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Laparoscopic management of giant hydatid cyst

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Abstract

The actual prevalence of hydatid disease in the northern part of India is found more than usually interpreted. The present study focuses on hydatid disease and rare complications and surgical treatment.

Giant hepatic exophytic hydatid cysts are rare. We report here a case of a 65-year-old woman who was admitted to the hospital with pain in the right upper quadrant region. An asymmetrical right upper quadrant enlargement was detected on physical examination. Ultrasonography and computerized tomography revealed a type 3 giant hydatid cyst in the right hepatic lobe, measuring 12 cm in diameter. Laparoscopic partial cystectomy and drainage were done. The large dead space was obliterated with Omentoplasty. The postoperative period was uneventful and the patient was discharged on the 4th postoperative day.

Keywords: Laparoscopic management, giant hydatid cyst, Hydatid disease, Echinococcosis granulosis

Introduction

Hydatid disease is caused by the ingestion of eggs of *Echinococcus* species and the formation of cysts in organs where the parasite larvae are deposited. Of all cysts in the liver, 50%-70% are caused by *Echinococcus granulosis*. Several *Echinococcus* species can infect humans. The most prevalent type, *Echinococcus granulosis*, causes cysts most frequently in the liver and lungs. Most of these cysts are unique and settle in the right lobe of the liver. Hydatid cysts may be asymptomatic or may cause abdominal pain, jaundice, or a visible abdominal mass^[1].

Patients affected by liver hydatid cysts from *Echinococcus granulosis* are generally asymptomatic for a long time. They usually seek medical care when their cysts have reached a large size, and a large amount of liver parenchyma has already been destroyed^[2]. The main goal is to respect the cyst without spilling the contents^[3]. Progress in recent years in the management of liver cystic diseases enables laparoscopy to be implemented^[4] as a safe surgical technique for these cases. There are reports on new trocar-cannula systems developed for the management of liver echinococcal cysts, such as the Palanivelu Hydatid System (PHS)^[5], specially designated to prevent spillage of hydatid fluid during surgical manoeuvres.

Case report

A 65-year-old woman was admitted to our hospital with pain in the right upper quadrant and epigastric region since 8 days. Abdominal examination revealed right upper quadrant tenderness and an asymmetric right upper quadrant enlargement. The results of laboratory tests were normal. Ultrasonography and computerized tomography (CT) scans of the abdomen revealed a type III giant hydatid cyst in the right hepatic lobe, measuring 12 cm in diameter with an exophytic component in the subhepatic region involving segments 5, 6, 7 of the liver (Fig.1). Patient started on oral albendazole for one week before surgery. Because of the convenient location and size of the pathology, the patient was decided to undergo laparoscopic management under general anaesthesia. Supraumbilical camera port inserted. Pneumoperitoneum created with a pressure value of 12 mmHg. Epigastric and right hypochondrium working ports were inserted. The operative field was isolated with laparoscopic gauze packs, and soaked in 20% saline. Next, we punctured the cyst and aspirated the internal fluid. Then the injection of sporicidal agent, 20% saline into the cyst cavity was performed. After 10 min the agent was aspirated and partial cystectomy was performed using a harmonic scalpel. All contents with the daughter cyst aspirated via a large bore (10 mm) suction cannula [Fig. 2]. The cyst cavity was inspected for any biliary fistula. Omentum placed in cyst cavity and anchored with vicryl suture. No. 24 abdominal drain placed in subhepatic space in contact with cystic cavity. Haemostasis was confirmed.

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Fig 1: Preoperative computed tomography scan showing large hydatid cysts

During the postoperative period, 50-60 cc of serous fluid was measured from the abdominal drain. The drain was withdrawn on the 3rd postoperative day. The postoperative period was uneventful, and the patient was discharged on

the 4th postoperative day. The patient was kept on oral albendazole for 2 weeks. On 3 month follow up USG collapsed a small residual cavity with no collection seen.

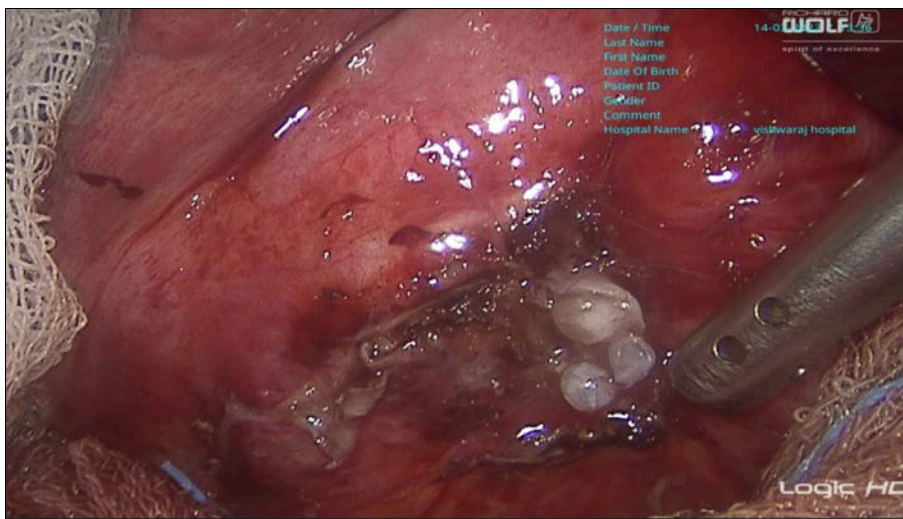


Fig 2: Intraoperative image showing daughter cyst

Discussion

Treatment of hydatid cysts is a complex problem. Puncture, aspiration, injection, and re-aspiration (PAIR) associated with albendazole are often reserved for uncomplicated hepatic echinococcosis. Surgery is the mainstay of treatment. The use of laparoscopy is still not prevalent due to fear of anaphylaxis and contamination. The treatment should be individualized to the location, number, size and morphology of the cysts. Generally, the exclusion criteria for laparoscopic procedures are as follows: Multiple liver hydatid cysts (more than three); deep intraparenchymal cysts; cysts with a thick, calcified wall; posterior lesions situated in "a blind area" for laparoscopic procedures such as segments 1, 2 and 7 or close to the inferior vena cava; cysts characterized by a heterogeneous complex mass (CT Gharbi type 4); cysts less than 3 cm in diameter; suspicion of existing communication between cysts and/or biliary duct; and serious coagulation abnormalities [6]. There are many different laparoscopic techniques involved in hydatid disease surgery, including simple drainage, puncture and

aspiration of contents with marsupialization, uprooting with omentoplasty and omentoplasty using helical fasteners, partial cystectomy or total pericystectomy, and anatomical hepatic resections (lobectomy or partial hepatectomy [7]. One of the main advantages of laparoscopic surgery is the offer of a lower morbidity outcome and shorter hospital stay [8]. In our case study, we tried a safe and feasible method of puncture and aspiration of the cyst contents followed by partial cystectomy and omentoplasty.

Conclusion

In summary, the laparoscopic technique provides a feasible and efficacious option for the treatment of selected types of hydatid cysts located in the liver. It is a safe surgical approach that enables postoperative discomfort to be reduced and results in quick recovery.

Conflict of Interest

The authors certify that they have no involvement in any organization or entity with any financial or non-financial

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