

# Tuberculous myelitis as an unusual presentation of a common disease in Sudan

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## Abstract

Tuberculosis(TB) is a common disease in Sudan .Neurological consequences of TB are frequently encountered in our practice of neurology particularly tuberculosis of the spine(Pott,s disease).There are few case reports of tuberculous myelitis in literature.

## Tuberculous myelitis as an unusual presentation of a common disease in Sudan

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## Key message :

**Our case highlights that tuberculous myelitis should be considered in most of patients in Sudan who present with features suggestive of TB of spine because early use of iv methyle prednisolone will remarkably affect the prognosis.**

## ABSTRACT

**Tuberculosis(TB) is a common disease in Sudan .Neurological consequences of TB are frequently encountered in our practice of neurology particularly tuberculosis of the spine(Pott,s disease).There are few case reports of tuberculous myelitis in literature.**

## Background

Transverse myelitis (TM) is a rare neurological disease in which the spinal cord is inflamed. *Transverse* implies that the inflammation extends across the entire width of the spinal cord.[1] Pott's disease or Pott's disease is a form of tuberculosis that occurs outside the lungs whereby disease is seen in the vertebrae[2] Tuberculosis(TB) is a common disease in Sudan .Neurological consequences of TB are frequently encountered in our practice of neurology particularly tuberculosis of the spine(Pott's disease). Pott's disease can lead to lower limbs weakness due to predilection to involve thoracic vertebrae.Involvement of spinal cord may take several forms; compression,myelitis and ischaemic effect as a result of endarteritis obliterans.There are few case reports of tuberculous myelitis in literature.

During our practice we faced by a considerable number of cases that have been managed successfully with iv methyl prednisolone therefore we decided to start reporting such uncommon cases. Literature search we found some case reports more or less with similarity to our case.A case report from India :Tuberculous myelitis can occur as a secondary event in the course of common forms of tuberculous meningitis. It is an important and not an uncommon cause of paraparesis in Indian setting.[3,4] Tuberculous myelitis generally occurs when the diagnosis has been delayed and thick exudates form with spinal blocks. Occasionally, the infection may begin in the spinal area resulting in backache and involvement of the spinal cord and roots at multiple levels. In the early stages, this may be confused with other forms of viral myeloradiculopathies, but the evidence of elevated CSF protein, reduction of sugar, largely lymphocytic cellular count and presence of acid fast bacilli should confirm the diagnosis. PCR for Mycobacterium tuberculosis of the cerebrospinal fluid is a very specific test in its diagnosis. The patient should be treated with antituberculous drugs rifampicin, isoniazid, pyrazinamide, streptomycin and/or ethambutol. Use of steroids is recommended.[5] Gouri Devi has advocated the use of intrathecal hyaluronidase, for arachnoiditis[6], but double blind control studies are needed before this treatment can be routinely advocated. With the advent of M.R.I. identification of such lesions have become much more easier.Intramedullary. The most common central nervous system (CNS) manifestations of TB is tuberculous meningitis (95 %), followed by cerebral tuberculoma and tuberculous abscess. OThe most common central nervous system is # 40, CNS, and # 41; the manifestations of tuberculosis are tuberculous meningitis (95%), followed by cerebral tuberculoma and tuberculous abscess. Other infrequent manifestations are cranial tuberculosis, tuberculous pachymeningitis (Tariq and Ahmed 2012) and spinal arachnoiditis (Naidoo et al. 1991). Intramedullary spinal tuberculosis is a rare presentation. Few cases of intramedullary spinal tuberculosis have been reported in the literature (Lin et al. 1994). Longitudinally Extended Transverse Myelitis (LETM) is characterized by an immune-mediated contiguous inflammatory lesion of the spinal cord that extends to three or more segments of the spinal cord (West 2013).Tuberculosis is a rare cause of LETM. [5]Find articles by Rajendra Singh Jain

