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Case Report

Pseudotumoral Tuberculous Myelitis. Case Report

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Abstract:

Background: Tuberculous myelitis and its pseudotumoral form is considered an exceptional entity characterized by clinical and radiological polymorphism. The differential diagnosis concerns tumor cases. Hence, we report an isolated cervical pseudotumoral myelitis tuberculosis case, and we discuss the pathophysiological, clinical, imaging features and therapeutical option.

Case presentation: A 45-year-old woman developed a progressive tetraparesis, sensory disturbances and bladder dysfunction. Spinal MRI showed hyperintensT-2-weighted sections, with contrast enhancement of a a well-circumscribed lesion of the posterior horn, extending from C3–C7 (Fig. 1). The diagnosis of an astrocytoma was suggested. The patient underwent surgery with partial resection. Histopathological analysis confirms the diagnosis of tuberculous myelitis. In addition the blood GeneXpert MTB was positive. The patient received high-dose steroid therapy(500 mg of methylprednisolone intravenously per day for five continuous days. At the same time, she received anti-tuberculosis therapy and physiotherapy. The patient showed slow recovery.

Conclusion: Tuberculous myelitis diagnosis is difficult in its isolated and pseudotumoral form even with IMR. Surgical biopsy, in absence or negativity of biological markers, is an ultimate option to confirm the diagnosis. Anti-tuberculosis drug treatment associated to high dose of corticosteroids and early diagnosis lead to a good outcome

keywords: myelitis; tuberculosis; mycobacterium tuberculosis; pseudotumor

Introduction

Tuberculosis is still endemic in developping country and the neuromeningeal form is severe and common including myelitis. Tuberculosis is endemic desease in developping country due to Mycobacterium tuberculosis (MTB). It has a wide clinical polymorphism and almost every organ can be affected during the infection. Tuberculous myelitis is an inflammation of the spinal cord [2] and considered a exceptional entity even more its pseudotumoral form.We report a case of pseudotumoral tuberculous myelitis and discuss the clinical, imaging, diagnostic and therapeutical features.

Case description

A previously asymptomatic, 45-year-old woman developed a progressive tetraparesis, sensory disturbances and bladder dysfunction. The first onset symptom was paresthesia in here limbs. His family medical history was significant for pulmonary tuberculosis on here brother, for which he had received treatment 12 years ago. The bilateral upper limbs power was 3/5 and bilateral lower limbs power was 4/5. The patient showed a sensory disturbances without sensory level, and bladder dysfunction. The pyramidal signs of Babinski's were positive in both sides. Spinal MRI showed hyperintensT-2-weighted sections, with contrast enhancement of a a well-circumscribed lesion of the posterior horn, extending from C3–C7 (Figure. 1).

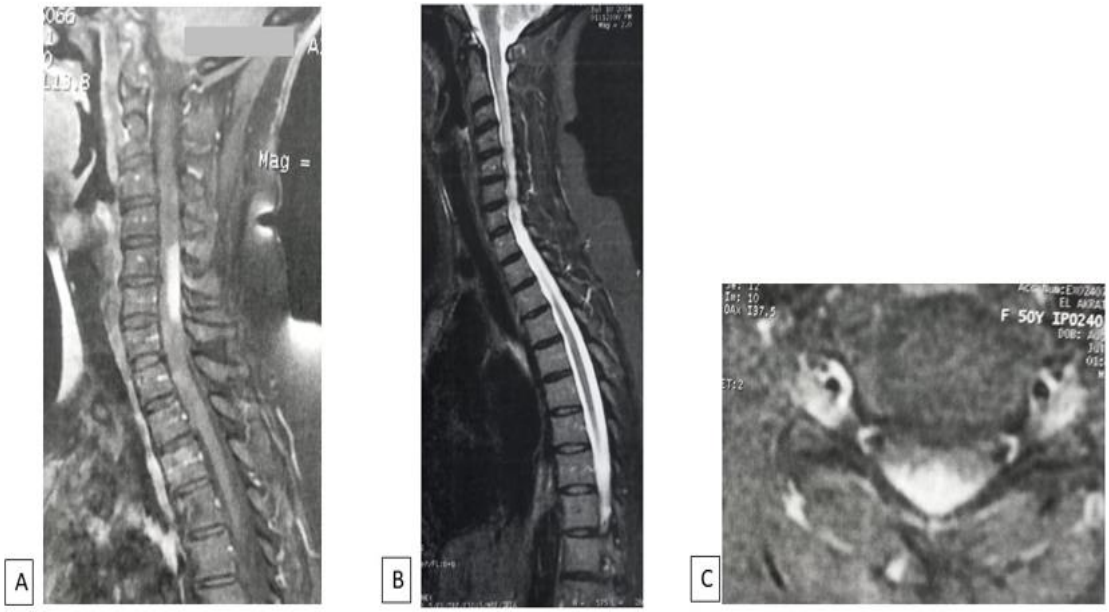

Figure 1: T1-weighted sagittal and axial images of the cervical spinal cord showed a contrast enhancement of a well-circumscribed lesion of the posterior horn, suggesting astrocytoma **(A, C).** T2-weighted sequence, showed hyperintens lesion, extending from C3–C7 **(B)**.

