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CASE REPORT

Multiseptate Gallbladder: a different variant in an asymptomatic young woman

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ABSTRACT

Multiseptate gallbladder (MSG) is a rare congenital anomaly with less than 50 cases described in the literature. There are multiple septa with a honeycomb appearance in MSG. The multiple septa are usually seen in the neck of the gallbladder but they may be sometimes seen in the other parts of the gallbladder. In this case presentation we aimed to report ultrasonography (USG) findings of a different variant of MSG with partial septa.

Key words: Multiseptate gallbladder, partial septa, ultrasonography

INTRODUCTION

Multiseptate gallbladder (MSG) is a rare congenital anomaly. Simon and Tandon reported the details of the clinical and pathological findings of MSG in 1963 (1). Patients with MSG usually present with abdominal symptoms such as right upper abdominal pain, nausea and vomiting. The patients with MSG may also be asymptomatic and can be diagnosed incidentally during ultrasonography (USG) examination. In this case presentation we aimed to present a biliary symptom free case diagnosed incidentally during USG examination.

CASE PRESENTATION

A 26-year-old woman with irritative urinary symptoms and urge incontinence was admitted to the urology department. The only symptoms of the patient were recurrent urologic symptoms. The physical examination and laboratory studies such as complete blood count, liver function tests, electrolytes, and urinalysis revealed no specific abnormality. During the USG examination, the patient declared an abnormal history related to the gallbladder, thus we added hepato-biliary system USG to urinary system USG. The patient was informed, and her written consent was obtained following the USG examination in case of scientific publication.

USG examination of the abdomen was performed with a 4C convex transducer and a 11L linear transducer connected to an Ultrasound machine (Logiq P5, GE Healthcare, Wisconsin, USA). The frequency bandwidths of these transducers ranged between 2-5 and 7-12 Megahertz, respectively. USG examination performed in supine and left decubitus posture with full inspiration. Intercostal approach was performed when necessary. Because the gallbladder seemed relatively small, and the patient had a history of a meal 3 hours before, USG examination was repeated after 8 hours of fasting in order to eliminate physiological gallbladder contraction.

The USG examination revealed multiple linear echoes, consistent with septa, within the gallbladder, some of which crossed the lumen and connected to the opposing wall giving a honeycomb pattern (Figure 1). However, the septa in the corpus of the gallbladder had partial extent, which was

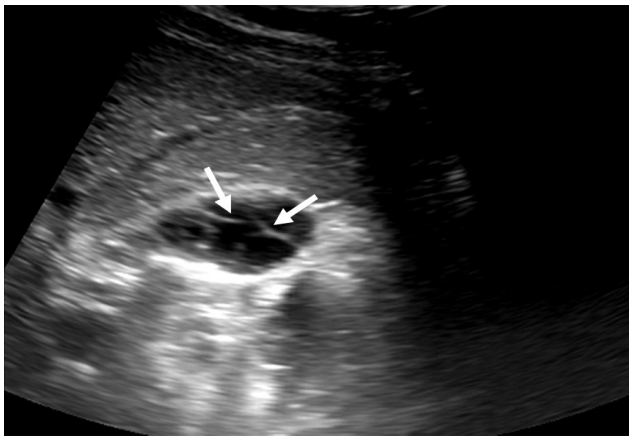

Figure 1. Sagittal sonograms show multiple septa within the fundus of gallbladder, bridging septa seems as a honeycomb pattern. This pattern is typical for multiseptate gallbladder. Note that some septa cross the neck of gallbladder (white arrows).

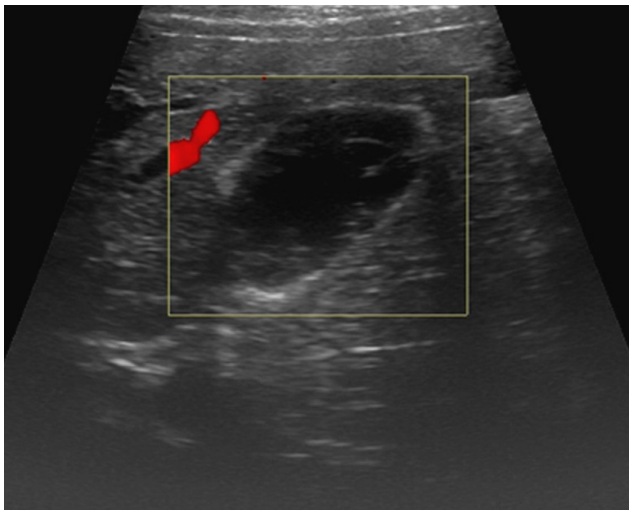

Figure 2. Sagittal doppler ultrasound images of gallbladder. Note that the septa are hypovascular in doppler ultrasound imaging.

