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Case Report

A Case Report of a Tragic Story of Pott's paraplegia Cured after Four Years

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Abstract

Pott's disease is a form of spondylodiscitis caused by mycobacterium tuberculosis. It is a serious form of spinal infections that can lead to terrible disabilities in case of undiagnosed and treated early. To document a case of Pott's paraplegia cured after four years. This report details the case of a patient with an undiagnosed case of spinal tuberculosis in a 55-year-old man who had complained of lower back pain and tenderness over the course of several months. The case progressed to the point that he had difficulty standing and numbness, then weakness, of the lower limbs. This patient was only treated with analgesics and antibiotics. Herbal remedies, massage and amulets also played a major role in his treatment. The patient remained bed-bound and paraplegic for four years, after which, he was referred for a thoracolumbar Magnetic Resonance Imaging (MRI) and was diagnosed with tuberculous spondylodiscitis. The patient underwent decompression surgery and started anti-tuberculous drugs. He regained his ability to walk. His lifestyle has improved and he has been living independently for eight years. In conclusion, diagnosis and correct treatment can result in a patient who was previously handicapped becoming independent once again. Medical imaging using MRI can play an essential role in the diagnosis of spinal lesions, including those present in cases of Pott's disease.

Key words: Spinal tuberculosis, paraplegia, curable disease, correct diagnosis

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Data Availability: All relevant data are within the paper and its supporting information files.

INTRODUCTION

Pott's disease is a form of spinal tuberculosis (TB) caused by mycobacterium tuberculosis bacilli¹. It often affects the lumbar and thoracic spine². It accounts for 2% of all cases of TB, for 15% of extra-pulmonary TB, and half of all cases of skeletal TB³. The incidence of TB has increased in both developing and developed countries in recent years⁴. Spinal TB is a serious form of extra-pulmonary TB that causes disability and can be fatal if left untreated⁵. The most common complications appearing before diagnosis are abscesses, neurological deficits, spinal instability and spinal deformity⁶.

Diagnosis of Pott's disease depends on a combination of clinical manifestations, laboratory tests and imaging modalities. Although none of these is confirmatory, magnetic resonance imaging (MRI) has highly suggestive findings for spinal TB, while spinal infection-causing large abscesses with sub-ligamentous spread and vertebral collapse are also highly suggestive of the condition⁷. The MRI has 100% sensitivity and 88.2% specificity when diagnosing spinal TB, which typically commences at the anterior-inferior or the anterior-superior vertebral endplates before extending in a sub-ligamentous manner across multiple vertebrae. The MRI can show abscess with sub-ligamentous extension that causes abnormal signal intensity on T1 weighted images (WIs), and T2WIs of MRI sequences across multiple vertebrae even with preserved intervertebral discs.⁸

This study aimed to elaborate the importance of early correct diagnosis and management of chronic disease to avoid terrible disabilities. It elucidates the highly significant role of medical imaging modalities like magnetic resonance imaging in diagnosing of spinal lesions. In this case, we report on a patient whose paraplegia was cured after four years. The aim was to elucidate the importance of early and correct diagnosis and treatment for curable chronic diseases like spinal TB, as well as to highlight the importance of medical imaging in such cases as shown in Fig. 1.

CASE PRESENTATION

A 55-year-old man working in agriculture in a rural Yemeni village complained of experiencing lower back pain and tenderness over the course of several months. The case progressed to the point that he had severe back pain and difficulty standing, as well as numbness followed by weakness in his lower limbs. This patient, who was very poor, only received treatment with simple analgesics and antibiotics. The case progressed to slight kyphotic spine curvature and paraplegia with paralysis of the lower limbs. Herbal remedies and amulets played a major role in his treatment and the patient remained bed-ridden and paraplegic for four years. After four years, the patient was referred for a thoracolumbar MRI, which led to a diagnosis of tuberculous spondylodiscitis. The patient underwent decompression surgery and started anti-tuberculous drugs. After a few months, the patient's

