

PHOTO QUIZ

What Is Your Diagnosis?

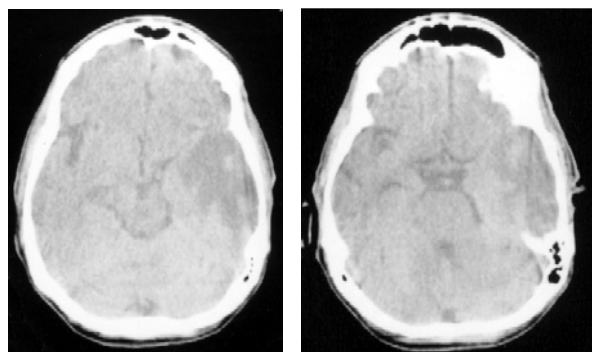


Figure 1-Brain CT Scan without contrast

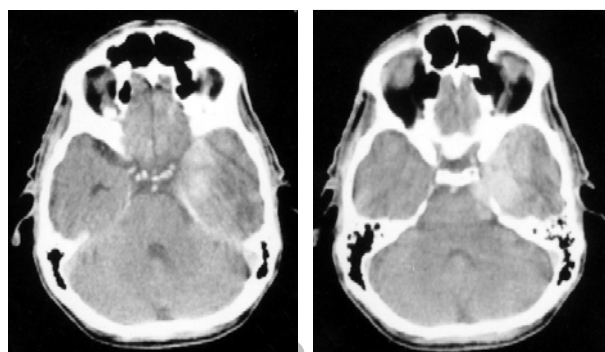


Figure 2- Brain CT Scan with contrast

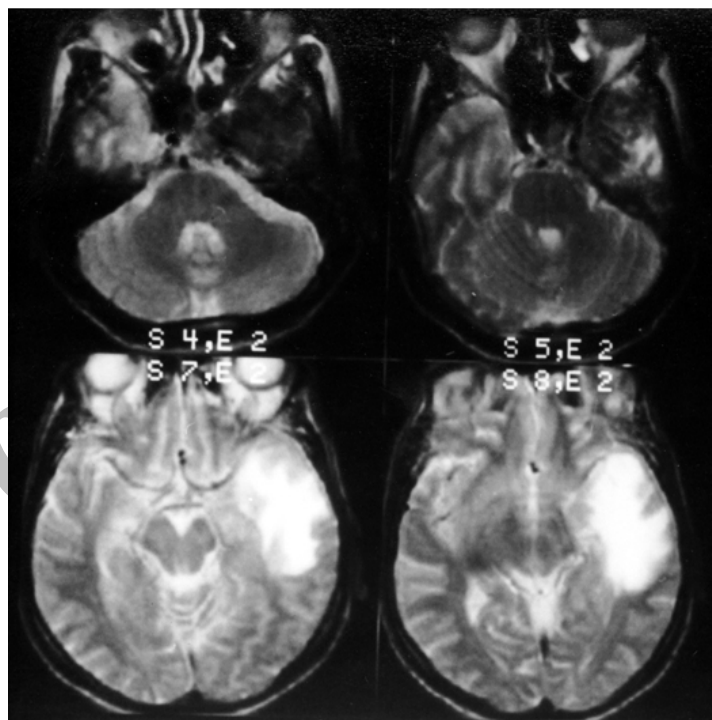


Figure 3- Brain MRI (T1 and T2-W)

A 45-year-old male farmer presented with left hemifacial pain and double vision of two months' duration. He denied any history of medical diseases. Physical examination revealed left facial hypoesthesia and left abducent nerve palsy. His plain chest radiography and routine blood tests were normal. Axial CT scan without contrast demonstrated a hypodense area in the left temporal lobe (Figure 1). Enhanced CT scan showed a hyperdense mass in the left parasellar region (Figure 2). MRI (T2 -W image) showed a hypointense lesion in the parasellar region with areas of hyperintensity in the ipsilateral temporal lobe (Figure 3). What is your diagnosis?

Diagnosis: Anterior Tentorial Tuberculoma

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Figure 1- Axial CT scan through the head at the level of cerebral peduncles.

The examination reveals edema in the white matter of the left temporal lobe associated with increased volume. A part of hyperdense S.O.L. is demonstrated in the medial aspect of the left middle cranial fossa just in the vicinity of the above-mentioned edema.

Figure 2- Axial CT scan through the base of the brain and posterior fossa.

The examination reveals an enhancing S.O.L. in the medial side of the left middle cranial fossa extending to the left side of the peripontine cistern associated with edema of the Lt .temporal lobe especially in the white matter .No erosion is seen in the base of the skull.

Enhancement of the left tentorial edge is more than the right side.

Figure3- Sagittal T1 and axial T2 weighted images through the base of the brain and left temporal lobe.

The examination reveals significant edema in the white matter of the left .temporal lobe. The lesion is faintly visualized in the medial side of the Lt .middle cranial fossa.

Granulomatous diseases of the central nervous system are rare. However, cerebral tuberculoma is the most common type of cerebral granulomas caused by *Mycobacterium tuberculosis*. In the developing countries where the incidence of tuberculosis is 110-165 in 100,000 population, CNS involvement is seen in 0.7 percent of clinical tuberculosis. In developing countries, intracranial tuberculoma accounts for 5 to 30 percent of all the intracranial masses.¹

Infections of the nervous system are acquired hematogenously secondary to a primary infectious nidus elsewhere in the body, usually in the lungs or the lymph nodes. However, most patients with tuberculomas lack a history of tuberculous meningitis.

About half the patients with intracranial tuberculomas give a personal history of tuberculosis or a history of contact with tuberculosis patients. One fourth of them show some evidence of concomitant tuberculous lesions elsewhere in the body.

Tuberculomas are most frequently discovered during the third decade of life. Their main location is the parasagittal regions but can occur anywhere in the cerebral or cerebellar hemispheres, and rarely in the brain stem. Tentorial and pituitary tuberculomas are very rare.² Central nervous system involvement in cerebral tuberculosis is seen in different forms (meningoencephalitis, tuberculoma, tuberculous abscess, and cerebral and basal arachnoiditis).

Clinical manifestations of tuberculomas depend on their size and location, but resemble those of other intracranial tumors. Cerebral tuberculoma is a vascular mass with multiple nodular extensions in all directions. Intense edema and gliosis, possibly allergic, usually occur around the lesion that sometimes may resemble a low-grade astrocytoma.

A patient with increased intracranial pressure who is a current or past resident of geographical areas where tuberculosis is endemic, and shows a round enhancing mass with processional edema on CT scan should be considered to harbor a tuberculoma of the brain.³

An anti-tuberculosis pharmaceutical regimen is recommended pre-operatively for at least two weeks.

References:

1. Gropper MR, Schulder M, et al: Cerebral tuberculosis with expansion into brain stem tuberculoma. *J Neurosurg* 1994;18(6):9277-31.
2. Teoh,R., Poon,W.et al: Surasellar tuberculoma developing during treatment of tuberculous meningitis requiring urgent surgical decompression. *J Neurol*. 1988;235:321.
3. Rutsche M, Schrouth G, et al: The imaging diagnosis of acute cerebral tuberculosis. *Rofö* 1993;159(5):471-5.