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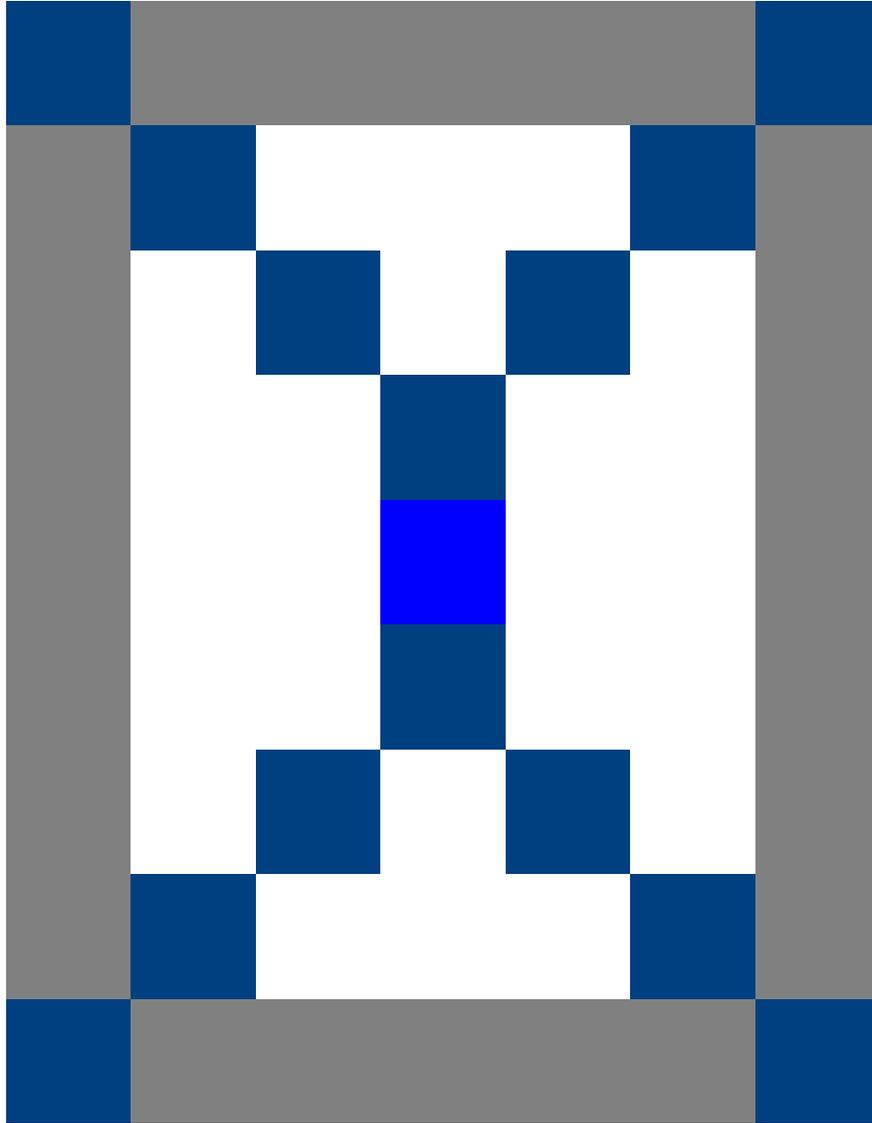
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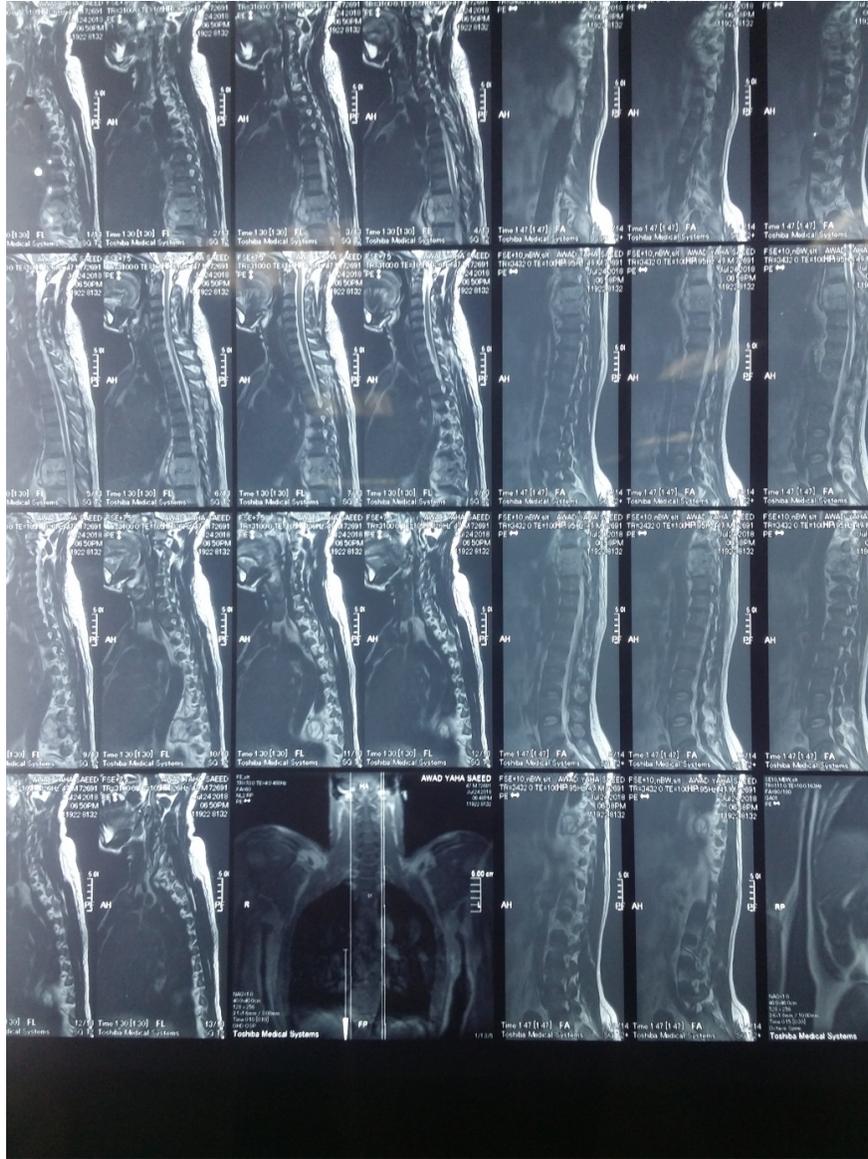
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### **Case Description**

