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Case Report

PRIMARY OMENTAL HYDATID CYST: REPORT OF TWO CASES

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Abstract

We are reporting two cases of primary omental hydatid cyst in children of 12 yr & 5yr of age respectively. Both cases were diagnosed on ultrasound & managed successfully by open surgical excision of the cyst. In our patients cyst were unilocular & in one of the patients it contained large numbers of daughter cysts (approx.150). We failed to find in literature a giant primary omental hydatid cyst with so many daughter scolexs of varying sizes.

Keywords: primary omental hydatid cyst, paediatric age, omentum.

Introduction

Hydatid disease is one of the oldest disease known to man. Hippocrates described the human Echinococcus disease more than two thousand years ago with a very interesting expression (liver filled with water). Hydatid disease is a zoonotic disease caused by parasite E. Granulosus. It is a part of major health burden in developing countries including India. Hydatid cyst disease can occurs in liver (63%), lungs (25%), muscles (5%), bone (3%), kidney (2%), brain (1%), spleen (1%).[1] Primary involvement of omentum is rare but may be seen in disseminated hydatid disease.[2,3]

Case reports:

1. A female child of age 12yr presented to outpatient department of paediatric surgery, with complaints of distention of abdomen for 1yr, which rapidly increased in size in last 2 months. She also had dull aching pain in epigastric region specially after taking food for last 2 months. History of animal exposure was present. On examination, there was a soft cystic nontender lump which was occupying almost whole of the abdomen. Pt was anaemic on general physical examination. Haemoglobulin was 8.8g/dl and urea was 16mg/dl. Other routine lab investigation was normal. Chest radiograph was normal. Ultrasonography of abdomen & pelvis revealed large cystic lesion with septation involving whole of the abdomen & reaching into the pelvis (D/D-ovarian cyst & Hydatid cyst). CECT abdomen & pelvis revealed a large multiseptated cystic lesion with calcification seen in the mesentry displacing the gut loops (D/D- hydatid cyst & Ovarian cyst) & other visceras was normal (fig-5). Exploratory laparotomy was done, there was large cyst which was occupying the whole abdomen & reaching upto the pelvis. Cyst was adherent to parieties and during separation of adhesion & there was accidental rupture of the cyst. Cyst was containing approx 150 daughter cysts of varying sizes, measuring from 1*1 cm to 6*6 cm inside the main cyst (fig-1,2,3,4). Cyst was completely excised & abdominal toileting was done with betadine solution & histopathology report was consistent with hydatid cyst. Patient was started on 6 week albendazole therapy.
2. A male child of age 5yr presented to emergency with on –off complaints of pain abdomen since 1 yr, with obstructive symptoms as distention of abdomen and non passage of flatus & stool since 2 days. On examination there was distended,

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nontender abdomen with vague cystic lump was present. On Xray abdomen there was few air fluid levels and ultrasonography revealed a cystic lesion with internal echoes & a membrane in it measuring around 10*6 (D/D- mesenteric cyst & Hydatid cyst). Xray chest was normal. Exploratory laparotomy was done in emergency operation theatre. There was a huge 10*15 cm cyst arising from the omentum adherent to parieties and gut. Cyst was excised in totto but during division of adhesion there was accidental rupture of cyst which contained clear fluid, there was no daughter hydatid cyst. Peritoneal toileting with betadine solution was done. Post opperiod was uneventful. Histopathology report was consistent with hydatid cyst. Post op ultrasound and chest X ray was within normal limit. Child was started on 6 week albendazole therapy.

Both children are well on regular follow up. They are being followed with clinical examination & ultrasonography.

