

## Case Report

# A rare case report of ectopic gallbladder

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**Abstract:** Objective: To report a rare case of ectopic gallbladder herniating along the ligamentum teres hepatis and to emphasize the pivotal role of diagnostic laparoscopy in the identification and diagnosis of ectopic gallbladder. Methods: A 47-year-old woman with an unremarkable medical history presented with intermittent epigastric discomfort. On admission, vital signs were: Blood Pressure 147/96 mmHg, Heart Rate 96 bpm, Temperature 36.6°C, Respiratory Rate 18/min. Abdominal ultrasonography failed to identify the gallbladder. Abdominal computed tomography was performed and showed an ill-defined cystic structure in the anterior abdominal wall extending to the umbilicus. Diagnostic laparoscopy was adopted for exploration, and the lesion was resected. Pathological examination was carried out on the resected specimen. Results: Diagnostic laparoscopy revealed a tubular structure coursing along the ligamentum teres hepatis, consistent with an ectopic gallbladder accompanied by partial omental herniation through the umbilicus. Pathological examination confirmed the resected structure as an ectopic gallbladder. The patient recovered smoothly and was discharged on the second postoperative day. At the one-month and three-month follow-ups, no complications or obvious discomfort were observed. Conclusion: Ectopic gallbladder herniating along the ligamentum teres hepatis is extremely rare. Diagnostic laparoscopy plays a key role in the definite diagnosis of ectopic gallbladder. Surgical resection achieves satisfactory outcomes with favorable postoperative recovery.

**Keywords:** Ectopic gallbladder, ligamentum teres hepatis, herniation, diagnostic laparoscopy, congenital anomaly, biliary anomaly

### Introduction

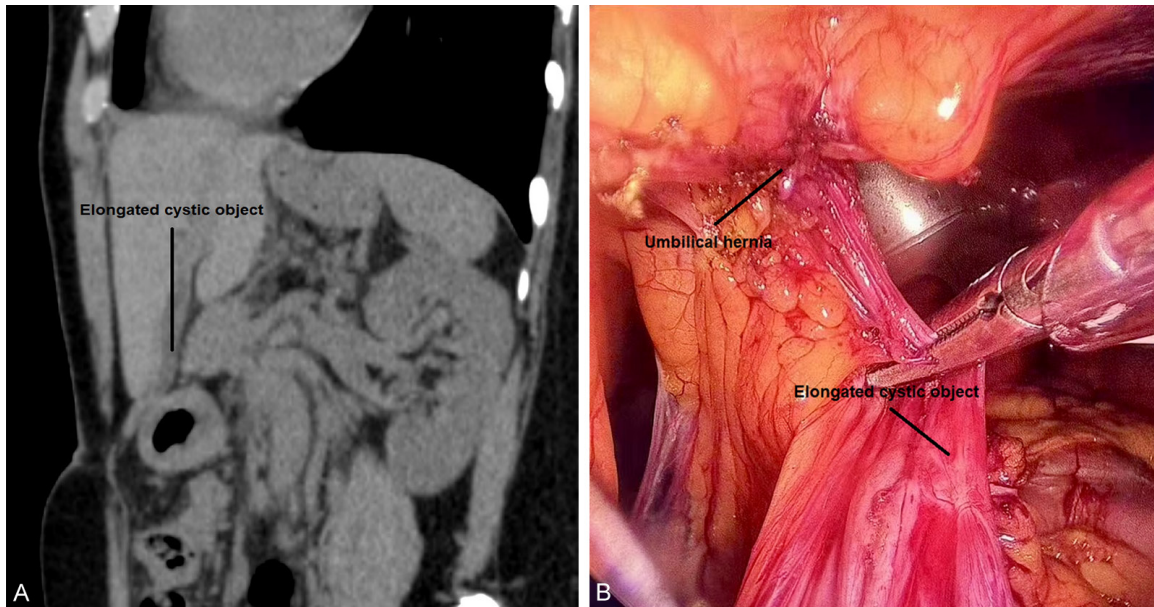
This case describes an extremely rare presentation of ectopic gallbladder herniating along the ligamentum teres hepatis, a variant that has not been well-documented in the existing literature. This will provide a reference basis for the subsequent diagnosis of ectopic gallbladder. Diagnosing ectopic gallbladder is clinically challenging given its variable clinical manifestations [1] and the limitations of conventional imaging modalities. Abdominal ultrasonography and computed tomography often fail to accurately localize the ectopic gallbladder, and supplementary magnetic resonance imaging or diagnostic laparoscopy is usually required for definitive diagnosis [2]. The magnetic resonance imaging was not performed due to patient-related reasons. Surgical excision serves as the first-line therapy for symptomatic ectopic gallbladder, aiming to alleviate clinical

symptoms and prevent potential complications [3, 4].

