Acta Scientific Clinical Case Reports

Volume 4 Issue 2 February 2023

Case Report

What is Behind Gall Bladder Duplication in Children that We Need to Know?

Omar Abdulqader Ajaj*

Associate Professor of Pediatric Surgery, University Of Anbar, College Of Medicine, Anbar, Iraq

***Corresponding Author:** Omar Abdulqader Ajaj, Associate Professor of Pediatric Surgery, University Of Anbar, College Of Medicine, Anbar, Iraq.

Received: January 02, 2023

Published: January 25, 2023

Abstract

Gall bladder duplication is an unusual structural anomaly. According to the studies, this happen about 1 in 4000 times. Evaluation of these malformations, in all their varieties, prior to the procedure is crucial in order to protect any biliary and vascular aberrant anatomy. We present a 10-year-old male child presented with recurrent epigastric and right upper quadrant abdominal pain associated with attack of fever, nausea, and vomiting. Abdominal ultrasound examination was performed, showing complete gallbladder duplication having two cystic ducts untied before passing into the common bile duct.

Keywords: Gall Bladder; Duplication; Rare; Common Bile Duct

Current Evidence Report

A 10-year-old male child presented with recurrent epigastric and right upper quadrant abdominal pain associated with attack of fever, nausea, and vomiting. He had history of multiple admissions to emergency unit and treated conservatively and discharged well. In the last presentation his physical examination showed slight tenderness in the right upper quadrant. Laboratory values found elevated white blood cell count and C reactive protein associated with normal level of total bilirubin; transaminases and alkaline phosphatase were elevated. US examination of the right upper quadrant was performed, showing a bilobar tensely distended with wall thickening gallbladder with intravesicular stone and no stone or dilatation in the common bile duct, the second gallbladder had a specific cystic duct that empties into the common bile duct (Figure 1A, 1B). He was hospitalized and treated by fluid resuscitation and intravenous antibiotics. The child now under follow-up and arranged for interval cholecystectomy.

Figure 1: A, B: Ultrasound showing a bilobar gallbladder with intravesicular stone, the both gallbladder had a separated cystic duct that empties into the common bile duct.

Discussion

Gallbladder duplication is a rare birth defect. It occurs 1 in about 4000 live births [1]. Believed due to abundant budding of bile tree during development when the tail bud of the liver diverticulum divides [2]. The gallbladders discharged into the common bile duct, the variances were initially categorized, and Duplicate gallbladders with a shared cystic duct were referred to as vesica fellea divisa, while gallbladders were reported to drain into separate cystic ducts by vesica fellea duplex [3].

The modern classification was described by Boyden's classification of congenitally duplicated gallbladder [4] (Figure 2).

Figure 2: A) The gallbladder septating. B) Gallbladder fundus duplication. C) Body duplication using a solitary cystic duct. D) Complete gallbladder duplication having two cystic ducts untied before passing into the common bile duct. E) Complete duplication with separate drainage from each of the two cystic ducts. F) Bilateral gallbladder. Our case appears to correspond to type D reported by Boyden's classification.

An accurate diagnosis is essential to prevent disease recurrence, additional operations, and in particular surgical complications brought on by distorted biliary anatomy [5]. The main imaging technique being used evaluate suspected gallbladder illness is sonography. There are some suggested sensitive ultrasonographic indicators of gallbladder duplication. These symptoms include isolated non-diseased gallbladder contraction and absence of diseased gallbladder contraction. Oral cholesystography, scintigraphy, and percutaneous transhepatic cholangiography can all be used to diagnose gallbladder duplication; however these tests are not frequently performed on biliary disease patients [5]. In our case, abdominal ultrasound was proving the gallbladder duplication findings.

Gallbladder diverticula, pericholecystic fluid, gallbladder fold, Phrygian cap, choledocal cyst, localized adenomyomatosis, and intraperitoneal fibrous bands are among the differential diagnoses [6]. Similar clinical issues, such as acute or chronic cholecystis, lump in the abdomen, cholelithiasis, empyema, torsion, cholecystocolic fistula, and cancer, are also present in individuals who have duplicate gallbladders [6,7]. It is advised to remove both gallbladders simultaneously during surgery to prevent cholecystitis and symptomatic gallstones in the remaining organ [1]. In an asymptomatic patient with gallbladder duplication, prophylactic cholecystectomy is not advised because there does not appear to be a noticeably increased chance for future disease [2].

Funding Support

Nil.

Conflicts of Interest

Nil.

Bibliography

1. Kumar S., *et al*. "Gallbladder duplication in a child with choledochal cyst: a rare surgical surprise". *BMJ Case Reports* 14.7 (2021).

2. Desolneux G., *et al*. "Duplication of the gallbladder. A case report". *Gastroenterology Research and Practice* (2009).

3. Pera SJ., *et al*. "Duplicate gallbladder: A case report of a patient with cholecystitis after cholecystectomy". *International Journal of Surgery Case Reports* 65 (2019): 156-160.

4. Mahat S., *et al*. "Duplication of the gallbladder: Case report of a rare biliary malformation". *Radiology Case Reports* 17.12 (2022): 4613-4616.

5. Batur A and Karaköse S. "Imaging findings of gallbladder duplication: case report". *Van Medical Journal* 21.1 (2014): 49-53.

6. JF Gigot., *et al*. "Laparoscopic treatment of gallbladder duplication: a plea for removal of both gallbladders". *Surgical Endoscopy* 11.5 (1997): 479-482.

7. B Senecail., *et al*. "Anatomic variability and congenital anomalies of the gallbladder: ultrasonographic study of 1823 patients". *Morphologie* 84.264 (2000): 35-39.