The diagnosis of an astrocytoma was suggested. The pulmonary X-ray was normal. Peripheral blood examinations was normal. The patient underwent surgery via a posterior appraoche. After laminotomy and dura opening, the neural tissu was pinckish gry and firm in section, but not well defined as on MRI. A partial resection was done. The patient's neurological status remained unchanged on immediate post operative period. Histopathological analysis confirms the diagnosis of tuberculous myelitis. In addition, the blood GeneXpert MTB was positive. The patient received high-dose steroid therapy (500 mg of methylprednisolone intravenously per day for five continuous days. At the same time, she received anti-tuberculosis therapy and physiotherapy. The patient showed slow recovery

Discussion

The spinal cord can be affected by tuberculosis in a wide variety of ways and spinal tuberculosis can manifest as spinal arachnoiditis, spinal tuberculoma, and myelitis. Many cases of neuromyelitis optica spectrum disease (NMOSD), an autoimmune inflammatory disease affecting the central nervous system, and longitudinal extensive myelitis (LETM) has been described in association with central nervous system tuberculosis or pulmonary tuberculosis [8]. Tuberculous myelitis as reported in the littérature can be classified as an isolated entity, associated to an other concomitant tuberculous locations i,e meningitis, pott disease, pulmonary tuberculosis… or paradoxical myelitis in patients who were already taking antituberculosis also for extramedullary tuberculosis [4]. The isolated form is exceptional. It represent less than 6% [5]. The pathogenesis of tuberculous myelitis is not fully understood, even more for pseudotumoral form. But authors proposed an immune-mediated attack against mycobacterium leading to the inflammatory demyelination of the spinal cord [2,3,5]. We suggest that these inflammatory reactions may be exaggerated and lead to demyelination of the spinal cord and pseudotumoral constitution of an organized tissu taking the apparence of tumor. The common clinical signs of myelitis were paraparesis or quadriparesis, urinary retention or constipation, and limbs paresthesias. Those signs are common to other spinal cord compression as tumors or tuberculomas. Classically, myelitis is defined as a hyperintense signal on T2-weighted images and a marginal enhancement on postcontrast MR images, with or without cord swelling. In the MRI findings, the hyperintensities on T2-weighted images involved more than 3 spinal cord segments as seen in our patient but with homogeneous and well-defined contrast enhancement mimicking an astrocytoma of posterior horn. The most commonly involved area is cervical and cervico-dorsal spinal cord, seen in 66.7% [1,5]. Contrast-enhanced MRI of the brain can be performed to look for typical and associated lesions compatible with common demyelinating disorders or other typical imaging features of CNS tuberculosis like hydrocephalus, arachnoiditis, tuberculomas, meningeal enhancement, and infarcts [1,6]. Definite tuberculous myelitis was diagnosed if an MRI suggestive of myelitis with blood or CSF GeneXpert positive for MTB. The diagnosis is probable or difficult if an MRI suggestive of myelitis especially without evidence of tuberculosis anywhere else in the body. So surgery is the ultimate choice in isolated and pseudoumoral form with only biopsy to ovoide neurological complication. The white matter is firm and pinkish gray and the lesion is not well defined as shown on MRI. Treatment of patients having tuberculous myelitis include standard World Health Organization [7] recommended anti-tuberculosis drug treatment and intravenous pulse methylprednisolone (500–1000 mg/day) for 5 days. [2]. Patients with tuberculous myelitis experienced a good outcome, as compared to patients of the other myelitis, 84% vs 45% [4]. However, associated meningitis or brain tuberculous location, severe neurological disturbance and delayed diagnosis are predictors factors of poor outcome [4].

Conclusion

Usually diagnosis of tuberculous myelitis in its pseudotumoral from is difficult enven with IRM. Our case highlights that tubrculous infection might be an eventual differenial diagnosis of spinal cord tumors. Symptoms and MRI features are usually nonspecific, as seen in the

current case. Systemic screening and laboratory investigations are the keys of appropriate diagnosis before surgery.

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