

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Medical Imaging Quiz – Case 66

A 35-year-old male presented to the emergency department with fever and cough for 12 days. He referred travelling from Afghanistan 6 months ago. He also reported weight loss, fatigue and dizziness. On examination the general physical examination was unremarkable (blood pressure of 135/90 mmHg, pulse rate of 95/min, respiratory rate 25/min, SatO₂ 98%, temperature 38.1°C). He was conscious and well oriented to time place and person. Chest X-ray was performed and showed mediastinal lymphadenopathy. Due to severe headache while remaining in the emergency department a brain computed tomography (CT) was performed (fig.1). Mantoux test and Quantiferon were also performed.

Comment

Intracranial tuberculous abscess is an uncommon manifestation of central nervous system (CNS) tuberculosis, far less frequently encountered than tuberculous meningitis or tuberculomas.

The epidemiology of patients with tuberculous abscesses is essentially the same as that of other CNS manifestations of tuber-

culosis although they are more frequently encountered in patients who are immunocompromised. Patients may present non-specific symptoms, focal neurological deficits, seizures or sign and symptoms of raised intracranial pressure.

In contrast to tuberculomas, tuberculous abscesses are filled with pus and have distinct microscopic changes: vascular granulation tissue in the wall, absence of epithelioid granulomatous reaction. Mycobacterium tuberculosis can be isolated from the pus, which is sometimes unable to be isolated from tuberculomas.

Tuberculous abscesses have appearances very similar, and often identical, to pyogenic cerebral abscesses. They tend to be solitary, but can be multiloculated, and are relatively large and faster growing, compared to tuberculomas, that are usually a

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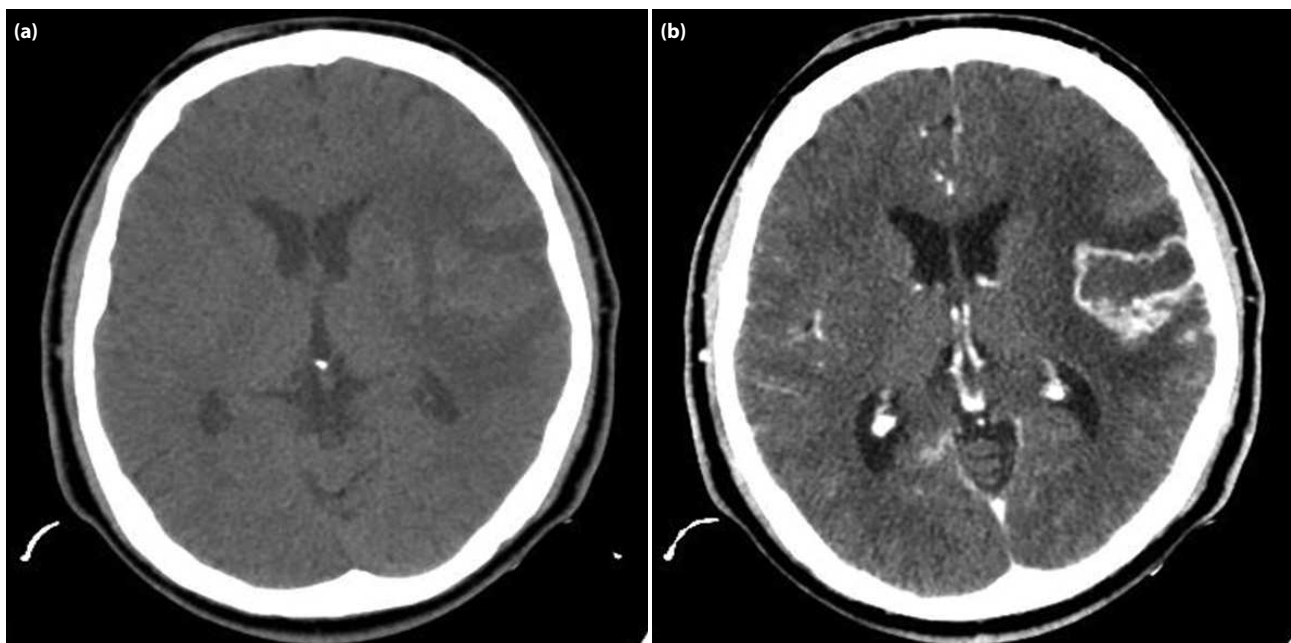


Figure 1. Brain computed tomography (CT) reveals (a) left parietal mass, and (b) rim-enhancing after contrast medium infusion. Extensive white matter edema.

little smaller. They are surrounded, as is the case with pyogenic abscesses, by abundant vasogenic edema. Tuberculous meningitis may or may not co-exist.

CT reveals peripherally-enhancing lesion with low attenuation center surrounded by vasogenic edema. Magnetic resonance imaging (MRI) appearances are those of a cerebral abscess, T1 shows central low intensity and peripheral low intensity, T2/FLAIR central high intensity and peripheral high intensity while the abscess capsule may be visible as an intermediate to slightly low signal thin rim.

Surgical drainage is often curative, with concurrent multiagent antituberculous antibiotics.

Differential diagnosis should be done among pyogenic cerebral abscess, fungal cerebral abscess and tuberculoma.

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