

Disseminated tuberculosis in relatively asymptomatic young woman

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DESCRIPTION

A previously healthy 20-year-old woman presented to the emergency department with a history of one episode of generalised tonic-clonic seizure. No history of fever or constitutional symptoms. At admission, she was haemodynamically stable and Glasgow Coma Scale was 8, with no focal neurological deficits. For the workup of seizures, MRI brain (figure 1) was done which revealed multiple ring-enhancing lesions in bilateral temporal, frontal and right parietal lobes. Cerebrospinal fluid examination showed normal cell count with high protein (84 mg/dL) and normal glucose levels (43 mg/dL), and high adenosine deaminase (9.3 U/L) level. Chest X-ray showed (figure 2A) miliary mottling which was confirmed by contrast-enhanced CT (CECT) chest (figure 2B and C). CECT abdomen (figure 3A and B) revealed thick-walled multiloculated collection (7.3×8.4×14.2 cm) with thick internal septations in the left lumbar and iliac fossa region. Pelvic collections were drained with an image-guided pig tail insertion and pus was sent for analysis which revealed acid-fast bacilli. The *Mycobacterium tuberculosis* was sensitive to isoniazid and rifampicin. HIV ELISA was non-reactive, CD4 counts and her immunoglobulin levels were normal. An enquiry about her immunisation status revealed that she had received Bacillus Calmette-Guerin vaccination at birth. The patient was treated with antitubercular therapy, steroids and antiepileptic drugs. Clinically, sensorium improved and she was discharged after 2 weeks with an advice to

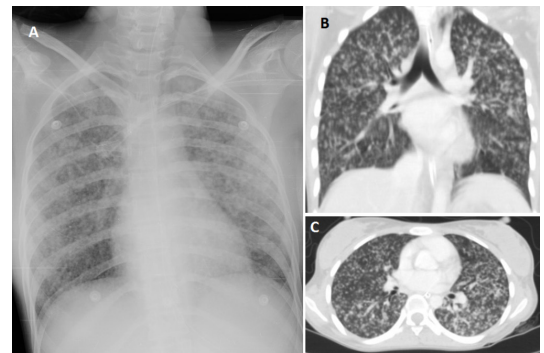


Figure 2 Chest X-ray (A) and CT chest (B-coronal, C-axial view) showing miliary nodules involving both lungs.

continue antitubercular therapy and a tapering dose of steroids. Follow-up images (figure 4) after 3 months showed complete resolution of pelvic collection.

Tuberculosis is widely prevalent in India and accounts for one-fourth of the global TB burden.¹ Disseminated tuberculosis refers to concurrent involvement of at least two non-contiguous organ sites of the body. It also refers to involvement of blood or bone marrow by tuberculosis process. Miliary tuberculosis is a form of disseminated tuberculosis due to haematogenous dissemination of tubercle bacilli. This results in tiny discrete foci usually the size of millet seeds, uniformly distributed in the lungs and other viscera.²

Disseminated and miliary tuberculosis can involve any organ in the body. Our patient had multiple tuberculomas in the brain, miliary tuberculosis and pelvic collection. Diagnosis is

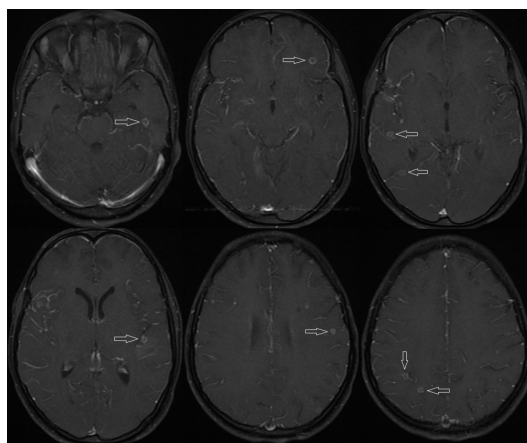


Figure 1 MRI brain (T1-weighted images)—axial view showing multiple ring-enhancing lesions (arrows).

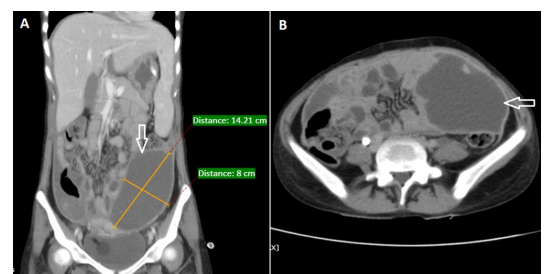


Figure 3 CECT abdomen (A-coronal, B-axial view) showing thick-walled multiloculated collection (7.3×8.4×14.2 cm) with thick internal septations in left lumbar and iliac fossa region (arrow). CECT, contrast-enhanced CT.



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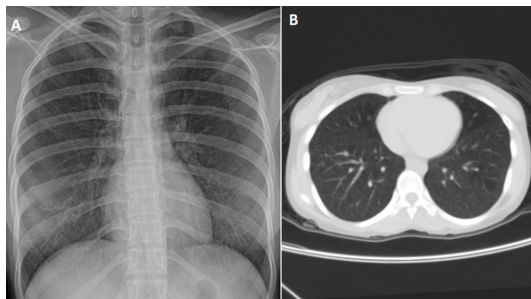


Figure 4 Follow-up chest X-ray (A) and CT chest (B-axial view) after 3 months of antitubercular therapy showing complete resolution.

often delayed in disseminated tuberculosis especially when

Learning points

- ▶ Disseminated and miliary tuberculosis are generally associated with HIV and AIDS, but rarely they can also occur in immunocompetent individuals.
- ▶ Common presenting symptoms in patients with disseminated and miliary tuberculosis are fever, anorexia, weight loss, fatigue, cough and so on. Acute presentations like seizures are extremely rare in such cases.
- ▶ A high index of clinical suspicion and efforts towards early diagnosis and initiation of antitubercular therapy are required to prevent complications.

there are atypical presentations. A miliary pattern on a chest radiograph is the radiographic hallmark of miliary tuberculosis. MRI brain with contrast is the investigation of choice to diagnose a tuberculoma. The characteristic finding is the nodular enhancing lesion with central hypointensity. Other imaging modalities like ultrasonography, CECT may be required to rule out abdominal and pelvic involvement. Disseminated and miliary tuberculosis are generally associated with HIV and AIDS, hence immunodeficiency status should be ruled out in all such cases.³

Antitubercular therapy should be initiated as soon as the diagnosis is made. Associated central nervous system involvement mandates prolonged treatment for at least 12 months.⁴

Contributors SPM: wrote the draft of the manuscript. VG and AD: involved in the revision of the manuscript. RVA: involved in patient management and revised the manuscript critically for important intellectual content. All authors: contributed to the literature review and approved the final manuscript for submission.

Competing interests None declared.

Patient consent Obtained.

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