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CASE REPORT

Cerebral Hydatid Cyst: A Case Report

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ABSTRACT

Objective: Cerebral Hydatid disease (CHD) is very rare manifestation of echinococcosis, representing only 2% of all celebral space occupying lesion even in the countries where the disease in is endemic. The aim of this paper is to describe the characteristic features of cerebral hydatid disease in computed tomography, magnetic resonance Imaging (MRI) and to report a multiloculated cyst (more than 100 loculi) along with its management.

Case Presentation: In this paper we have reported a young boy of 20yrs with primary CHD without associated extracranial lesions with focal neurological deficits and intracranial hypertension. The extracranial investigations were found to be negative. CT and MRI of the patient suggested it to be a multiloculated Hydatid cyst. The patient was managed surgically and more than 100 daughter cysts were recovered, antihelminthic medications were given to the patient was discharged successfully.

Conclusion: Multilocular Hydatid cyst is a rare SOL of Brain. When present the patient remains asymptomatic for long followed mostly by symptoms of headache and vomiting. Patients may also present with focal deficit or seizures-Surgery remains the mainstay of treatment with careful evacuation of the cysts alongwith the medications for the causative agent (Echinococcus granulosus or multilocularies). Prevention of the disease should be given utmost emphasis.

INTRODUCTION

Hydatid disease (echinococcosis) is a worldwide zoonosis produced by the larval stage of the Echinococcus tapeworm. In humans, the two main types of hydatid disease are caused by E. granulosus and E. multilocularis. Cerebral hydatid disease (CHD) is a rare manifestation of echinococcosis but it with intracranial hydatidosis demonstrates other involvement. Cerebral hydatid disease is more common in paediatric populations.[1,2] intracranial hydatid cysts are more frequently located in the supratentorial compartment. The parietal lobe is the commonest site. The other less common sites reported are skull.[3] cavemous sinus[4], eyeball[5], pons[6], extradural, cerebellum and ventricles.[7] Multiple intracranial hydatid cysts, are rares.[8,9] The exact pathogenesis of isolated cerebral hydatid cysts is unknown. The growth of hydatid cysts is usually slow and asymptomatic, and clinical manifestations are caused by compressions of the involved organ.

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CASE PRESENTATION

A 20-years-old man from Hamirpur district of U.P. (India) was admitted because of abnormal movements and altered sensation at various places in right half of the body for last three years 15 days before admission the patient developed severe headache associated with vomiting. On physical examination, he was conscious and oriented and minimal right sided hemiparesis and paraesthesia was present.

* Routine laboratory tests were all normal.

Computed tomography of Brain (CT scan, Plain and Contract) revealed large, multieptate cystic Lesion with peripheral rim calcification seen in Left Fronto-Pariental region of size- 6.0 × 5.0 × 8.0 cm associated with mild mass effect, perilesional edema and midline shift to right measuring-3 mm along with septal enhancement.

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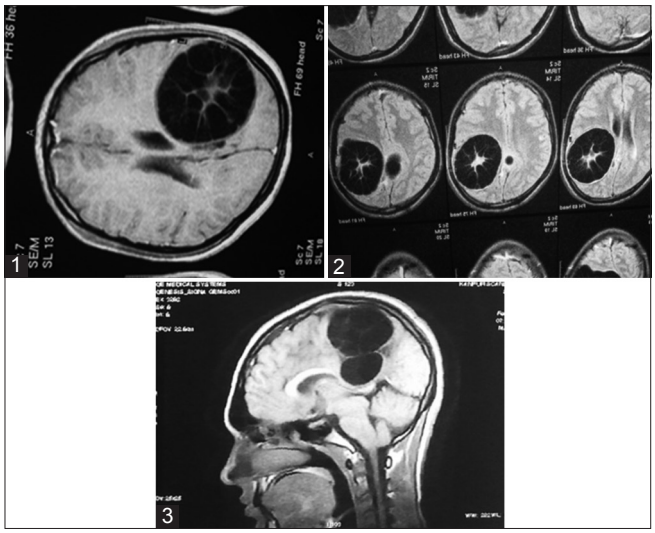