a diagnostic challenge for typical MSG. There was neither gallstones and dilatation of the bile ducts nor increased thickness of the gallbladder wall. Doppler USG examination revealed no prominent vascularity in septa (Figure 2). The long axis of the gallbladder was measured as 4 cm, and the transverse length was measured as 2 cm, compatible with a relatively small gallbladder. The repeated USG examination after 8 hours following the last meal did not show any considerable change for neither gallbladder volume nor gallbladder wall thickness. Based on these USG findings, the diagnosis of a MSG was made. The patient was referred to the gastroenterology clinic.

DISCUSSION

MSG was first described in 1963 by Simon and Tandon [1]. It is characterized by multiple thin septations within the gallbladder lumen, giving a honeycomb-like appearance. Simon and Tandon proposed that, this was due to incomplete vacuolation of the developing gallbladder. Bhagavan et al. [2] have suggested that, MSG may be a result of the solid embryonic gallbladder growing faster than its bed and investing peritoneum, causing aberrant bends and kinks. The same authors also postulated that, a variation in the wrinkling, lobulation, and clefting of the gallbladder (seen in cat and guinea pig embryos) may result in MSG [2, 3].

Clinically, the majority of patients have colic pain suggestive of cholecystitis usually in the right upper quadrant or in the epigastrium, which may radiate close to 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 [4, 5]. Asymptomatic patients are very rare in the literature [6, 7]. Partial septa in the corpus of gallbladder, detected in our patient, would be an explanation why our case was asymptomatic. We believe that, partial septa let bile transition and prevent stasis. Reduced gall bladder volume is also another evidence of normal intraluminal gallbladder pressure.

USG examination of the gall bladder is usually sufficient to diagnose MSG, although other modalities such as computed tomography, magnetic resonance cholangiopancreatography (MRCP) and endoscopic retrograde cholangiopancreatography have been described to establish the diagnosis [7]. The main limitation of the presented study was the lack of MRCP examination. Although we intended to have a MRCP examination in order to reveal possible associated biliary tract anomalies at first, we did not find it ethically correct to add an expensive imaging modality for an asymptomatic patient.

In the literature, it is reported that, a 46-year-old woman with MSG had an anomalous biliary-pancreatic ductal union [8]. MSG, especially in childhood, may coexist with choledochal cysts [9], thus a detailed radiological examination of the hepato-biliary system is needed to exclude a choledochal or pancreatic pathology. Cholelithiasis [10, 11] and acute acalculous cholecystitis [12] are the other two complications of MSG. Regarding the abnormalities

of hepato-biliary-pancreatic system reported in the literature, we eliminated possible accompanying findings in the second examination. Except for biliary tract anomalies, a relationship between cholangiocarcinoma and MSG is also known [13,14]. Regarding the potential associated anomalies and risk of cancer, regular follow-up is undoubtedly substantial in an asymptomatic patient with MSG.

Desquamated gallbladder mucosa and the hyperplastic cholecystosis should be considered in the differential diagnosis. The USG examination of desquamated gallbladder mucosa shows multiple linear echoes in the gallbladder lumen, which do not arise from the wall of the gallbladder, and the clinical symptoms are similar to acute cholecystitis [15]. The appearance of polypoid cholesterolosis 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 be also considered in the differential diagnosis but the location and communication with the cystic duct helped us to rule out this entity.

Cholecystectomy provides the relief of the symptoms in symptomatic patients with MSG [16], while nonoperative management with regular follow-up is reasonable in the absence of the symptoms attributable to the MSG or an associated biliary tract anomaly [3].

In conclusion, asymptomatic MSG is rare, and it can be detected by the USG. Honeycomb pattern, made by the full thickness transition of septa in the gallbladder, is not a strict rule for MSG, exceptionally some septa may be seen in partial form.

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