

Case illustrated

Cerebral tuberculoma

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A 75-year-old man, known to have diabetes mellitus, presented to the emergency department with a one-day history of confusion, preceded by a two-day history of mild headache that was relieved by analgesia. In the emergency department, he was febrile (38.6 °C) and confused. The rest of the neurological examination was unremarkable.

MRI of the brain, with gadolinium administration, showed a smooth ring-enhancing lesion in the right temporal pole with adjacent sulcal effacement and significant vasogenic edema, measuring 2.9 × 2.8 cm (Fig. 1). Chest and abdomen/pelvis CT scans were normal. The patient underwent craniotomy and lesion resection. The lesion was firm, yellowish, and had cheesy content (Fig. 2). Pathological examination of the specimen revealed caseating tuberculoma. The AFB culture and the tuberculosis PCR were positive for *Mycobacterium tuberculosis*.

The patient was started on anti-tuberculosis therapy, namely; Rifampicin, Isoniazide, Ethambutol, and Pyrazinamide for two months, followed by Rifampicin and Isoniazide for eight months (A total of ten months of anti-tuberculosis therapy). The patient's confusion improved and was discharged few days later with a normal neurological exam. The patient finished the first two months of the full treatment regimen

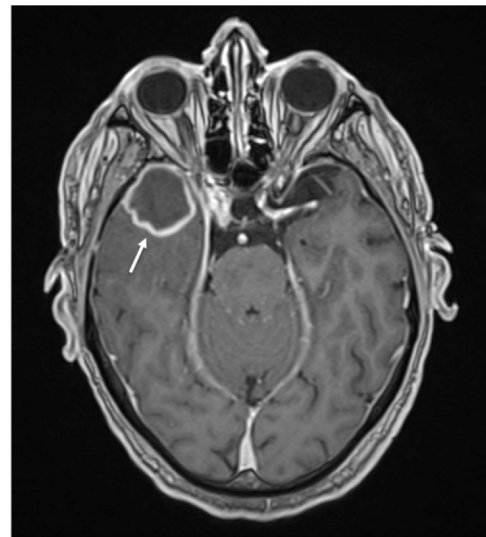


Fig. 1. Magnetic resonance imaging (MRI) of the brain with gadolinium administration showing a smooth ring-enhancing lesion in the right temporal pole with adjacent sulcal effacement and significant vasogenic edema.

and is currently on Rifampicin and Isoniazide. He is followed-up by Infectious Diseases and Neurosurgery Services.

Cerebral tuberculomas are rare but serious form of tuberculosis [1]. The symptoms and radiologic findings are non-specific, leading

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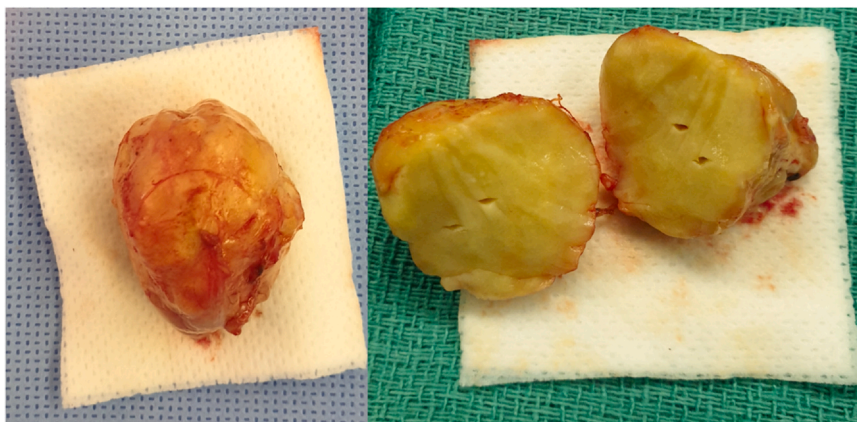


Fig. 2. Gross pathological image of cerebral tuberculoma. The pathological tissue is firm, yellowish, and has cheesy content.

to the misdiagnosis of such lesion as a malignant disease, including high-grade gliomas [1,2]. The clinical manifestations of cerebral tuberculoma are variable and depend on the location and number of lesions, including but not limited to; headache, seizures, or signs of high intracranial pressure [3]. Of note, cerebral tuberculoma should be considered in patients who are living in regions where tuberculosis is an endemic, especially in developing parts of the world [1,4]. Histopathologically, tuberculomas are comprised of a central zone of caseation, surrounded by a collagenous capsule of tissue [4]. Anti-tuberculosis therapy is essential for the successful treatment of cerebral tuberculomas [2,4]. However, there is no consensus regarding the optimal duration of therapy [2,4].

To our knowledge, cerebral tuberculomas have been rarely reported and remain a clinical challenge in the literature [2]. The present clinical case highlights the symptomatology, radiological findings, and gross pathological features of cerebral tuberculomas. The article helps healthcare providers to consider such a rare intracranial lesion in the differential diagnosis for patients presenting with clinico-radiological features suggestive of cerebral tuberculoma. Prompt diagnostic investigations, along with medical and possible adjuvant surgical treatment, are required to manage cerebral tuberculomas to prevent neurological sequelae.

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Ethics approval statement

Ethical approval was obtained from King Abdullah International Medical Research Center, Ministry of National Guard – Health Affairs,

Riyadh, Saudi Arabia. All procedures performed were part of the routine medical care.

Consent statement

Consent was obtained from the patient to ensure ethical standards. All images and data are anonymized to maintain patient's privacy.

Conflict of Interest

The authors declare that the article content was composed in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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