

## Neuroimage – Hydatid Cyst of Brain

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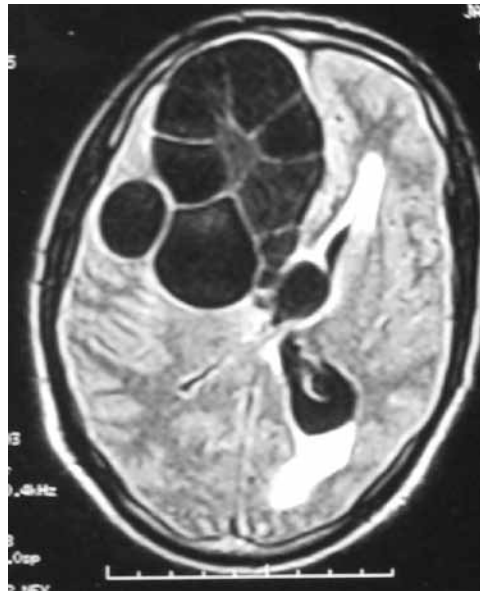


Fig. 1 : Flair MRI image showing multiple coalescing thin walled cysts of varying sizes in right frontoparietal region. No calcification/solid component seen – consistent with hydatid cyst.

A 21 year old male presented with history of headache since last 1 year. Headache was moderate in intensity, intermittent and associated with pain in the eyes. No history of any fever, vomiting or seizures was there. Past history of the patient was not relevant. Routine laboratory investigations were within normal limits. MRI of the brain was done which revealed multiple coalescing thin walled cysts of varying sizes in the right frontoparietal region. No calcification/solid component was present. No perilesional oedema is seen. The lesion is causing mass effect on the right lateral ventricle with evidence of subfalcine herniation. Based on MRI findings, the diagnosis of hydatid cyst was given. Blood serology for Echinococcus was positive. Subsequently, the patient was operated and operative findings showed multiple thin walled cysts containing clear fluid. Histopathological examination was consistent with Echinococcus granulosus.

Hydatid disease of the brain is a rare parasitic infestation caused by larval stage of Echinococcus granulosus and Echinococcus multilocularis. It constitutes only two percent of the intracranial space occupying lesions. It is endemic in some parts of the world commonly affecting male children and young adults. In India, it is more commonly seen in Kurnool district of Andhra Pradesh, Madurai district of Tamil Nadu and in Punjab with an incidence of 0.2%.<sup>1,2</sup> Clinical features develop due to compression of the involved organs and the patient commonly presents with headache, vomiting, visual field alteration, gait disorder etc. Diagnosis is made on imaging and confirmed by serologic tests. Imaging features include thin/ thick walled cysts with/without calcification in the parietal lobe involving the middle cerebral artery territory. Although they can also be seen in skull vault, extradural, intraventricular, meningeal, posterior fossa and in brainstem. Other features can be presence of daughter cysts (as seen in our case), detached membranes, parenchymal distortion, hydrocephalous and increased intracranial pressure. Growth rate of brain hydatid has been reported between 1.5-10 cm/year. On MRI, cyst is hypointense on T<sub>1</sub> weighted, hyperintense on T<sub>2</sub> weighted images with cyst wall being hypointense on T<sub>1</sub>/T<sub>2</sub> weighted images. Presence of surrounding oedema and rim enhancement indicates complicated cyst. Alveolar echinococcus appears as multiloculated, solid/semisolid mass with calcification and oedema.<sup>1,3</sup> Differential diagnoses of intracranial hydatid include pencephalic cyst, arachnoid cyst, metastasis, tuberculosis, fungal infections, cerebral abscess and cystic tumors of the brain<sup>1</sup>. In nutshell, MRI plays a pivotal role not only in diagnosing hydatid disease but also in detecting multiplicity, defining the anatomic relationship of the lesion and helps in surgical planning.

### References

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