

# Hydatid Cyst of Liver Laparoscopically Managed- Case Report

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## ABSTRACT

**Introduction:** Hydatid cyst may occur in any part of the Liver. Surgery remains the gold standard in terms of treatment of patients of hydatid cyst in liver. Laparoscopic surgery of hepatic hydatid disease has been increasingly popular and has undergone a revolution parallel to the progress in laparoscopic surgery.

**Case report:** The aim of this report is to discuss the effects and feasibility of laparoscopic treatment of hydatid cyst of liver. A 27 year, old female reported in OPD with pain right hypochondrium-6months. The procedure is feasible and safe.

**Conclusion:** Hydatid disease is characterized by worldwide distribution and frequent hepatic involvement. It is better and safe to use laparoscopic surgery in treatment of hydatid liver with less morbidity, mortality and recurrence rate in comparison with open technique. It also prevents intraperitoneal spillage of cyst contents.

**Keywords:** Laparoscopic, Liver, Hydatid Cyst.

## INTRODUCTION

Hydatid disease is endemic mainly in the Mediterranean countries, Middle east, South America, India, Northern China, Australia and Far east and sheep raising areas.<sup>1-4</sup> Hydatid disease is a zoonotic infection caused by adult or larval stages of *Echinococcus granulosus*. Liver is most commonly affected organ (75%), followed by lungs, spleen, kidney, brain, etc.

Hydatid cyst has two layers: The ectocyst or pericyst - a dense fibrous outer layer and an inner layer called endocyst or the germinative membrane from which brood capsules containing protocoelocysts proliferate towards the cystic cavity.

With developments in laparoscopic surgery, there have been successful attempts to treat hydatid cysts of liver with added advantage of this new technique.<sup>5-7</sup>

## CASE REPORT

A 27 year, old female reported in OPD with pain right hypochondrium-6 months. Computed tomography demonstrated a 14cm\*9.7cm cyst in the right lobe of liver (Figure-1). After the diagnosis, medical treatment with Albendazole 10mg/kg (400mg BD) per day was given for 3 weeks before surgery. We planned laparoscopic surgical approach. Pre-operative liver function tests were normal.

We used three 10mm and one 5mm trocars. The cyst was approached laparoscopically by using same hydatid asepsis techniques as in open surgery. Patient under general anaesthesia and placed in supine position, surgeon and camera assistant standing on the left side of the patient with the assistant and scrub nurse standing on right side of the patient. Using CO<sub>2</sub> as pneumoperitoneum pressure of 12mm Hg was obtained. Lap Diagnostic laparoscopy was performed to localize the cyst through a 10 mm infraumbilical port. A 10 mm port used at the epigastrium as a working port and an additional 10mm port at mid clavicular right subcostal through which Palaniveu's

Hydatid System (PHS) was used and another 5 mm port on right lateral side depending on site of cyst. Roll gauzes soaked in hypertonic saline (20% NaCl) placed around the cyst and an endobag made of vacuum suction internal sterile plastic cover put into abdomen through 10mm epigastric port. More hypertonic saline was injected with Veress needle over the roll gauzes which surround the cyst.

Then PHS introduced directly into cyst and connected to suction for continuous vacuum suction. Irrigation of the cyst done with hypertonic saline which was allowed to remain for 15 minutes and changed 4 to 5 times. A portion of cyst wall excised for pathological examination. The germinative layer and hydatid daughter cysts were sucked out with 10mm suction/and removed with care and placed in Endobag (Fig. 2) and retrieved through epigastric port. Then laparoscope was inserted into cyst to exclude any biliary communication or retained daughter cysts. The cyst cavity was irrigated with hypertonic saline several times. Gauze pieces were removed through 10mm epigastric trocar. The pericyst cavity was obliterated with omentum after putting a suction drain into the cavity.

Patient did well postoperatively and discharged on 3rd day. Albendazole 10mg/kg started from postoperative day 1 and continued for 21 days then gap of 14 days. 3 cycles recommended to prevent recurrence.

## DISCUSSION

Hydatid disease of liver is characterized by worldwide distribution.<sup>8</sup> It is a better and safe with less morbidity, mortality and shorter hospital stay and recurrence rate in comparison to open technique. It also prevents intraperitoneal spillage of cyst contents.<sup>9</sup>

Laparoscopic approach has better visual control of the cyst cavity under magnification. The procedure is contraindicated in patients with secondary infected cysts, or suspected biliary communication (bile-stained aspirate), owing to increased risk of complications.<sup>10</sup> Posterior cysts, more than three cysts, cysts with thick and calcified walls are also contraindicated.

Inactivation of cyst with 20% NaCl (hypertonic saline), removal of the cyst contents without contaminating the abdomen patient, followed by appropriate management of any remaining cavity.<sup>10</sup> Draining of remaining cyst cavity for 48 hours by romovac drain help to obliterate cavity and prevents biliary peritonitis if bile leak is there. We always used the technique of obliterating

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Figure 1 and 2: Provide legend???

the cavity by plugging the greater omentum.

## CONCLUSION

The procedure is contraindicated in patients with secondary infected cysts, or suspected biliary communication (bile-stained aspirate), owing to increased risk of complications. Posterior cysts, more than three cysts, cysts with thick and calcified walls are also contraindicated.

Inactivation of cyst with 20%NaCl (hypertonic saline), removal of the cyst contents without contaminating the abdomen patient, followed by appropriate management of any remaining cavity. The cyst is approached laparoscopic ally by using same hydatid aseptic techniques as in open surgery.

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