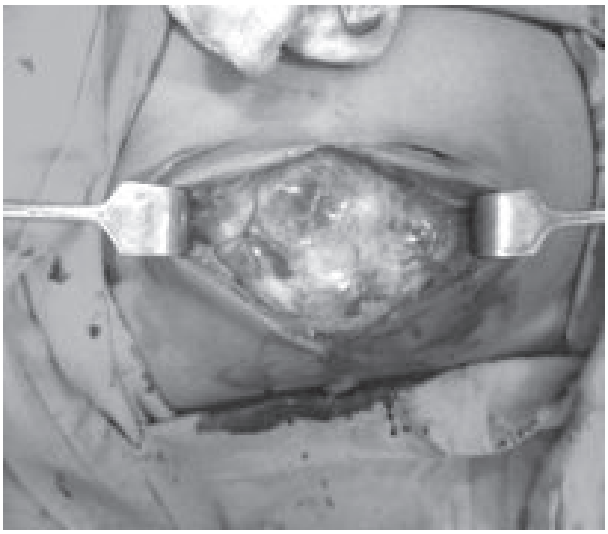

Fig.-1: *showing omental hydatid cyst.*

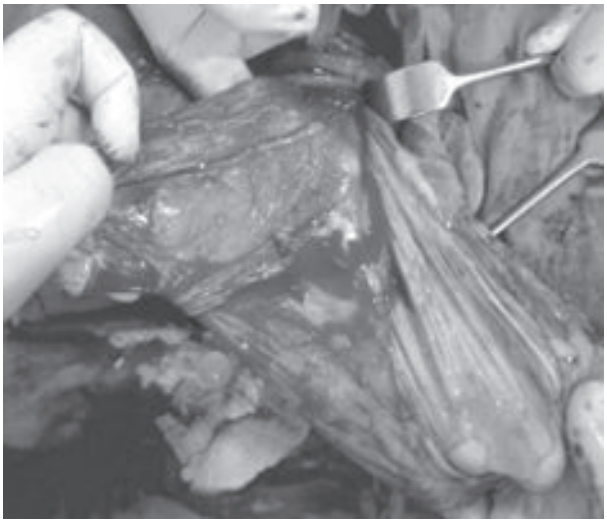

Fig.-2: *showing hydatid cyst in omentum.*

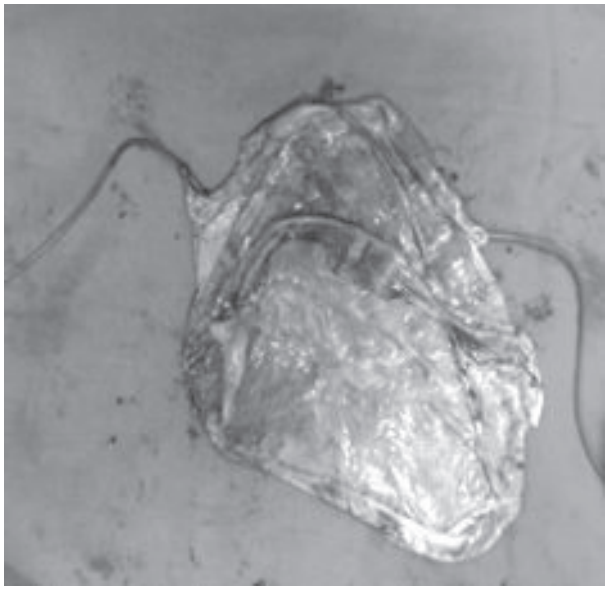

Fig.-3: *Excised hydatid cyst.*

Fig.-4: *showing daughter cysts(approx.- 150) .*

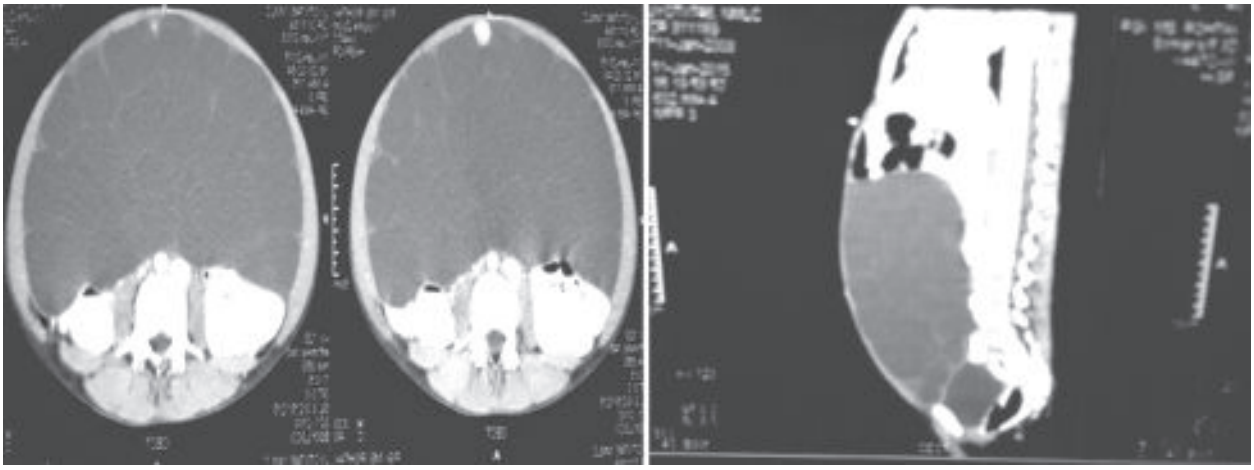

Fig.-5: *CECT image (transverse & sagittal view) showing giant omental hydatid cyst with septation.*

