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Case Report

Multiseptate gallbladder in an asymptomatic child: Case report and review of the literature ☆

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ABSTRACT

Multiseptated gallbladder also known as "Honeycomb gallbladder" is a rare condition that was first described by Tandon in 1963. It is described as a congenital anomaly in most of the cases. It may be asymptomatic or may lead symptoms. We present the case of a multiseptate gallbladder in a 5 year old girl who was admitted for managament of acute appendicitis.

Introduction

The multiseptate gallbladder is a rare congenital malformation, described as a gallbladder with more than 3 septa [1]. The etiology of MSG is not very clear yet and multiple embryological hypotheses have been suggested. Many of the reported cases of MSG have been diagnosed incidentally and the rest presented with a variety of different symptoms [2].This malformation is most often discovered during abdominal ultrasound [1].

Case report

A 5-year-old girl with no medical history was admitted to the emergency service for acute abdominal pain. Physical examination found a fever and a sensitivity in the right iliac fossa. The sonographic examination of the abdomen showed a latercaecal inflamed appendix. It revealed also a multiloculated gallbladder with multiple, thin septations arising from the wall and bridging the lumen from side to side, predominantly in the neck and the body (Fig. 1). The gallbladder wall was

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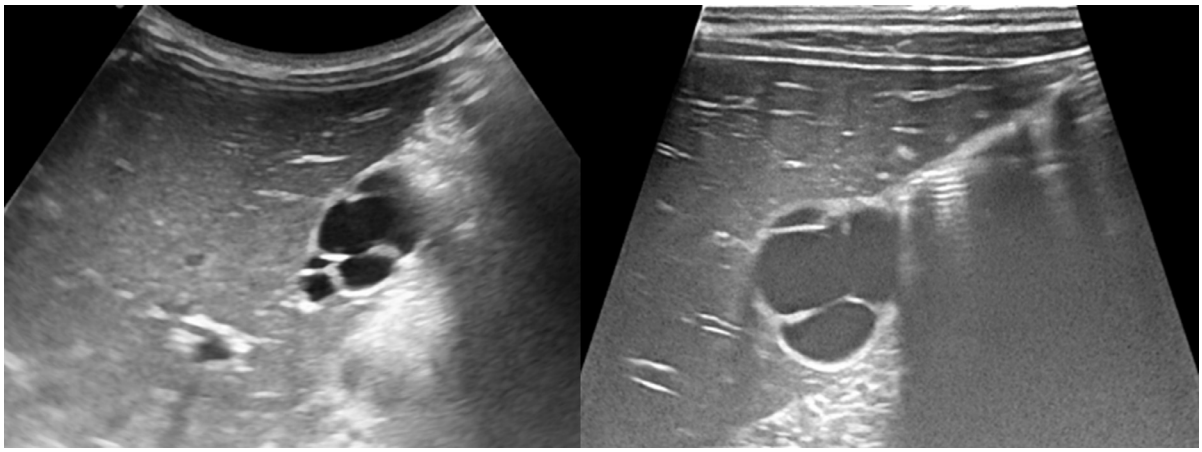

Fig. 1 – Abdomen ultrasound shows multiple septations in the gallbladder in 2 views.

otherwise normal. No abnormal acoustic shadow was noted. No calculi were present. The biliary tree was normal.

The patient was admitted to the operating theatre within 2 hours. Under general anesthesia, a pediatric visceral surgeon performed an appendicectomy by coelioscopy. After 2 days of intravenous anti-biotherapy, the young patient left the hospital.

The last physical exam at 5 months found no abnormalities and the gallbladder had the same aspect on the sonographic examination.

Discussion

The multicompartmental gallbladder is a rare congenital malformation defined by a gallbladder divided into multiple compartments separated by complete or incomplete septa. It was first described clinically and histopathologically by Simon and Tandon in 1963 [3]. There is no definitive explanation for this anomaly [1].

Despite being referred to as a congenital malformation, its pathogenicity is unclear and controversial [3]. The first theory is a defect of early embryological maturation. An anomaly in the development of the gallbladder structures would lead to incomplete vacuolization of the vesicular bed. The second theory, most reported in the recent literature, maintains that the anomaly is linked to a defect in vesicle folding, with vesicular growth outstripping that of the vesicular bed. This anomaly is characterized by the presence of smooth muscle fibers in the septa as well as in the vesicular wall [4].

