Simultaneous Giant Hydatid Cysts of Brain and Liver
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ABSTRACT
While hepatic hydatid cysts are most common in occurrence, intracranial hydatid cyst is less common. Simultaneous presence of both varieties is quite rare and poses a challenge for management in terms of involvement of multidisciplinary team and multiple interventions. An 8-year boy presented with neurological symptoms of a space occupying lesion. There was also hepatomegaly. Radiological investigations revealed giant hydatid cysts involving left cerebral hemisphere and left lobe of liver. Cerebral hydatid cyst was operated first by pediatric neurosurgeons. After 10 days of stabilization period, hepatic lesion was removed by pediatric surgeons. Patient showed uneventful recovery and discharged on oral albendazole for 6 months. There was no recurrence at follow-up.

Key Words: Giant hydatid cyst. Brain. Liver.

INTRODUCTION
Hepatic hydatid cysts constitute 60 - 75% of all cases of hydatid cyst followed by 15 - 25% involving lungs; intracranial hydatid cyst is only found in 1 - 2% of cases.1,2 Hydatid cyst involving multiple organs is rarely seen.3,4 Multiple organ involvement poses various management challenges. Very few cases of simultaneously occurring hepatic and cerebral hydatid cysts are reported in literature.5,6

We report a case of simultaneously occurring giant hydatid cysts of brain and liver which was managed by multidisciplinary approach. This report puts light on importance of ruling out common sites of occurrence in case of hydatid cyst of uncommon site.

CASE REPORT
An 8-year boy, resident of Kabul (Afghanistan), presented to the pediatric neurosurgery outpatient department carrying a CT scan of brain, done in Afghanistan, with a diagnosis of hydatid cyst of left cerebral hemisphere. His past history revealed recurrent episodes of generalized tonic clonic fits for 2 years. For the last 2 months, the frequency of fits had increased enormously. There was also diffuse headache, often not relieved by analgesics. History of low-grade intermittent fever was also present. There was also walking difficulty with weakness of right half of the body for the last 2 months. The boy belonged to a sheep bearing family.

The child was alert, co-operative, and well oriented with normal vital signs. Normal grade-V power was present on left side of body, however; right half of body had grade-III power. All cranial nerves were intact. Abdominal examination showed hepatomegaly and mild tenderness in epigastrium. Fundoscopy showed bilateral papilledema.

Laboratory investigations were within normal limits. CT scan of the brain showed a non-enhancing 10 x 8 cm sized hypo-dense Space Occupying Lesion (SOL) with smooth margins in the left cerebrum causing midline shift with collapse of ipsilateral ventricles and dilatation of contralateral ventricles (Figure 1a). A cystic lesion was found in the left lobe of liver on ultrasonography. CT scan abdomen was requested which showed an 8 x 7 cm sized hypo-dense smooth lesion in left lobe of liver with a partly calcified rim (Figure 1b). The impression was hydatid cysts involving brain and liver.

Albendazole was started 10 days prior to surgery. His fits were controlled by valproic acid. After optimization, he was first operated for brain hydatid cyst. At operation, a Foley’s catheter was inserted at the interface of hydatid cyst with brain matter and delicate adhesions between hydatid cyst and brain were broken with hydro-dissection (Figure 2). It took about 90 minutes to clear all around the cyst. Afterwards, anesthetist was asked to perform Valsalva maneuver on patient in Trendelenburg position, to remove hydatid cyst in-toto (Figure 2). The impression was hydatid cysts involving brain and liver.

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neurological symptoms. After 10 days, he was operated for hepatic hydatid cyst. At operation, after packing wound with hypertonic saline soaked sheets, cyst was found largely in the segment IV of liver. The cyst was decompressed with aspiration followed by injection of hypertonic saline and re-aspiration. This was repeated several times to remove and kill protoscolices followed by hydatid cystectomy (Figure 3). The patient showed uneventful recovery. The patient was allowed orally on the fourth postoperative day. Drains removed and patient was discharged on albendazole 10 mg/kg/day for 6 months. Histopathology confirmed the diagnosis. Patient is on the follow-up and doing well.

DISCUSSION

Common presenting features of intracranial hydatid cysts include headache, vomiting, fits, paresis, and focal neurological deficits.7 The patient presented with fits, headache, walking difficulty, and reduced power of contralateral half of body. Hepatic hydatid cyst may present with a myriad of complaints common being abdominal pain due to stretching of liver capsule.8 This patient had a big cyst in liver but he never complained of abdominal pain. He might have experienced abdominal pain but symptoms of cranial origin were more concerning. Hepatomegaly on palpation led to the suspicion of a concurrent lesion in the liver.

The treatment goals are complete cyst excision, preventing recurrence, and avoiding spillage. Treatment option depends upon site, size, health status of the patient, and number of hydatid cysts. In case of small and multiple cysts involving multiple organs and in surgically unfit patient chemotherapy with albendazole is the treatment of choice.9 Solitary cyst in cerebral hemisphere is removed by hydro-dissection of the cyst by Dowling-Orlando technique.10 The authors also employed this technique in this patient which helped in dissection and in-to-to removal without even touching it with any forceps. This is very important as cerebral hydatid cysts are very delicate and thin and a little mishandling may result in cyst rupture and release of thousands of protoscolices that may lead to multiple secondary cysts in the brain. This problem can be minimized by pre-operative albendazole for 2 to 12 weeks and packing the operative field with surgical gauzes soaked with scolicidal agents. The authors used 20% hypertonic saline to pack the operative field.

In case of solitary hepatic hydatid cyst, the management options are PAIR or surgical excision of the cyst, open or laparoscopic (cystectomy, pericystectomy, and hepatic resection). In this patient, extra precautions were taken for the hepatic lesion. In addition to packing with hypertonic saline soaked sheets, peroperative PAIR was employed to aspirate the entire cyst contents and injected scolicidal agent to kill the protoscolices to reduce the risk of recurrence in case of iatrogenic rupture of the cyst. After emptying the cyst, it was easily and completely excised.

Postoperative chemotherapy is of utmost importance in preventing recurrences or appearances of new primary cysts.9 This patient was placed on albendazole for 4 - 6 months for the same concern though no spillage was present in either cyst.

REFERENCES