Table-I

Case study	age	gender	diagnosis	no	type	treatment	Follow up	year
Rathod[10]	12	M	US,CT	multiple	primary	Open surgery	9 Months	2011
Alis[11]	11	M	US,CT	solitary	primary	Open surgery	1 yr	2009
Sekmenli[12]	2	M	US,CT	solitary	primary	Open surgery	NA	2009
Durakbasa[13]	98	M	US,CT	multiple	Secondary	Open	NA	
		F	US,MRI	Solitary	secondary	surgery	NA	2006
Sethi[14]	50	F	US	solitary	Not known	Open surgery	NA	2004
Annadale[15]	32	F	Needle					
			aspiration &	solitary	Not known	Open surgery	NA	1877
			microscopy					

US- ultrasonography, CT- computed tomography, MRI- magnetic resonance imaging, NA- not available

Discussion

Hydatid disease is an infection caused by the larval form of E. Granulosus, which is transmitted through contact with definitive host (usually a dog) or by ingestion of contaminated water or vegetables. Hydatid cyst wall contained outer pericyte layer composed of ûbrocollagenous lamellated chitinous layer and inner germinal layer with brood capsule and embedded hooklets. Cysts may remain asymptomatic for years until causing symptoms due to space occupying effect within organs or systemic reactions due to the rupture.[4,5] In our cases one child present with space occupying lesion & other child presented with space occupying lesion with intestinal obstruction. Rupture of the cyst in liver leads to implantation of fertile scolexs over exposed visceral surfaces or escape of daughter microcysts in the systemic circulation from liver & lung filtration pathways, may leads to involvement of other visceras like omentum although rare.[6,7,8] Morris et al have demonstrated that there is a role of enteric lymphatic system also in seeding of oncospheres directly from the gut to the site of development of intraabdominal cyst[9]. In our cases the theory of Morris et al holds true as there was no involvement of liver, lungs or any other viscera except omentum. Primary omental hydatid cyst is rare only four cases have been reported in the literature (table 1), out of which only 3 were in pediatric age group. We are adding two more cases in literature in pediatric age.

Patient with primary omental hydatid cyst generally remains asymptomatic. Generally presents with lump abdomen & its complication like rupture or torsion. Examination will reveal distended, nontender abdomen with cystic lump. In literature hydatid cyst described as slow growing at 2-3 cm per year but as in our case hydatid cyst of this much size can't be explained by growth rate of 2-3 cm per year, so growth rate in hydatid cyst has to be variable. They have to be differentiated from the other intraabdominal cystic masses in paediatric age like ovarian cyst, mesenteric cyst, enteric duplication cyst & simple omental cyst.

In order to avoid complications like torsion, infection & rupture they have to be managed urgently. Definite diagnosis of primary omental hydatid cyst, although bit difficult but can be made by ultrasonography and abdominal CECT. They will reveal cystic mass with other features of hydatid cyst like laminated or floating membrane or hydatid sand. CECT scan has advantage over ultrasound as it can easily detect calciûcations and daughter cysts and is more sensitive and accurate[16]. Serological test like ELISA, heamagglutination test, flocculation test & complement fixation test can be done. Depending on the test system used and other parameters, approximately 10% of patients with hepatic cysts and 40% with pulmonary cysts do not produce detectable serum IgG antibodies and exhibit false-negative results. In our case serological test are not done because of its high cost, lesser availability, low specificity (90%) & the diagnosis of omental hydatid cyst was not considered.

Nowadays there are many modalities to manage hydatid cyst like medical therapy, PAIR (puncture, aspiration, injection & reaspiration), open & laparoscopic excision of cyst. Albendazole is medical treatment of choice in disseminated hydatid disease, localized disease with poor surgical risk, ruptured cysts, and signiûcant intraoperative spillage. Pre and post-operatively use of albendazole decreases the cyst wall tension thus reducing the risk of spillage during surgery and prevent the chance of anaphylaxis [16]. In children, the dose of albendazole is 15 mg/kg/d for 28 days and is repeated, as necessary. We preferred open surgical excision over others, because if uncontrolled spillage occurs it can be easily handled in huge cyst & in our case diagnosis was doubtful. Anaphylaxis has been mentioned due to spillage of cyst fluid during surgery or cyst rupture, but in our cases anaphylaxis didn't happened. In literature incidence of perioperative anaphylaxis reported is around .2-3%. The recurrence rate appears to be high (4.6%–22.0%) in hydatid cyst after surgery. Because of high recurrence rate, post surgery albendazole therapy is given for six weeks.

Conclusion

Primary omental hydatidosis can occur without any systemic dissemination to other visceras, although rare while dealing with a cystic intra-abdominal lump in paediatric age in endemic region.

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