The gallbladder is divided into multiple compartments by thin septa and presents a honeycomb appearance. Septa affect commonly the gallbladder lumen difusely, but the gallbladder lumen can be rarely partially affected [5].

Our case is symptom-free. Although it could be asymptomatic, many authors reported biliary colic symptoms [6]. Right upper quadrant discomfort is the most frequent presenting symptom in patients, who may additionally have symptoms of nausea and vomiting. Patients with multiseptate gallbladder are more commonly symptomatic in adulthood, affecting females more than males [7]. One hypothesis to explain the discomfort in the abdomen is a diminished reservoir function of the vesicle, which would lead to higher intraluminal pressure [1].

The choledochal cysts (7% of reported cases), abnormal pancreatic biliary duct arrangement, pancreatitis, cholelithiasis, gallbladder hypoplasia, and even gallbladder cancer have all been discovered to be connected with multiseptate gallbladders [8].

A biliary pathology can be ruled out if there are no clinical symptoms or biological abnormalities, except the bile duct cyst, which may not present any symptoms [1].

Differential diagnosis includes desquamated gallbladder mucosa, polypoid cholesterolosis, hydatid cyst, congenital or acquired intramural diverticulosis, and even acute hepatitis [8].

Patients with biliary symptoms can heal without therapy, and asymptomatic patients can continue to be asymptomatic. Therefore, for asymptomatic multiseptate gallbladder without concomitant biliary tract anomalies, routine follow-up is sufficient. When symptoms appear, they can either be handled surgically with a cholecystectomy or monitored carefully over time without treatment [8].

Conclusion

Multiseptate gallbladder is a rare congenital anomaly. Most cases are presented with biliary symptoms, but some cases can be asymptomatic. It's typical multiseptate "honeycomb" appearance does not require additional diagnostic examination in the absence of clinical and biological signs. A systematic follow-up ultrasound does not seem necessary but can be performed if abdominal symptoms appear.

Patient consent

Written informed consent for the publication of this case report was obtained from the parent of the patient.

REFERENCES

[1] Gazagne C, Dabadie A, Aschero A, Pico H, Colavolpe N, Desvignes C, et al. Multiseptate gallblader diagnostic and natural history: about 4 pediatric cases. Journal d'imagerie diagnostique et interventionnelle 2022;5:265–71.

[2] Terkawi RS, Qutob D, Hendaus MA. Understanding multiseptated gallbladder: a systematic analysis with a case report. JGH Open 2021;5(9):988–96. doi:10.1002/jgh3.12621.

[3] SIMON M, TANDON BN. Multiseptate gallbladder. a case report. Radiology 1963;80:84–6. doi:10.1148/80.1.84.

[4] Oyachi N, Numano F, Koizumi K, Takano A, Shibusawa H. Multiseptate gallbladder coexisting with pancreaticobiliary maljunction treated by laparoscopic cholecystectomy: report of a pediatric case. Surg Case Rep 2022;8(1):16. doi:10.1186/s40792-022-01370-4.

[5] Erdogmus B, Yazici B, Ozdere BA, Akcan Y. Clinical and ultrasonographical findings in patients with multiseptate gallbladder. Tohoku J Exp Med 2004;204(3):215–19. doi:10.1620/tjem.204.215.

[6] Karaca T, Yoldas O, Bilgin BC, Bilgin S, Evcik E, Ozen S. Diagnosis and treatment of multiseptate gallbladder with recurrent abdominal pain. CaseRepMed 2011;2011:1–2.

[7] Hopmann P, Tan E, Lo D. Multiseptate gallbladder presenting with biliary colic. J Surg Case Rep 2022;2022(9):rjac417. doi:10.1093/jscr/rjac417.

[8] Hsieh YM, Hsieh YL, Wang NL, Wu PS, Weng SC. Multiseptate gallbladder: A case report and literature review. Medicine (Baltimore) 2021;100(49):e27992. doi:10.1097/MD.0000000000027992.