Figure A (1, 2, and 3): Brain CT scan and MR finding

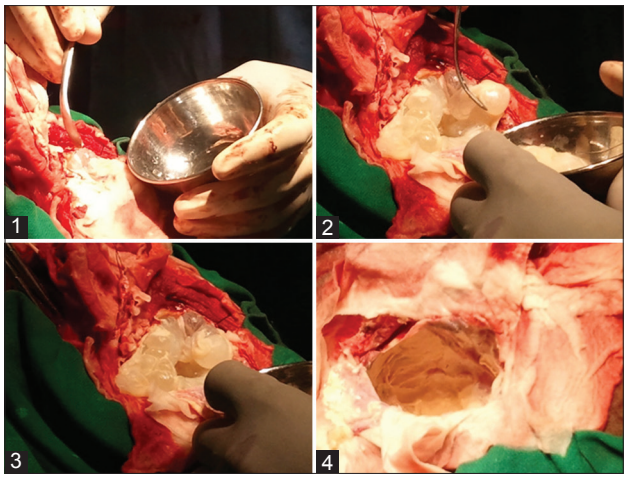

Figure B (1, 2, 3): Per operative pictures (removal of daughter cysts) 4: Per op view of the remaining cavity after Evacuation of the cysts

MRI Brain reported large lobulated well defined complex cystic space occupying lesion (Sol) in Lt pariental lobe extending in temporal and occipital lobes having multiple internal well defined daughters cysts with numerous septations with pressure effect associated with another oval. Lesion in Lt temporal lobe extending to supra seller cisterns (Figure A 1, 2, 3, 4, 5).

The lesion was diagnosed as multiple multiloculated hydatid cysts. The patient was living in rural areas and had a history of contact with stray dogs. Left parietal craniotomy was done and more than 100 daughter cysts were recovered from the mass with extreme precaution to avoid the rupture and spillage (Figure B1, 2). Pathological examination proved it to be hydatid cysts. USG of the thorax and abdomen failed to show any lung or liver lesions. Albendazole was administered for one month. The postoperative period was uneventful. Two months after the surgery the patient remained asymptomatic and free of disease.

DISCUSSION

Hydatid disease or echinococcosis is caused by infection with the larval stage of tapeworm echinococcus (Dog tape worm). It occurs mainly in dogs. Humans who act as intermediate host get infected incidentally by ingestion of eggs from the faecal matter of the infectected animal. The eggs hatch inside the intestine and penetrate the walls, entering blood vessels and eventually reaching the liver, where they may from cysts or move on towards the lungs. Even after pulmonary filter, a few still make it to the systemic circulation and can lodge in almost any part of the body including the Brain. Heart and Bones.[10,11,12] Brain hydatid cyst are relatively rare and only account for up to 2% of total cases.[13,14,15] Brain hydaid cysts can be primary (single) or secondary (multiple).[10-15] The latter are thought to arise from the multiple scolices released from the left side of heart following cyst rupture in the heart[10,11,14] or due to spontaneous, traumatic or surgical rupture of a solitary cranical cyst.[11,14] the main pathogenic species for humans are E-granulosus and E- multilocularis which produce cystic lesions and invasive solid lesions, respectively.[16,17] All organs could be affected, with brain being involved in only 1-2% of all infections[16,17,18] CHD are 2-3 times more common in children than in adults (1.25) Isolated multiple cerebral hydatidosis is very rare.[19] Ninety percent of cases have solitary lesions;[20] most frequently supratentorial, intraparenchymal and in the middle cerebral artery territory[21] CT & MRI constitute the chief diagnostic modalities for the cerebral hydatid disease, Ameli and Abbassioun stated that 80-90% of CHDs were accompanied by involvement of other organs in post-mortem examinations while in clinical practice, concomitant extra cranial cysts were not often demonstrated.[8] The case reported here, with isolated CHDs support the later. It has been postulated that infection occurs carly in childhood.[22] since brain has a softer tissue; a hydatid cyst in brain grows faster than in other organs. Thus when hydatid cyst of the brain is large enough to produce symptoms, the cysts in other organs are too small to be detected by clinical and radiological evaluations. Some of these small cysts may not be discovered until 20 to 30 years after the diagnosis of CHDs.[20] Furthermore, diagnosis of CHD usually requires postoperative medication that can cradicate the possible small cysts in other organs, and moreover, immune system can inhibit the growth of larva sites except for CNS due to limited access to immune system.

CONCLUSION

Multilocular Hydatid cyst is a rare SOL of Brain. When present the patient remains asymptomatic for long followed mostly by symptoms of Headache and vomiting. Patient

may also present with focal deficit or seizures-Surgery remains the mainstray of treatment with careful evacuation of the cysts along with the medications for the causative agent (Echinococcus granulosus or multilocularis).

Prevention of the disease should be given utmost emphasis.

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