A 47 year old man, farmer from eastern Sudan presented with lower limbs weakness which was gradually progressive over 20 days ,the patient became completely unable to walk 8 days prior to admission. The weakness associated with lower back pain, numbness of lower limbs as well as urine retention and constipation. No headache , convulsions or loss of consciousness, no symptoms related to cranial nerve nor the upper limbs

,no neck pain and no history of trauma. There was history of fever, night sweating loss of appetite . No loss of weight chronic cough.The condition is not preceded by URTI nor gastroenteritis. Not known to be diabetic , hypertensive or any chronic illness. Family history:Nothing was significant Drug history: Not on LTM. Not known allergic to certain drug. Social history:Married with 2 kids, neither smoker nor alcohol consumer. Looked unwell, average size not pale , jaundiced or cyanosed PR: 70/min. regular ,RR: 20/min , **BP::160/90** .Chest / CVS / abdomen : were normal **Neurology examination:** Conscious ,fully oriented with intact memory and speech a Cranial nerves were intact including the fundus .Normal neck examination. Normal upper limbs examination. Lower limbs examination revealed hypertonia hyperreflexia power was grade 2 with impaired sensation up to D7.Plantar were up going. Back examination revealed lower back tenderness , no deformities.CBC:HB 12.9g/dl TWBCs 7.8c/cm PLT 262c/cm . Blood urea 41g/dl S.Cr 1.0mg/dl S.k 4.3mmol/l

RBG:100 gg/dl BFFM -ve LFT: normal HIV -ve HBV screening -ve HCV screening -ve ESR : 70 mm/hour PSA :2.4 PCR +ve for Tuberculosis in the CSF. Chest x-ray: Normal. Initial MRI Doral spine were shown below which was reported as :Discitis at the level D8 and D9



**Management:** Methylprednisolone 1g in 500 ml normal saline once / day for 5 days followed by oral prednisolone 60 mg daily tapered every 2 weeks according to the response. Then anti tuberculous therapy for 12 months.

Follow up: After completing the 5 days iv methylprednisolone, the patient started to walk with 2 person support (the power was grade 4). 4 Weeks later he walked with one person support (the power was 4+). Follow up MRI is shown below:



## Discussion

In our case we match between the clinical sense and image results so we came with a preliminary diagnosis that was infection and we came with a final diagnosis of myelitis rather than discitis alone because the later couldn't explain the weakness unless it was complicated by abscess which is easy to be detected by MRI .On the other hand myelitis may not need high quality MRI to be shown. Despite the report of MRI which came as Discitis at the level D8 and D9, but this does not explain the paraparesis with sensory level at D7 and urine retention. So considering discitis is going more with infectious causes so we consider TB as a common problem in Sudan particularly in the Eastern states (the origin of our patient).we made a clinical diagnosis of TB myelitis and manage initially with iv methyl prednisolone according to evidence based.[3]

## Conclusion

Our case highlights that tuberculous myelitis should be considered in most of patients in Sudan who present with features suggestive of TB of spine because early use of iv methyle prednisolone will remarkably affect

the prognosis. The clinician need to use their clinical sense in concordance with the investigations to finalize the diagnosis. Further reporting of such cases is recommended.

