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Original Research Article

Laparoscopic Management of Hepatic Hydatid Cyst: A Case Series from a Peripheral Medical College of West Bengal, India

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Abstract

Background: Hydatid disease of the liver remains prevalent in endemic regions. Laparoscopic surgery is increasingly replacing open surgery as the standard of care, though evidence from peripheral centers is limited.

Methods: We report three female patients with hepatic hydatid cysts who underwent laparoscopic surgery at a peripheral medical college. Preoperative diagnosis was established with ultrasonography and CT. Standard laparoscopic techniques with scolicidal precautions were used.

Results: Patients were aged 65, 42, and 38 years. Cysts were located in segments IV, VI, and VII of the liver, measuring 6–8 cm. All underwent laparoscopic evacuation with pericystectomy or deroofing, with one patient requiring omentoplasty. Postoperative recovery was uneventful in all cases. Hospital stay ranged from 3–5 days. Albendazole therapy was continued postoperatively.

Conclusion: Laparoscopic surgery for hepatic hydatid cyst is safe and feasible in peripheral centers, with favorable outcomes and low morbidity when standard precautions are followed.

Keywords: Hepatic Hydatid Cyst, Laparoscopic surgery, Management, West Bengal.

Introduction

Cystic echinococcosis, caused by Echinococcus granulosus, is endemic in many parts of the world, with the liver being the most commonly affected organ [1]. Despite advances in medical and percutaneous therapy, surgery remains the cornerstone of treatment [2]. Laparoscopic techniques have gained wide acceptance in recent decades, offering reduced postoperative pain, shorter hospital stay, and improved recovery compared with open procedures [3,4]. Most published data originates from tertiary centers of big cities. Reports from peripheral institutions are scarce, yet they provide valuable insight into the feasibility of advanced surgical techniques in resource-limited settings. This study reports three female patients with hepatic hydatid cysts who underwent laparoscopic management in a peripheral medical college hospital.

Materials and Methods

This retrospective case series includes three consecutive patients with hepatic hydatid cysts managed laparoscopically between January 2025 to August 2025. Institutional Ethics Committee approval has been taken. All were female. Diagnosis was based on clinical presentation, ultrasonography, and contrast-enhanced computed tomography (CECT). Patients received preoperative albendazole therapy (400 mg twice daily for 4 weeks) and continued treatment for six weeks postoperatively. Surgery was performed under general anesthesia. The cyst was isolated with hypertonic saline–soaked pads. After aspiration and instillation of scolicidal agent (3% hypertonic saline), the cyst cavity was opened and contents evacuated.

Depending on cyst characteristics, partial pericystectomy or deroofing with omentoplasty was carried out. Closed suction drains were placed when indicated.

Results

Three female patients, aged 65, 42, and 38 years, presented with right upper abdominal pain or

discomfort. None had jaundice or systemic complications [Table 1/Fig. 1].

Table 1: Summary of cases

Case	Age (years)	Cyst Location	Size (cm)	Procedure Performed	Hospital Stay (days)	Outcome
1	65	Segment VI	8 × 7	Laparoscopic evacuation + pericystectomy	4	Uneventful recovery
2	42	Segment IV	6 × 5	Laparoscopic partial pericystectomy	3	Uneventful recovery
3	38	Segment VII	7 × 6	Laparoscopic deroofing + omentoplasty	5	Uneventful recovery

All patients tolerated oral intake within 24 hours. No intraoperative spillage or postoperative complications were recorded.

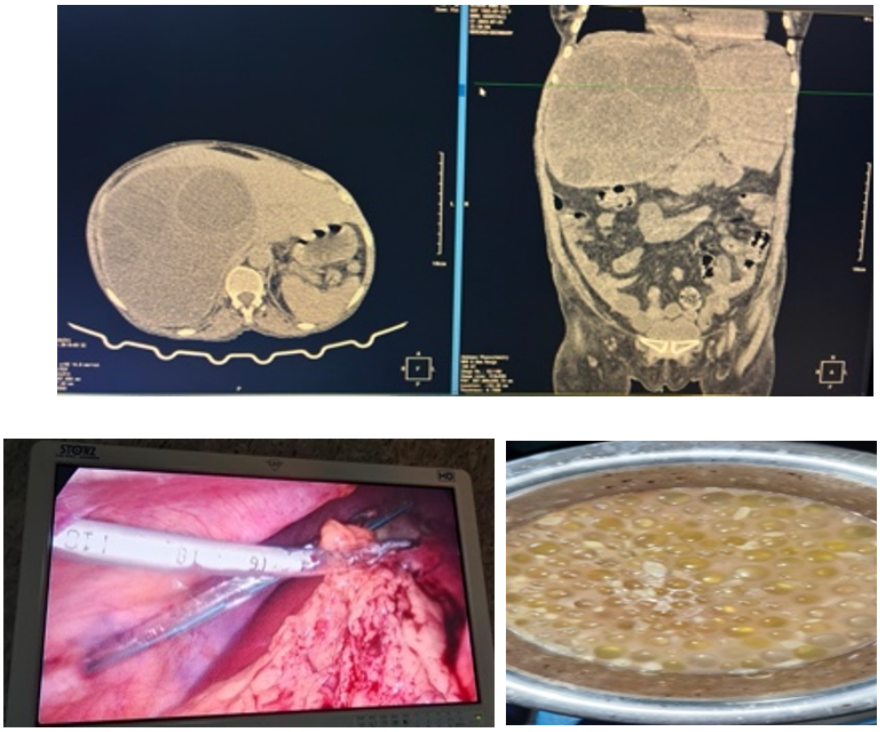

Figure 1: Ultrasonography and contrast-enhanced computed tomography (CECT) presentation of hydatid cysts; laparoscopic management of the case and aspiration of partial pericystectomy or deroofing with omentoplasty

Discussion

This series demonstrates the feasibility of laparoscopic management of hepatic hydatid cysts in a peripheral setup. The right lobe was the most frequent site, consistent with established literature [5]. The laparoscopic approach offers several advantages, including reduced postoperative pain, faster mobilization, and shorter hospital stay [6,7].

Critical steps for safety include complete isolation of the operative field, careful aspiration, and use of scolicidal agents [8]. Our patients experienced uneventful recoveries, highlighting the safety of the approach.

Concerns regarding recurrence and anaphylaxis have limited widespread adoption of laparoscopy in endemic areas. However, multiple studies report comparable recurrence rates to open procedures [9]. Our findings align with this evidence.

Conclusion

Laparoscopic management of hepatic hydatid cyst is safe, effective, and feasible in peripheral medical college hospitals. With adherence to anti-spillage protocols and proper case selection, outcomes are favourable even in resource-limited settings. Wider adoption of laparoscopy may improve surgical care for hydatid disease in endemic regions.

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