

GALLBLADDER DIAPHRAGM: ULTRASOUND FINDINGS

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Abstract: The gallbladder diaphragm is a rare congenital malformation, in which a transverse septum divides the gallbladder into a proximal and a distal functional cavity that communicate through an orifice. It is usually asymptomatic, or sometimes it can be responsible for chronic abdominal pain. Abdominal ultrasound is the method of choice in pediatrics for the diagnosis of gallbladder abnormalities that affect its shape, size and position. This article presents a clinical case of gallbladder diaphragm in a 12-year-old boy with associated gallstones.

Keywords: Gallbladder; diaphragm; lithiasis; pediatrics; abdominal pain

INTRODUCTION

The gallbladder diaphragm is a rare congenital malformation¹²³⁴, in which a transverse septum divides the gallbladder into a proximal and a distal functional cavity that communicate through an orifice. This anatomical abnormality is usually asymptomatic, or can sometimes be responsible for chronic abdominal pain. As complications, lithiasic or acalculous cholecystitis have been described. Thanks to advances in imaging, the diagnosis can be made preoperatively.⁴

In this article, a clinical case of gallbladder diaphragm in a 12-year-old boy with associated gallstones is presented.

CLINICAL CASE

A 12-year-old male patient, with no medical history, comes to the clinic due to pain in the right hypochondrium. The ultrasound examination with a 14 mHz linear probe revealed a thin-walled gallbladder, which in its upper third had a membrane with a central hole (diaphragm); associated with a stone image 0.89 cm distal to it. A cholecystectomy was performed, confirming the ultrasound findings.

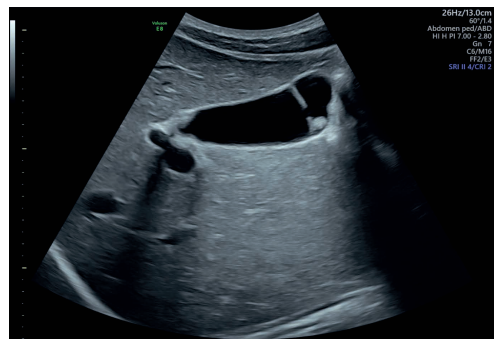
DISCUSSION

Congenital anomalies of the gallbladder are rare and affect its location, shape, or number. The diaphragm of the gallbladder, also called “congenital hourglass gallbladder”, is the least common anomaly.⁴

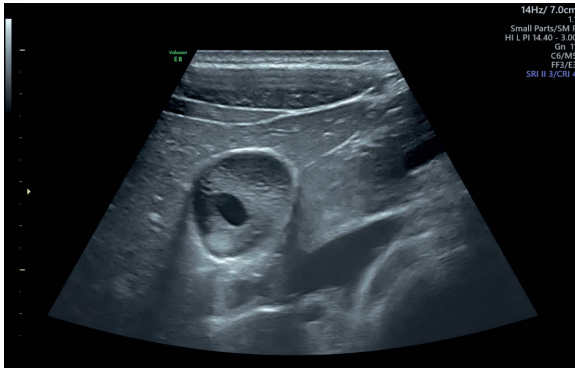
The gallbladder develops from the caudal portion of the hepatic diverticulum of the foregut. This caudal portion, also called the cystic yolk, is a solid structure that normally vacuolizes after the seventh week of gestation. There are often additional shoots, but they usually recede. The alteration of these embryological processes can be the origin of gallbladder anomalies such as double gallbladder, bilobed, multiseptate or even absent gallbladder. The clinical presentation of the gallbladder diaphragm is often indolent, with a long history of recurrent abdominal pain.⁴ Abdominal ultrasound is the method of choice in pediatrics for the diagnosis of gallbladder abnormalities that affect its shape, size and position. Scintigraphy and CT scans may also be helpful.⁴

CONCLUSION

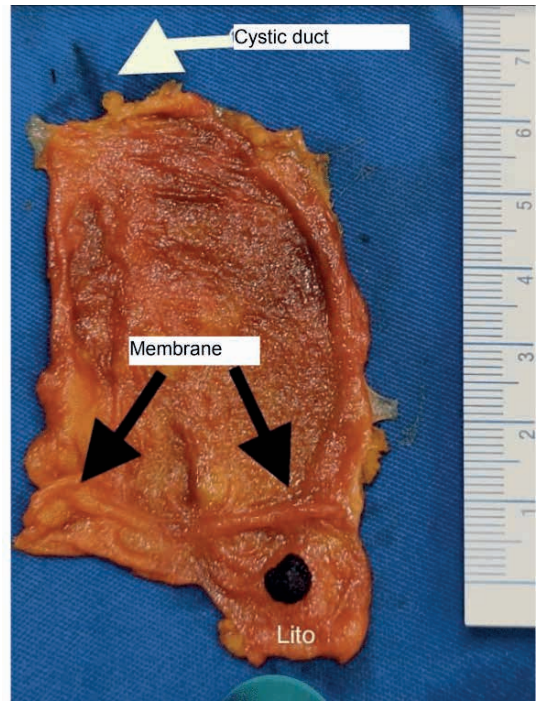
Ultrasound examination is the method of choice in the diagnosis of intravesicular membrane with a central hole or gallbladder diaphragm, which predisposes to stone formation. Knowledge of this entity is important in pediatric patients with symptoms of biliary colic.²



Gallbladder in sagittal section showing gallbladder diaphragm and lithiasis distal to it



Gallbladder in axial section showing gallbladder diaphragm and lithiasis



surgical piece

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