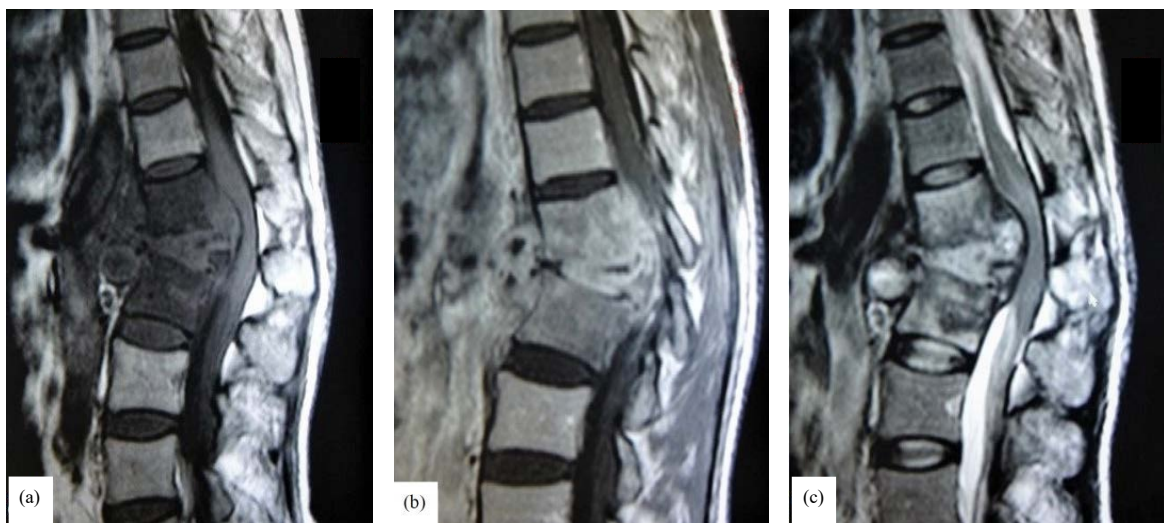


Fig. 1(a-c): Selected sagittal images of MRI of a patient with Pott's disease shows a destructive lesion in the region of the thoracolumbar junction of the spine with (a) Intermediate signal intensity (SI) of the content and altered SI of the vertebrae in T1WI, (b) Lesion shows marked peripheral enhancement in post-gadolinium T1WIs and (c) High SI of the content in T2WI

condition started to improve and he regained his ability to walk. His lifestyle has improved and he has independently for the last eight years.

DISCUSSION

Pott's disease is a form of spinal TB that often affects the lumbar and thoracic spine and that may cause neurological deficits or disability. In this case, the patient first presented with back pain and then progressed to paraplegia over the course of several months. This is consistent with the finding of Patel *et al.*⁹ who reported that back pain is the most common presenting symptom of spinal TB and that the average duration of disease was between four and 11 months.

Rajasekaran *et al.*¹ also reported that the clinical picture of spinal TB is variegated and that the condition may exhibit a slow course, while the diagnostic period can vary from weeks to several years. Our case confirmed the findings of this report, with one difference: gross negligence in diagnosis due to our patient's level of poverty. Canine *et al.*¹⁰ reported that diagnosing spinal TB can take months or even years, increasing the chances of developing spinal deformities and neurological deformities¹⁰-something that is reflected in our case.

In the current case, the patient regained his ability to walk after four years of paraplegia. This finding fits with the suggestion by Bodapati *et al.*⁵ that the various stages of spinal TB have high cure rates, provided the condition is managed with the correct method⁵. This is also consistent with Patankar¹¹, who reported that adequate treatment of spinal TB results in relatively good outcomes.

Our case is not the first to include a patient whose spinal TB-related paraplegia was cured. A previous study reported on nine cases of Pott's paraplegia that resulted in eventual complete neural recovery¹².

Hussain¹³ also reported another case of paraplegia caused by spinal TB that was recovered after several months of treatment. Our case was cured after a combination of surgical decompression and medical treatment. Djientcheu *et al.*¹⁴ reported that surgical decompression plays an important role in the treatment of Pott's disease, especially in late-stage patients with complications.

In patients like ours, with thoracic TB, the posterior approach alone is recommended, because it achieves good results with few complications and because operative time is low, as reported by Wang *et al.*¹⁵.

Kandwal *et al.*¹⁶ reported good fusion rates obtained in the spine using minimally invasive surgery, which resulted in a reduction in surgery-related morbidity and several other advantages.

CONCLUSION

Pott's disease is a diagnostic challenge in developing countries and may result in tragic outcomes for some patients and families. Correct diagnosis is the cornerstone for correct treatment in chronic diseases that may cause handicapped patients to become independent once again. Medical imaging using MRI can play an essential role in the diagnosis of spinal lesions, including those present in cases of Pott's disease.

SIGNIFICANCE STATEMENT

This case report elucidates the high importance of early and correct diagnosis and treatment for curable chronic diseases that may lead to handicaps, like spinal TB. Correct early diagnosis and treatment of the chronic disease can be beneficial for patients and prevent them from worse complications. This case report reflects the importance of medical imaging in diagnosing such cases that will be a benefit for physicians and radiologists.

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