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Huge echinococcal cyst of the liver managed by hepatectomy: Report of two cases

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ABSTRACT

INTRODUCTION: Echinococcocal cysts are predominantly located in the right liver. They are usually solitary and asymptomatic, but large cysts can cause compression symptoms.
CASE REPORTS: We report two cases of huge (25 cm and 20 cm in diameter, respectively) echinococcal cysts located in the left liver, which presented as a large palpable mass causing compression symptoms. Diagnosis was established with CT scan showing a cystic mass with the characteristic daughter cysts and reactive layer (pericystic wall) consisting of fibrous connective tissue and calcifications. Both patients were treated radically with left hepatectomy and had uneventful postoperative course and no recurrence upon follow-up.
DISCUSSION: The treatment of liver echinococcal cysts represent a unique surgical challenge. Even though conservative approaches are less technically demanding, the radical approach with resection has better outcome with less recurrences, when performed by experienced surgeons.
CONCLUSION: Resection rather than drainage is the management of choice for such huge liver echinococcal cysts.

1. Introduction

Echinococcosis or hydatidosis is a widely endemic disease in many parts of the world and predominately affects the liver. In the majority of the cases it is caused by the canine parasite Echinococcus granulosus tapeworm which gives rise to the most common cystic form, while the fox parasite Echinococcus alveolaris (multilocularis) is responsible for the rare form of the disease. Definitive host in the parasite's cycle could be the dog, wolf, or fox and intermediate host the human, sheep, cow, or pig. The disease is usually asymptomatic but occasionally presents as an acute complication due to suppuration or rupture of the cyst into the biliary tree or the peritoneal cavity. Diagnosis is established by current imaging techniques (US, CT, MRI-MRCP), aided by serum serology tests for antibodies against hydatid antigens. It is important always to include echinococcosis in the differential diagnosis of cystic lesions of the liver [1–4].

Chemotherapy with albendazole is indicated as conservative treatment mainly for small not calcified multiple cysts or as postoperative adjuvant therapy. It is also the treatment of choice in most cases of E. alveolaris [5].

However, surgery is the main treatment modality in the management of liver echinococcosis, especially in large solitary cysts. There is an ongoing debate regarding which procedure is optimal for the treatment of liver echinococcal cysts i.e. drainage or resection. In this manuscript we report two cases of huge echinococcal cysts located on the left liver, which were successfully managed with left hepatectomy. This is a compelling report on unusual cases, which addresses current information about management and treatment of huge liver echinococcosis.

2. Report of cases

The patients gave informed consent for publication.

Case 1 was a 42-year-old man, ASA I score, with a 25 cm left liver echinococcal cyst, causing persistent epigastric pain and discomfort.

Case 2 was a 75-year-old man, ASA II score, with a 20 cm cyst also located in the left liver. He presented with epigastric discomfort and vomiting caused by compression and complete obstruction of the gastric outlet by the cyst.

Upon clinical examination, a large palpable mass was found in the upper abdomen of both patients. The diagnosis was established by CT scan, which showed the cystic mass with the characteristic daughter cysts and clearly delineated reactive layer (pericystic wall) consisting of fibrous connective tissue and calcifications (Figs. 1 and 2).

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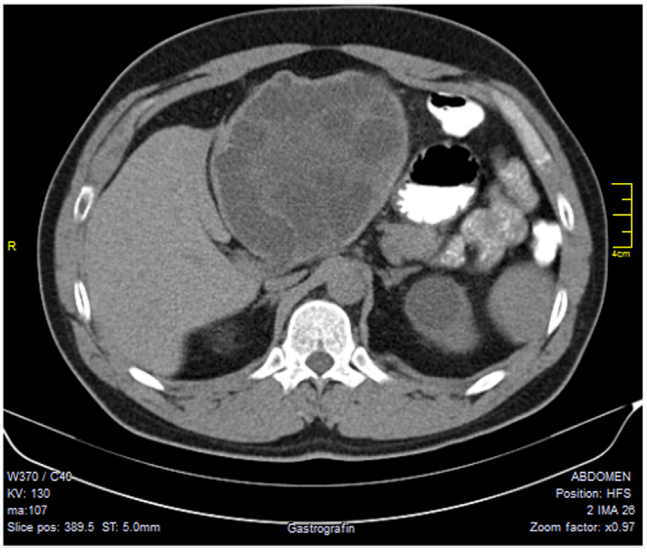

Fig. 1. CT showing the huge cyst (25 cm) with the characteristic daughter cysts and clearly delineated reactive layer (pericystic wall) in the first case.

