

A Case Report of Pott's Disease

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Pott's disease or tuberculosis spondylitis is a rare condition. It's an infectious disease caused by an extraspinal infection. It spreads through hematogenous route. It involves multiple vertebrae with osteomyelitis and arthritis. The most common site is the anterior aspect of the vertebral body. The lower thoracic vertebrae is the most common affected site.

It presents with constitutional symptoms (fever, night sweet, weight loss and malaise), back pain, tenderness, Restricted Spinal Motion, paraplegia or paraparesis, and kyphotic or scoliotic deformities. This disease can cause vertebral collapse. When vertebral collapse occurs anteriorly, anterior wedging results. This leads to kyphotic deformity of the spine. It also can cause compression fractures, spinal deformities and neurological insults, including paraplegia.

Clinically, Pott's spine accounts for 2% of all cases of TB, 15% of extrapulmonary, and 50% of skeletal TB. Pott's disease is more common in males. Back pain is the earliest symptom and the most common one.

Patients usually experience back pain for weeks before seeking treatment. The pain caused by spinal TB can present as spinal or radicular. Cervical spine TB occurs in approximately 10% of cases. Cervical spine TB is potentially more serious because severe neurological complications.

Cervical spine TB presents with cervical pain and stiffness and can also presents with torticollis, hoarseness, and neurological deficits. Upper cervical spine involvement can cause rapidly progressive neurologic manifestations. The neurologic manifestations ranges from a single nerve palsy to hemiparesis or quadriplegia. Retropharyngeal abscesses are very common with upper cervical spine TB. In lower cervical spine TB the patient can present with dysphagia or stridor. 62 - 90% of patients with Pott's disease are reported to have no evidence of extraspinal tuberculosis which complicate the diagnosis.

Pott's disease can be mistaken for Candidiasis, Cryptococcosis, Actinomycosis, Blastomycosis, Brucellosis, Metastatic Cancer, Histoplasmosis, Unknown Primary Site, Miliary Tuberculosis, Multiple Myeloma, etc.

Magnetic resonance imaging (MRI) is the best and the most sensitive diagnostic modality for Pott's spine. MRI demonstrates disc collapse, disc destruction, cold abscess, vertebral wedging, vertebral collapse, marrow edema, and spinal deformities. Ultrasound and computed tomographic (CT) guided needle aspiration or biopsy is the best technique for early histopathological diagnosis.

Available Treatment Techniques are Anti-Tuberculosis Chemotherapy, Surgical Drainage of Abscess, Surgical Spinal Cord Decompression, Surgical Spinal Fusion and Spinal Immobilization. Anti-Tuberculosis Chemotherapy is the gold standard and must be started at the early stages of the disease.

Keywords: Pott's Disease; TB, Spinal Deformity, Neurological Insults

Introduction

Tuberculosis is a granulomatous, multisystem disease caused by acid-fast bacilli, such as *Mycobacterium tuberculosis* (*M. tuberculosis*) and *M. bovis* to less extent. The incidence of tuberculosis is increasing in both developing and developed countries [1]. Tuberculosis of the spine, also known as Pott's disease, is relatively common in certain regions otherworld and occurs in 1 - 2% of tuberculosis cases worldwide [2]. Spinal tuberculosis, the most common type of extrapulmonary tuberculosis, has also rapidly increased in prevalence around the world in recent years. More than 50% of tuberculosis cases that exhibit skeletal system involvement also present with spinal invasion [3,4]. Thoracic tuberculosis is more common than tuberculosis in other locations and can cause severe kyphotic deformity and spinal cord injury. Treatment for thoracic tuberculosis requires decompression stabilization, and fusion surgery in patients with severe neurological deficit, instability, and pain [1,5-10]. Here, we present a patient with tuberculosis in the lumbar region who presented with pain and neurological deficit. Our patient also had psoas abscess.

Case Report

Male patient of age 23 years from Sudan, presented to us with back pain, weight loss, night fever, lower limbs tingling and numbness for 3 months.

On examination he had tender back, stiffness in the lumbar muscles, and paresthesia of lower limbs.

- Routine blood investigations were normal.
- X-rays lumbar spine showed forward displacement of L5 over S1 with no signs of pars break and narrowed L2/3 disc space with intradiscal gas formation (vacuum phenomenon) (Figure 1).
- CT chest showed right pleural thickening and effusion with two similar smaller areas of left pleural thickenings (Figure 2).
- MRI lumbosacral spine showed spondylodiscitis at L2/3 level with psoas abscess (Figure 3).
- Cytology report from psoas cystic lesion showed necrotizing tuberculoid reaction.
- Quantiferon Gold TB were positive.

Figure 1: Plain X-rays lumbar spine lumbar spine hands.

Figure 2: CT Chest.

Figure 2: CT Chest.

Patient was diagnosed as Pott's disease and received anti tuberculosis therapy.

Discussion

Pott's disease can be caused by either direct spread through lymphatic drainage from intracanalicular spread, another focus of infection, or direct invasion during bacteremic stage of the disease [12]. The most common Constitutional symptoms of Pott's disease are Fever and weight loss [13].

The first symptom of Pott's disease, and most common one, is the back pain followed by fever [14].