*Declarations:*

**Ethics approval:**

Not applicable

**Consent to participate:**

Verbal and written consents were obtained from the patient before writing the case or using investigations.

**Consent for publication:**

Written consent to publish this information was obtained from the patient. The patient gave written consent for his personal clinical details along with his MRI images to be published in this study. This patient has not been reported in any other submission by the authors or anyone else.

**Availability of data and material s:**

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

**Competing interests:**

The authors have no conflict of interest to declare.

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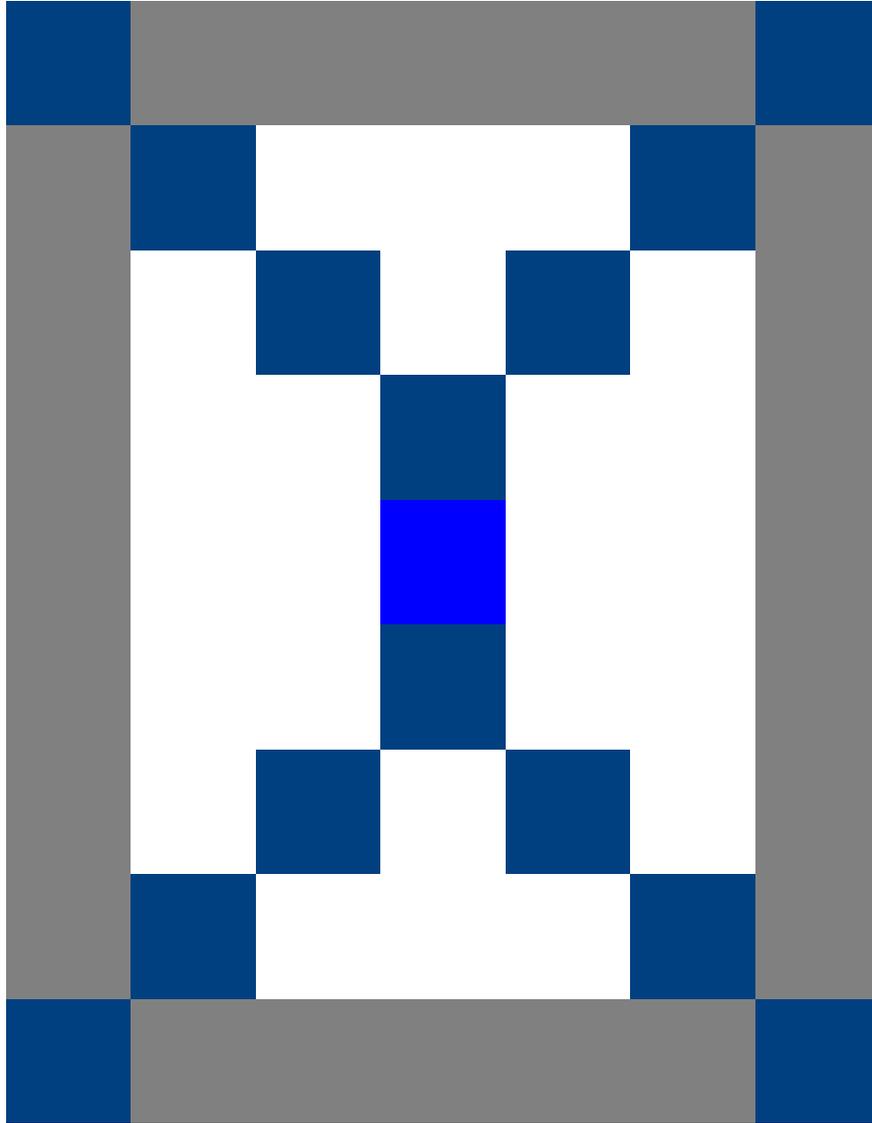
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**Authors' contributions:**

EIA: The first author collected the data, analysed the results and wrote the manuscript. KMA,LHM, KH, MEO:authors wrote the manuscript, revised the manuscript and did editing. All authors read and approved the final manuscript.

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