first to the nephrology out patient department (OPD) with prominent and disturbing urinary complaints. Agarwal and Dash in their work, Spectrum of renal diseases in Indian adults concluded that chronic renal failure(CRF) was the diagnosis of most of the patients attending nephrology OPD. They added that as CRF in young adult male patients is the largest load, with its wide social and economical implications in the Indian context, we must gear up to organize ourselves for providing the best possible care to these patients with the limited resources¹⁵. The misdiagnosis was probably due to over simplification of back pain, presuming that it might be due to the renal problem and not considering or assessing back pain and its cause. The patient was at risk of developing paraplegia if it was not detected at this stage (stage III of clinicoradiological staging of spinal tuberculosis).

Tuberculous abdominal lymphadenopathy has been reported to cause renovascular hypertension in a few case reports which reversed with anti tuberculous treatment^{5,6}. Our patient did

not undergo renal angiography to determine the cause of hypertension but is on regular follow up and blood pressure is being monitored.

Jackson and Kemp in their letter said that in the majority of patients especially in older age groups, it is not easy to establish the diagnosis with any degree of accuracy despite the availability of modern diagnostic methods¹⁶. This is true even at present especially in the early stage of the disease. A strong clinical suspicion is the key.

Conclusion

Tuberculosis of the spine, though a common condition, is misdiagnosed due either to various atypical clinical presentations or atypical radiological findings. It can also be missed if the physician who sees the patient at first visit does not suspect tuberculosis as a possible cause. Thus, in a young adult, with back pain, a systematic and thorough assessment along with a strong clinical suspicion and relevant investigations is the key to diagnosis of spinal tuberculosis in spite of features pointing towards other diagnoses.

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