# Tuberculous meningitis

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**Abstract**

Tuberculous meningitis is possibly complicated with multiple cerebral infarctions and basal meningitis, and the mortality and neurological prognosis is reportedly poor. This case suggested that clinicians should consider tuberculous meningitis as a differential diagnosis of patients with disturbed consciousness in an aging country Japan.

Case Image

**Tuberculous meningitis**

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**Case**

A 72-year-old previously healthy man with a medical history of hypertension was hospitalized with fever and confusion. His Glasgow Coma Scale score at the visit was 6 (total score: 15), and a physical examination revealed neck stiffness. Chest computed tomography (CT) images revealed diffuse granules in the lungs, suggesting miliary tuberculosis. Cerebrospinal fluid (CSF) analysis showed elevated levels of cell count (58 /μL), protein (374 mg/dL), and adenosine deaminase (17 U/L), with low glucose levels (32 mg/dL; serum

glucose level at 169 mg/dL). Culture and PCR testing for *Mycobacterium tuberculosis* in the CSF provided negative results, while sputum testing showed a positive result. Contrast-enhanced magnetic resonance imaging (MRI) of the patient's head revealed meningeal enhancement from the basilar portion of the cerebrum to the Sylvian fissure and multiple infarctions at the corpus callosum, cerebral white matter, and cerebellar hemisphere **(Figure 1)** . The patient was diagnosed with miliary tuberculosis and tuberculous meningitis (TBM), was administered anti-tuberculosis agents along with systemic corticosteroid therapy, and finally survived with dysphagia and dysarthria as sequelae.

TBM is the most severe form of extrapulmonary tuberculosis, resulting in high mortality and neurological sequelae. MRI is superior to CT for diagnosing TBM because it detects typical findings such as meningeal enhancement, particularly at the basilar meninges and the Sylvian fissure [1], tuberculomas, hydrocephalus, and vasculitis-related infarction at the Circle of Willis [2]. Tuberculosis is still endemic in Japan [3], and TBM should be listed as a differential diagnosis for patients with disturbed consciousness.

**Conflicts of interest**

No authors have any competing interests in this case.

**Informed Consent**

Written informed consent was obtained from the patient to publish this case report in accordance with the journal's patient consent policy.

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Figure Legend

**Figure 1. Head magnetic resonance imaging**

The basal meningeal enhancement was observed (A; gadolinium-enhanced fluid attenuated inversion recovery image: arrow heads), along with multiple infarctions mainly at the corpus callosum (B; diffusion-weighted image). Tuberculoma, hydrocephalus, and vasculitis were not found.

Figure 1. Head magnetic resonance imaging