In a review series of 1997 back pain was found to be most commonly reported symptom in patients with Pott's disease and the disease mainly affected the thoracic spine [15]. The most common complications associated with Pott's disease are Kyphotic deformity, spinal instability and neurological deficit [16].

The Signs of neurologic deficits depend on the level of spinal cord or nerve root involved. According to the degree of spinal cord involvement and spinal root compression, the neurologic deficits varies from single nerve palsy to paraplegia, hemiparesis or quadriplegia.

Spinal TB was found to the cause in the majority of African patients with non-traumatic paraplegia [17,18].

Active stage of Pott's disease of the spine is commonly associated with inflammatory changes of spinal elements, neurological deficits due to mechanical compression and instability of vertebral segments. The longstanding kyphosis with compression of the spinal cord might be the cause of neurological complications after healing of the disease process [19].

Direct invasion of the spinal canal and spinal cord with extradural or intradural tuberculomas or tuberculous arachnoiditis may be the cause of Neurological deficits [20].

Conclusion

This case holds importance as recent treatment modalities are very effective against Pott's disease if the disorder is not complicated by deformity or established neurologic deficit.

The most serious consequences of Pott disease are deformity and motor deficit and continue to be a serious problem when diagnosis is delayed, or presentation of the patient is in advanced stages of the disease.

Bibliography

1. Andronikou S., et al. "Patterns of disease on MRI in 53 children with tuberculous spondylitis and the role of gadolinium". *Pediatric Radiology* 32.11 (2002): 798-805.
2. Dye C., et al. "Consensus statement. Global burden of tuberculosis: estimated incidence, prevalence, and mortality by country. WHO global surveillance and monitoring project". *Journal of the American Medical Association* 282.7 (1999): 677-686.
3. Bradford L and Frank J. "Infections of the spine". In: Rothman S (ed) *Spine*. Saunders Co, Philadelphia (1999): 1207-1258
4. Song DI., et al. "A childhood case of spinal tuberculosis misdiagnosed as muscular dystrophy". *Korean Journal of Pediatrics* 53.5 (2010): 657-660.
5. Jiang H., et al. "Anterior transsternal approach for treatment of upper thoracic vertebral tuberculosis". *Orthopaedic Surgery* 2.4 (2010): 305-309.
6. Kalra KP., et al. "Pedicule subtraction osteotomy for rigid post-tuberculous kyphosis". *Journal of Bone and Joint Surgery* 88.7 (2006): 925-927.
7. Rajasekaran S., et al. "Single-stage closing- opening wedge osteotomy of spine to correct severe posttubercular kyphotic deformities of the spine: a 3-year follow-up of 17 patients". *European Spine Journal* 19.4 (2010): 583-592.
8. Zhang H-Q., et al. "One-stage combined anterior-posterior approach treatment of multiple cervicothoracic spinal tuberculosis with kyphosis". *International Orthopaedics* 39.8 (2015): 1605-1610.
9. Zhang H., et al. "One-stage surgical treatment for upper thoracic spinal tuberculosis by internal fixation, debridement, and combined interbody and posterior fusion via posterior-only approach". *European Spine Journal* 22.3 (2013): 616-623.

10. Hong-Qi Z., *et al.* "Modified pedicle subtraction osteotomies (mPSO) for thoracolumbar post-tubercular kyphosis in pediatric patients: retrospective clinical cases and review of the literature". *Child's Nervous System* 31.8 (2015): 1347-1354.
11. Desai SS. "Early diagnosis of spinal tuberculosis by MRI". *Journal of Bone and Joint Surgery-British Volume* 76 (1994): 863-869.
12. Mankin HJ and Wu HC. "Weekly clinicopathological exercises: case 9-1996: a 21-year-old African woman with thoracolumbar pain and fever". *New England Journal of Medicine* 334.12 (1996): 784-789.
13. Motsitsi NS and Chipeta M. "Prognosis of Spinal Tuberculosis". *The Internet Journal of Orthopedic Surgery* 4.2 (2007): 1-4.
14. Sinan T, *et al.* "Spinal tuberculosis: CT and MRI feature". *Annals of Saudi Medicine* 24.6 (2004): 437-441.
15. Beek LA, *et al.* "Extrapulmonary tuberculosis by nationality, The Netherlands, 1993-2001". *Emerging Infectious Diseases* 12.9 (2006): 1375-1382.
16. Akinyoola AL, *et al.* "Tuberculosis Of The Spine In Nigeria: Has Anything Changed?" *The Internet Journal of Third World Medicine* 4.1 (2007): 1-9.
17. Turgut M. "Spinal tuberculosis (Pott's disease): its clinical presentation, surgical management, and outcome. A survey study on 694 patients". *Neurosurgical Review* 24.1 (2001): 8-13.
18. Dursun AB, *et al.* "Pott's disease and different clinical presentations Pott's disease and different clinical presentations". *Tüberküloz ve Toraks* 51.4 (2003): 416-423.
19. Jain AK and Kumar J. "Tuberculosis of spine: neurological deficit". *European Spine Journal* 22.4 (2012): 624-633.
20. Lifeso RM, *et al.* "Tuberculous spondylitis in adults". *Journal of Bone and Joint Surgery-American Volume* 67.9 (1985): 1405-1413.

Volume 2 Issue 5 May 2019

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