Laparoscopic cholecystectomy for symptomatic multiseptate gallbladder

Tarek A. Sabra, Mohammed H. Takrouney, Mohamed A. Osman, Mahmoud M. Mostafa

Department of General Surgery, Pediatric Surgery Unit, Assiut University Hospital, Assuit Governate, Egypt

Correspondence to Tarek A. Sabra, PhD, Department of General Surgery, Pediatric Surgery Unit, Assiut University Hospital, Assuit Governate, 71511, Egypt
e-mail: tareksabra@aun.edu.eg

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Multiseptate gallbladder is a rare congenital anomaly that may be silent or with symptoms. Herein, we report a case of 12-year-old male child with abdominal pain associated with nausea and vomiting. The diagnosis of multiseptate gallbladder was settled at 6 months after the first episode of abdominal pain by screening ultrasound and was confirmed by magnetic resonance cholangiopancreatography. We performed laparoscopic cholecystectomy with complete resolution of preoperative symptoms. The patient was discharged on postoperative day 1. The postoperative course was uneventful without complications.

Keywords:
congenital anomaly, laparoscopic cholecystectomy, multiseptate gallbladder

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Introduction

Multiseptate gallbladder is a very rare congenital anomaly, in which multiple septa of different sizes divide the gallbladder into intercommunicating chambers with faintly bosselated external surface. The gallbladder is usually normal in size and position. These septations may lead to bile stasis, stone formation, and recurrent abdominal pain, but this malformation may be asymptomatic [1]. Herein, we report a case of symptomatic calculous multiseptate gallbladder in a 12-year-old child treated by laparoscopic cholecystectomy (LC) with complete resolution of all preoperative symptoms.

Case report

A 12-year-old child was considered for LC due to multiseptate gallbladder. All Patients gave their formal consent. The protocol was approved the Ethical committee of Assiut University Hospital, Assuit Governate, Egypt. The diagnosis was pointed when the patient presented to our hospital with a 6-month history of recurrent right upper quadrant colicky abdominal pain. This was accompanied by nausea and vomiting. There was no fever or jaundice. Clinical examination and laboratory tests have shown normal findings (his hemoglobin concentration, white cell, and platelet counts were normal). Serum bilirubin concentration was 6 μmol/l, alkaline phosphatase 135 IU/1, γ-glutamyl transpeptidase 60 IU/l, aspartate transaminase 22 IU/1, albumin concentration 4 g/dl, and international normalized ratio of 1.02. Gall stones were the first clinical suspicious; however, abdominal ultrasound (US) scan showed no stones neither signs of inflammation, but multiple hyperechoic linear septa converting the gallbladder into a complex cystic structure (Fig. 1). For further confirmation of the diagnosis, magnetic resonant cholangiography (MRCP) was performed and showed a grape-like cluster of the gallbladder, with no associated abnormalities of the bile ducts (Fig. 2). The patient was scheduled for LC.

At laparoscopy, the gallbladder showed bosselated external surface, with delicate adhesion at the Hartman's pouch (Fig. 3a). The Calot's triangle was dissected; the cystic duct was very long (Fig. 3b).

Figure 1

Ultrasound showing multiple septa dividing the gallbladder into multilocular cysts. No stones or signs of inflammation.

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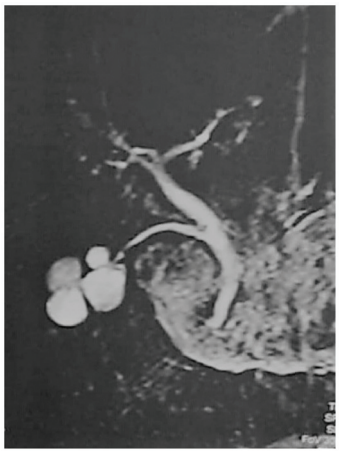
However, the cystic duct and artery were clipped and divided individually (Fig. 3c). The LC was completed with ease and without complications. The patient was discharged on the postoperative day 1. The 2-month postoperative course was uneventful, with resolution of all preoperative symptoms.

