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Images in...

Paradoxical extensive thoracolumbosacral arachnoiditis in a treated patient of tuberculous meningitis

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DESCRIPTION

A 32-year-old lady presented with a 7-month history of gradually progressive, areflexic, asymmetric-onset, sensorimotor paraparesis accompanied by bowel and bladder involvement. She had previously been diagnosed with tuberculous meningitis, for which she completed a course of antituberculosis treatment (2 months—isoniazid, rifampicin, pyrazinamide, streptomycin; 7 months—isoniazid, rifampicin) with supplemental dexamethasone, for 6 weeks, 11 months prior to presentation. A review of the old records revealed culture positivity, without resistance, for *Mycobacterium tuberculosis* and significantly elevated protein level (736 mg/dl) in the cerebrospinal fluid; serology was found to be non-reactive for HIV-I and II. MRI of the spine revealed Delamarter's group 3 type of arachnoiditis[1] (figures 1 and 2).

Tuberculous arachnoiditis can occur either as a primary lesion involving the spinal meninges, or secondary to an extension of the cranial tuberculous meningitis or tuberculosis of the spine.[2] With an increasing prevalence of human immunodeficiency virus infection, the incidence of tuberculous arachnoiditis has risen in the developed nations as well.[3] Delamarter classified the abnormal configuration of nerve roots into three anatomic groups, with group 1 showing conglomerations of adherent nerve roots residing centrally within the thecal sac, group 2 showing nerve roots adherent peripherally to the meninges and group 3 showing a soft tissue mass replacing the subarachnoid space.[1] Our case seems to have developed the arachnoiditis secondary to affliction of the cranial meninges; the peculiarity, however, was the paradoxical development of arachnoiditis starting 4 months after the completion of antituberculosis treatment. The extensive nature of involvement is also remarkable whereby the conglomerate of radicles have replaced the subarachnoid space giving the picture of a soft tissue mass in the given area.

Figure 1 MRI of the spine depicts replacement of the subarachnoid space with a soft tissue mass, consistent with Delamarter group 3 tuberculous arachnoiditis, on sagittal T1-weighted (A), T2-weighted (B) and short tau inversion recovery (C) images. The lowest extent of arachnoiditis is shown in a lower section of the sagittal T2-weighted (D) image. Solid arrows mark the upper level of arachnoiditis (T8 vertebra) while the lower limit of the cord is marked with dotted arrows (L1 vertebra). Hyperintense signal changes, most prominent in short tau inversion recovery (C) image, can be observed within the cord (B,C,D).

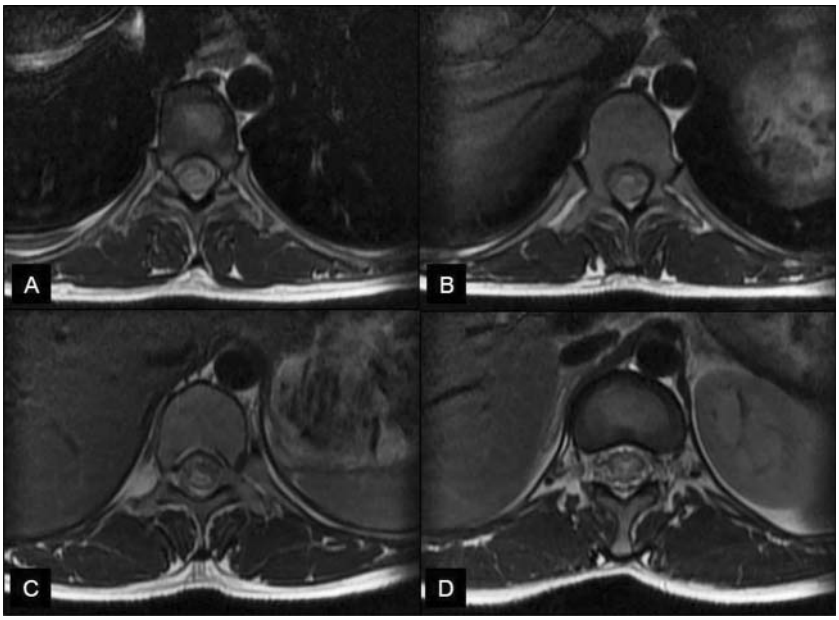

Figure 2 MRI of the spine depicts loss of cerebrospinal fluid signals on axial T2-weighted images at T9 (A), T11 (B), L1 (C) and L3 (D) vertebral levels, suggesting replacement of the subarachnoid space with an isointense mass.

Learning points

- Chronic adhesive arachnoiditis is an important complication of cranial tuberculous meningitis.
- Prior antituberculosis treatment may not preclude the development of arachnoiditis.
- In rare circumstances, the arachnoiditis may be dense and extensive.

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Competing interests None.

Patient consent Obtained.