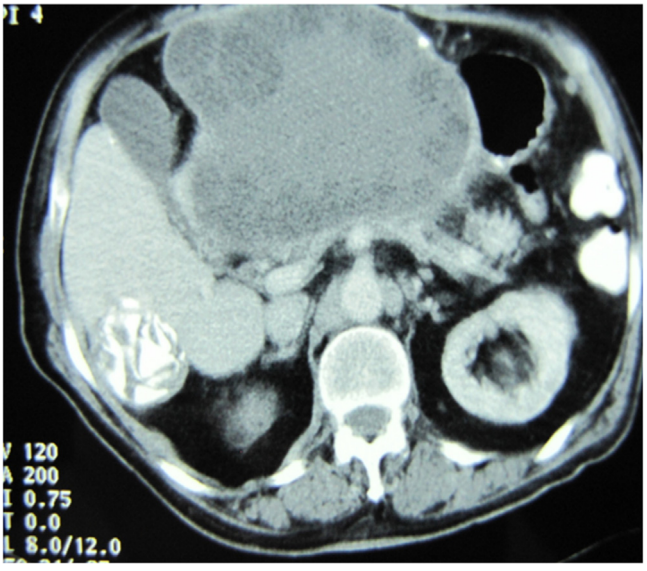

Fig. 2. CT showing the huge cyst (20 cm) with the characteristic daughter cysts and clearly delineated reactive layer (pericystic wall) in the second case.

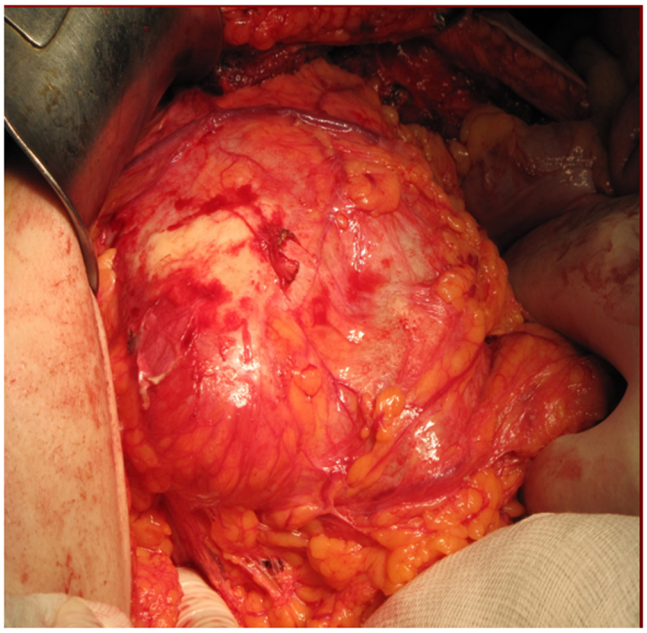

Fig. 3. Intact the resected specimen showing thickened the outer or adventitia fibrous layer of hitine in the first case.

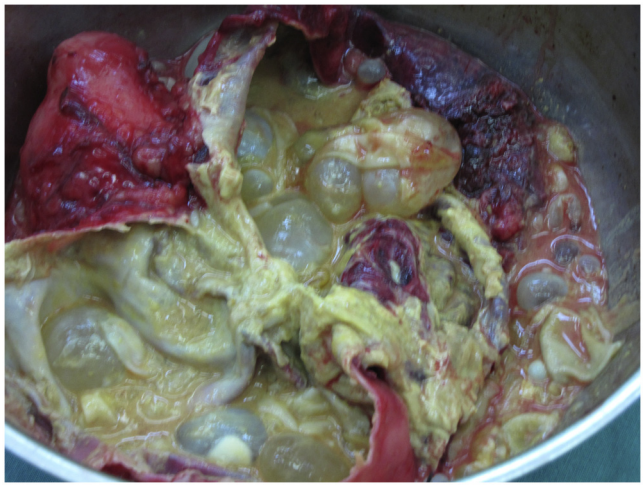

Fig. 4. Opened the huge cyst with contained daughter cysts and vesicles, hydatid debris material, the inner laminated or germinal membrane and clear water fluid in the first case.

The operative procedure was performed via a bilateral subcostal incision, followed by liver mobilization. The operative field was carefully isolated with packs enriched with hypertonic saline for prevention of dissemination of the parasite, followed by cautious dissection. Fortunately, no puncture or unwilling rupture occurred in any case.

Both patients underwent radical resection of the lesion by left hepatectomy with low blood loss (600 ml and 350 ml, respectively). Due to dense adhesions and scar formation, dissection in the first case proved more challenging. The intact resected specimen of this case is shown in Fig. 3 as well as the opened huge cyst (Fig. 4). After meticulous hemostasis a drain was left in the site of the resected cyst.

Both patients had an uneventful postoperative course and were discharged on the 6th and 8th postoperative day, respectively. 3-year follow-up for the first patient 2-year follow-up for the second patient showed no CT evidence of recurrence and normal liver function tests. One-month and seven-month postoperative CT scans from the first patient are shown in Figs. 5 and 6.

3. Discussion

Echinococcal or hydatid disease of the liver has been known since the time of Hippocrates, who described it as “liver full of water”. The disease is common in some geographical areas (Africa, Middle East, Mediterranean Sea, South America, Australia, New Zealand), but its frequency tends to be decreased with the improvement of sanitary conditions and the development of effective management procedures. The disease affects predominantly the liver (70%), mainly the right lobe and the cyst is solitary in 80%. The lung is the second most frequent location (20–25%), mainly the lower lobe. Lung cysts are usually solitary without calcification, but in 20% they can be multiple or bilateral. Rarely locations include muscle, brain, spleen, bones, pancreas, kidney, heart, mediastinum