

PHOTO QUIZ

What is your diagnosis?

An eight-year-old child presented with history of frequent episodes of complex partial seizures and homonymous hemianopsia for the past six months. She also had history of headache and occasional vomiting for the same period. The child had suffered from tuberculous meningitis almost 12 months before for which a complete course of treatment was administered. Physical examination of the child was non-revealing with no signs of meningeal irritation. However, papilloedema was observed on fundoscopy. Hemogram and erythrocyte sedimentation rate (ESR) were within normal limits. Brain computed tomography (CT) was done and both axial and coronal scans were taken (Figs. 1 and 2)

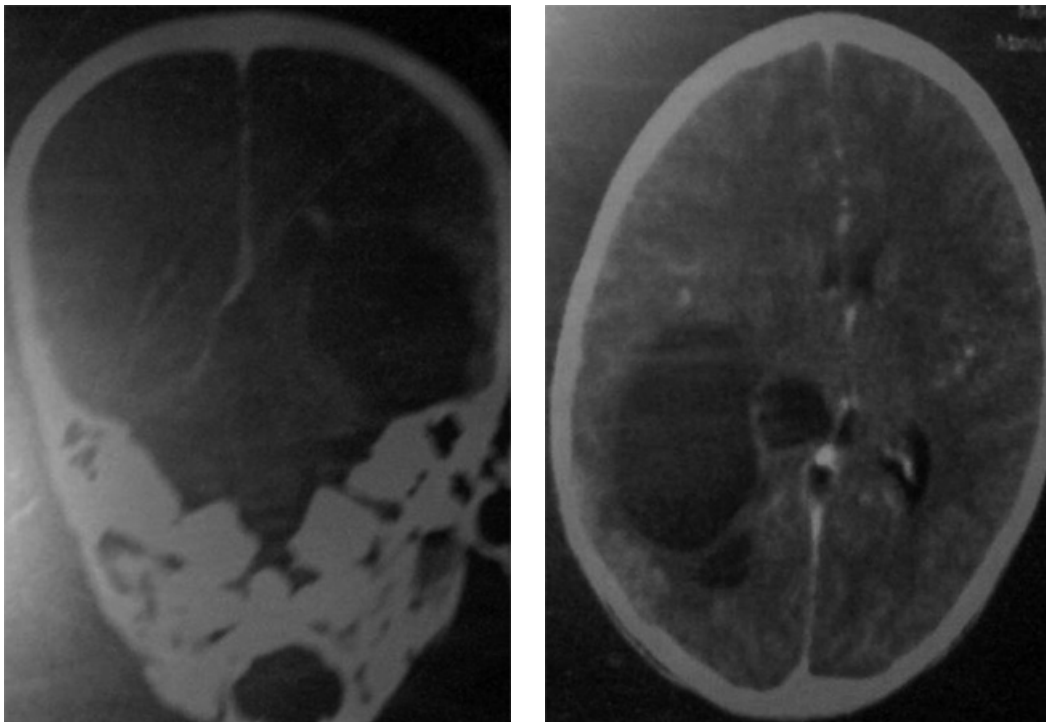


Fig. 1 and 2. Brain CT of the patient.

What is your diagnosis?

Diagnosis: Trapped Temporal Horn of the Lateral Ventricle

I. Ahmad MD¹

Sh. Wahab MD²

R. Ahmad Khan MD³

A. Wahab MD⁴

1. Professor, Department of Radiodiagnosis, JNMCH, AMU Aligarh, India.

2. Senior Resident, Department of Radiodiagnosis, JNMCH, AMU Aligarh, India.

3. Senior Resident, Department of Paediatric Surgery, PGIMER, Chandigarh, India.

4. Senior Resident, Department of Medicine, JNMCH, AMU, Aligarh, India.

Corresponding Author:

Shagufta Wahab

Address: D/O Prof. Abdul Wahab, Kashana e Wahab, St. No. 4, Iqra Colony, Near Iqra Public School, New Sir Syed Nagar, Aligarh - 202002, India.

Email: drshaguftawahab@rediffmail.com

Figures 1 and 2: Brain CT shows disproportionate enlargement of temporal horn and atrium of the right lateral ventricle with periventricular hypodensity and relatively normal sized contralateral ventricle as well as frontal horn of the ipsilateral ventricle.

The term "entrapment of temporal horn" was first used by Maurice Williams, et al, to describe focal ventricular dilatation of the temporal horn caused by occlusion of the cerebrospinal fluid (CSF) pathway at the atrium of the lateral ventricle.¹ It is a form of non-communicating hydrocephalus. Obstruction of one lateral ventricle in the region of the atrium isolates the temporal horn and continued secretion of CSF by the choroid plexus in the temporal horn leads to its expansion into a cyst.² Causes leading to entrapped temporal horn include previous meningitis with choroid plexitis and ventriculitis probably leading to obstruction of the CSF pathway at the atrium,³ intracranial neoplasms, intraventricular cysts or after surgical procedure within or in close proximity of atrium of the lateral ventricle. Apart from trapped temporal horn, isolated enlargement of the fourth ventricle and very rarely, even the trapped third ventricle have been reported.^{4,5} The trapped fourth ventricle usually occurs in children with hydrocephalus after successful shunting of lateral ventricles when outlets of the fourth ventricle including cerebral aqueduct and foramina of Lushka and Magendie get blocked due to repeated episodes of infection or hemorrhage. Isolated third ventricle enlargement is a very rare phenomenon usually seen in very complex hydrocephalus and all etiological factors postulated in

the development of trapped temporal horn or fourth ventricle seem to contribute to development of isolated enlargement of the third ventricle.⁵ Clinical manifestations of trapped temporal horn include features of increased intracranial pressure due to mass effect and the characteristic triad of hemiparesis, homonymous hemianopsia and memory disturbance due to compression over the internal capsule, Meyer loop, hippocampus and interstitial edema within these structures.⁶

Imaging studies

The diagnosis of trapped temporal horn can be easily made by CT or MRI. CT reveals focal dilatation of temporal horn, usually associated with periventricular hypodensity suggestive of transependymal CSF leakage.⁷ Rest of the ventricular system appears normal or near normal in comparison to the disproportionate expansion of the temporal horn. If the temporal horn is not identified and the CT densities of the temporal horn and periventricular area are almost equal, the differential diagnosis includes temporal neoplasm, infection and trauma. Therefore, good quality CT scans are required.³ MRI not only demonstrates the cystic expansion of the trapped temporal horn but also shows the compression effect and interstitial edema in surrounding structures especially internal capsule and hippocampus. When combined with contrast-enhanced study, both CT and MR can establish the etiology of the obstruction.

Once the diagnosis is established, treatment depends on the etiology. Neoplasms and cysts require surgical removal and appropriate therapy while cho-

roid plexitis and ventriculitis require external drainage followed by shunt placement.

References

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