Figure 2

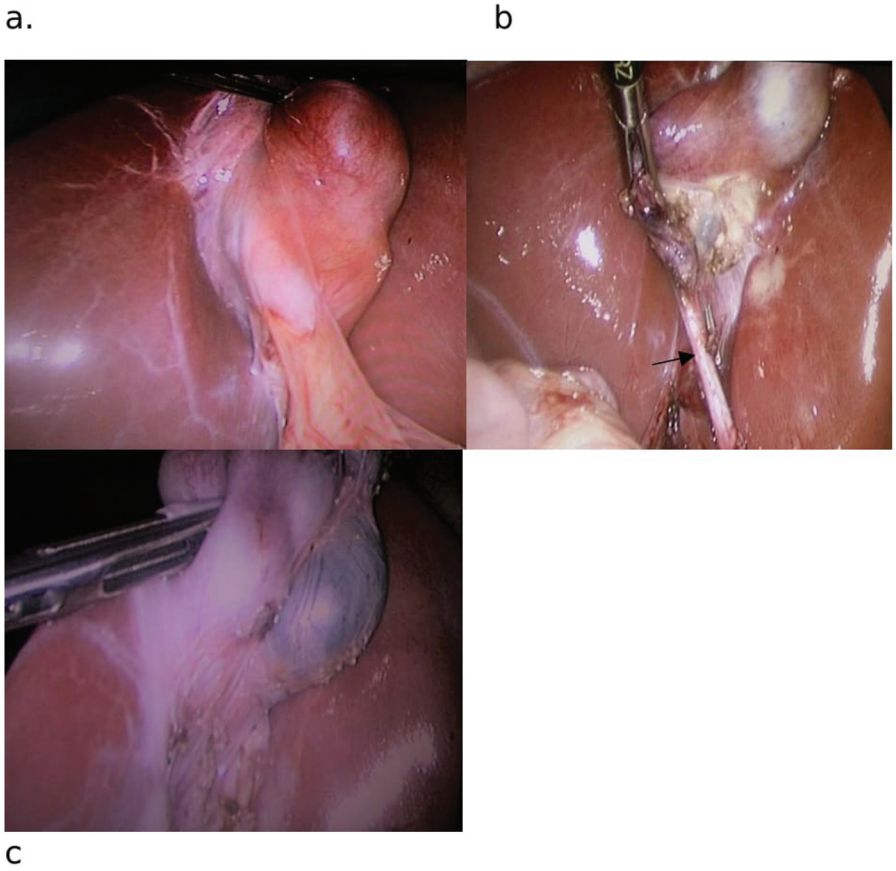


Magnetic resonant cholangiography confirmed the diagnosis of multiseptated gallbladder with delineation of normal bile ducts.

Discussion

Unlike anomalies of bile ducts and their associated blood vessels, gallbladder malformations are rare. The incidence of gallbladder anomalies was reported to be 0.1% [2]. These anomalies affect the size, shape, position, and number [3]. Multiseptate gallbladder is a rare anomaly of the shape which occurs due to incomplete vacuolization of the gallbladder bud [4]. Nevertheless, acquired multiloculate gallbladder due to inflammatory process has been reported previously [5,6]. Most cases are asymptomatic and discovered incidentally [1,7], whereas, in our patient, long-standing recurrent abdominal pain in the right hypochondrium was the main symptom, which might be due to impaired gallbladder motility, attributed to the presence of septa with subsequent bile stasis. Variant imaging modalities were used to diagnose the multiseptate gallbladder [8]. In our case, we used the safest and the least invasive modalities; the multiseptat gallbladder was demonstrated on the screening US as a honeycomb appearance (Fig. 1), which was further confirmed by the MRCP as a grape-like cluster; moreover, the

Figure 3



Intraoperative findings of laparoscopy. (a) The bosselated external surface; (b) long cystic duct (black arrow); and (c) separation of the gallbladder from its bed after division of the cystic duct and artery individually.

MRCP has the advantage to delineate the biliary tree and exclude the associated bile duct anomalies, with definite identification of the biliary anatomy which was of great importance during future cholecystectomy (Fig. 2). Cholecystectomy is a curative therapy for symptomatic septate gallbladder [9]. Herein, we performed LC, keeping in mind the principles of LC to prevent inadvertent injury [10]. Complete removal of the gallbladder was achieved, to avoid complications of remnant gallbladder, which could be a suitable seat for future stone formation and recurrence of symptoms.

Conclusion

In conclusion, multiseptated gallbladder is a rare anomaly that can be diagnosed by a combination of US and MRCP. Cholecystectomy should be considered for patients with symptomatic multiseptated gallbladder even in the absence of gall stones. In our patient, the abdominal pain and associated symptoms have resolved after surgery.

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Conflicts of interest

There are no conflicts of interest.

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