

Multiseptate gallbladder in a child with recurrent abdominal pain

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ABSTRACT

Multiseptate gallbladder, a rare congenital anomaly, can present with recurrent abdominal pain. Ultrasonography is the preferred imaging technique in patients with abdominal pain, especially for the evaluation of the gallbladder. We present the sonographic appearance of a multiseptate gallbladder.

Key words: • gallbladder • ultrasonography • abdominal pain

Multiseptate gallbladder is a rare congenital anomaly. Simon and Tandon reported details of clinical and pathological findings of multiseptate gallbladder in 1963 (1). Although several asymptomatic cases have been described, clinically patients usually present with biliary pain. We report a patient with a multiseptate gallbladder who presented with recurrent abdominal pain and normal laboratory work-up.

Case report

A 5-year-old girl with recurrent attacks of abdominal pain of about 2 years duration was admitted to our hospital. The pain was colicky in nature and sometimes associated with nausea. There was no history of sickle cell disease or any other blood disorders. Physical examination and laboratory studies (CBC, liver function tests, and electrolytes) revealed no abnormality.

Sonographic examination of the abdomen was performed with a 3.5-MHz convex transducer and a 7.5-MHz linear transducer connected to an ultrasound machine (Sonoline Elegra, Siemens, Erlangen, Germany). The examination revealed multiple linear echoes, consistent with septa, within the gallbladder, some of which crossed the lumen and connected to the opposing walls mimicking a honey-comb pattern (Figure). There were no gallstones or dilatation of the bile ducts, and the wall thickness of the gallbladder was normal.

Based on these sonographic findings, the diagnosis of a multiseptate gallbladder was made. The patient was referred to pediatric gastroenterology clinic where she was treated conservatively and is still being followed up.

Discussion

Congenital anomalies of the gallbladder have been classified into malformations of shape, number, site, and size, and heterotopias (2, 3). These anomalies may be asymptomatic or may cause a wide range of complications.

The multiseptate gallbladder is thought to be a congenital malformation, although the embryogenetic mechanism is not clear. It most likely results from incomplete vacuolization of the developing gallbladder bud or persistent “wrinkling” of the gallbladder wall (4, 5).

Clinically, the majority of patients have colicky pain suggestive of cholecystitis, usually in the right upper quadrant or in the epigastrium, which may radiate in the back near the right scapula. It has been postulated that the symptoms are produced because of a transient inability of thick bile to pass through the small openings between the septa, resulting in stasis and increased intraluminal pressure of the gallbladder (6).

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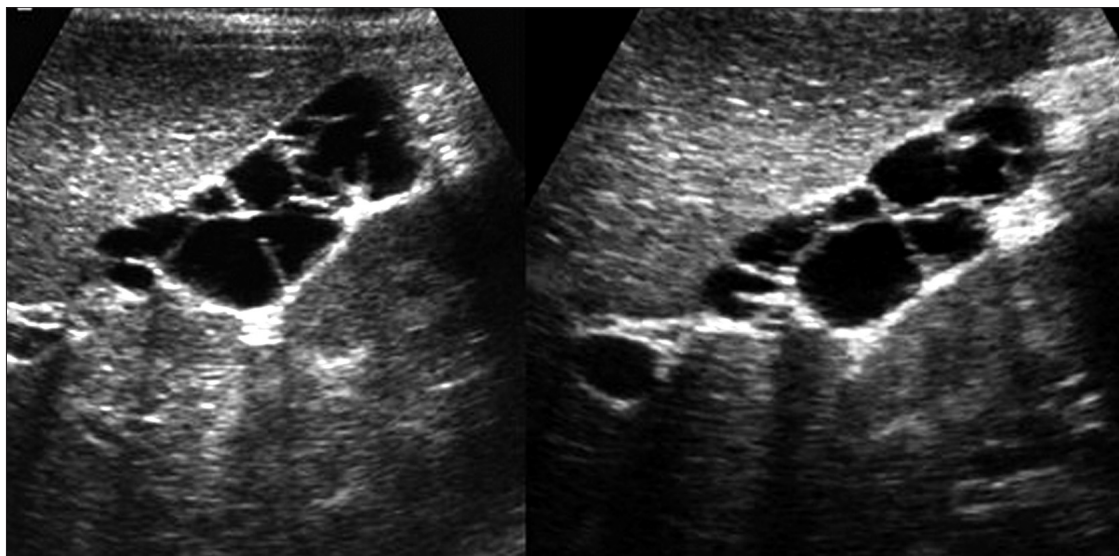


Figure. Sagittal sonograms show multiple septa within the gallbladder, creating a honeycomb appearance.

Recurrent abdominal pain in childhood due to gallbladder is often misinterpreted as being due to intestinal and genitourinary etiologies. Cholelithiasis and cholecystitis are very rare before puberty and, if present, they are mostly related to bacterial and parasitic infections, hemolytic conditions and chronic gastrointestinal diseases (7). We think that the cause of recurrent abdominal pain in our patient was the mechanical effect of septa impairing bile flow. As these septa do not contain muscle fibers, difficulty in bile flow is a consequence of the impaired motility of the gallbladder.

In patients with multiseptate gallbladder, sonography demonstrates multiple linear, fine echogenic bands without acoustic shadowing or septa crossing the lumen of the gallbladder, giving the organ a honeycomb appearance (8) as in our patient.

On sonographic examination, desquamated gallbladder mucosa and the hyperplastic cholecystoses must be considered in the differential diagnosis. Desquamated gallbladder mucosa

is seen as multiple linear echoes in the gallbladder lumen which do not arise from the wall of the gallbladder and the clinical setting is compatible with acute cholecystitis (9). The appearance of polypoid cholesterosis and adenomyomatosis may mimic multiseptate gallbladder, but there is no bridging of the gallbladder lumen by the cyst-like Rokitansky-Aschoff sinuses or polypoid bulbous echoes. A hydatid cyst should also be considered in the differential diagnosis, but the location and communication with the cystic duct and postprandial contraction of the gallbladder helped us to rule out this entity.

In conclusion, gallbladder abnormalities, although rare, should always be considered in the differential diagnosis of children presenting with recurrent attacks of abdominal pain, and abdominal ultrasound should form part of the investigation. Multiseptate gallbladder should also be borne in mind among the etiologic factors of cholelithiasis and cholecystitis.

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