### Case report

A 47-year-old woman was admitted to our hospital following an incidental abdominal ultrasound that failed to visualize the gallbladder. Vital signs on admission were Blood Pressure 147/96 mmHg, Heart Rate 96 bpm, Temperature 36.6°C, Respiratory Rate 18/min. The patient was in good general condition except intermittent epigastric discomfort and denied any underlying diseases, had no specific past medical history, no history of adverse drug reactions, and no family history of genetic diseases. Physical examination was unremarkable except for a small umbilical hernia protrusion which occurred in the patient's childhood. Laboratory tests were within normal limits. Abdominal CT demonstrated an unclear gall-

## The ectopic gallbladder



**Figure 1.** (A) (Abdominal Computed Tomography) + (B) (Laparoscopy). (A) (Abdominal Computed Tomography) showed an elongated cystic object was noted posterior to the anterior abdominal wall; (B) (Laparoscopy) showed a long, tubular structure was noted coursing along the ligamentum teres hepatis and extending toward the umbilicus.

bladder; however, a slender, cystic-like structure was noted posterior to the anterior abdominal wall, appearing to connect on one end to the porta hepatis and extending anteriorly toward the umbilicus (**Figure 1A**). Subsequently, diagnostic laparoscopy was performed. The gallbladder was not identified in its typical anatomical location. Intraoperatively, dense adhesions were observed between the ligamentum teres hepatis and the hepatoduodenal ligament. A slender tubular structure was noted coursing along the ligamentum teres hepatis and extending toward the umbilicus, where it herniated laterally alongside a portion of the omentum (**Figure 1B**). After meticulous dissection and mobilization, the structure was confirmed to originate from the common bile duct. We dissected along this slender tubular structure, clipped the structure and its affiliated vessels with polymeric clips, and performed resection. An abdominal drain was placed in the operative field, and the operation was completed. The structure (**Figure 2A**) was excised and submitted for pathological examination, which revealed “chronic cholecystitis” (**Figure 2B**). This confirmed the existence of ectopic gallbladder. The patient recovered successfully and postoperative abdominal ultrasonography and liver function were unremarkable. The abdominal drain was removed on the second

postoperative day, and the patient was discharged. At the one-month and three-month postoperative follow-ups in our hospital, liver function and abdominal ultrasonography were unremarkable. The patient remained asymptomatic with a good quality of life.

### Discussion

Ectopic gallbladder is a rare congenital anatomical anomaly, defined as the gallbladder failing to occupy its typical anatomical fossa on the right hepatic lobe [3, 5]. According to the literature, 48.6% of ectopic gallbladder cases are incidentally diagnosed intraoperatively [4]. Ectopic gallbladder can present with diverse anatomical variations, including left-sided transposition, duplication, and septation and so on [1]. Despite the aberrant anatomical location, ectopic gallbladder may manifest with typical biliary symptoms such as abdominal pain, nausea, and emesis [4]. The embryological pathogenesis of ectopic gallbladder remains elusive, but it is postulated to arise from abnormal migration and malpositioning of the gallbladder during fetal development [4]. This case demonstrates a rare ectopic gallbladder herniating along the ligamentum teres hepatis, an umbilical hernia in childhood may have contributed to the situation, but the exact etiopatho-

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**Figure 2.** (A) (Specimen) + (B) (Pathology). (A) (Specimen) showed the resected long, tubular structure coursing along the ligamentum teres hepatis; (B) (Pathology) showed the microscopic examination (Hematoxylin-Eosin staining) of the resected specimen.

genesis remains speculative. We hypothesize that embryologic malpositioning [4] and acquired adhesions [3] likely contributed to this anomaly. Preoperative abdominal ultrasonography yielded a non-visualized gallbladder, and abdominal CT only identified an ill-defined cystic structure in the anterior abdominal wall, which is similar to the diagnostic limitations of conventional imaging in ectopic gallbladder as reported in previous studies [6]. In accordance with current clinical guidelines and literature evidence for the management of ectopic gallbladder, surgical resection is indicated to alleviate clinical symptoms and prevent potentially severe complications, including cholelithiasis, acute cholecystitis, and gallbladder perforation, et cetera [3, 4].

### Conclusion

This summary identifies a rare case of ectopic gallbladder with herniation along the ligamentum teres hepatis to the umbilicus. Meanwhile, it highlights the vital role of laparoscopy in the definitive diagnosis of ectopic gallbladder [3].

### Disclosure of conflict of interest

None.

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### References

- [1] Al-Tarakji M, AlFkey R, Aljohary H, Sameer M and Muhammad Ali S. Successful surgical management of unusual gallbladder anatomy through laparoscopic cholecystectomy of ectopic gallbladder. *Cureus* 2021; 13: e19884.
- [2] Velimezis G, Vassos N, Kapogiannatos G, Koronakis D, Salpiggidis C, Perrakis E and Perrakis A. Left-sided gallbladder in the era of laparoscopic cholecystectomy: a single-center experience. *Am Surg* 2015; 81: 1249-1252.
- [3] Teke Z and Akcam AT. Complete mesocolic malposition of the gallbladder: an unusual case report with literature's review. *Ulus Travma Acil Cerrahi Derg* 2022; 28: 557-561.
- [4] Brimo Alsaman MZ, Ali SM, Kitaz MN, Sallah H, Sabboh M, Badawi R, El Nahas R, Albostani A, Fattal A, Badawi B and Al-Tarakji M. Comprehensive review: types, clinical manifestations, diagnosis, and surgical management of ectopic gallbladder. *Int J Surg* 2026; 112: 1543-1552.
- [5] Falk V, Low G, Bigam D and Sandha G. Acute acalculous cholecystitis of an intrahepatic gallbladder causing Mirizzi's syndrome. *BMJ Case Rep* 2018; 2018: bcr2018224365.
- [6] Omata K, Yoshida M, Suzuki K, Kawashima H and Fujishiro J. Ectopic gallbladder with congenital biliary dilatation: a pediatric case report. *Surg Case Rep* 2022; 8: 51.