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Duplication of the Gallbladder; A Case Report

Case Report

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ABSTRACT

Gallbladder duplication is a rare congenital anomaly, which is not accompanied by specific symptoms; however, it is usually associated with cholelithiasis. A 52-year-old man is described, who was referred to the hospital complaining of pain. Ultrasonography indicated the presence of Boyden's Type II gallbladder duplication with stones in the left gallbladder and cholecystitis in both gallbladders. The patient underwent cholecystectomy. In the pathology report, chronic inflammation of the gallbladder was reported. Furthermore, the presence of a second gallbladder was confirmed.

Keywords: Gallbladder duplication; Gallbladder; Anomaly; Cholecystectomy

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INTRODUCTION

Gallbladder duplication is a rare congenital anomaly, appearing around one in 3800-4000 births (1-4). The reported cases only describe individuals who have the disease symptoms or who came across them during surgery, imaging studies, or autopsies as incidental findings. Thus, the exact incidence of this anomaly in the general population cannot be accurately evaluated (3,5). Gallbladder duplication is not accompanied by specific symptoms; nevertheless, it is usually associated with cholelithiasis, which may be because of improper biliary drainage. Gallstones are more likely to appear in one lobe; however, both lobes can be involved (3,6). The role of preoperative and intraoperative imaging is influential for better anatomy and minimization of possible damage. MRCP (Magnetic resonance cholangiopancreatography) is a standard non-invasive imaging technique for the assessment of patients with suspected biliary tract abnormalities (3). Cholecystectomy is the selected treatment for such patients (1). In the present study, a patient is described for whom gallbladder duplication was confirmed after diagnostic measurements.

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CASE REPORT

The patient was a 52-year-old man with a history of abdominal pain from two years earlier who had more severe pain recently and attacks and was referred to Shahid Sayad Shirazi Hospital. On initial examination, there was tenderness of the right upper quadrant, the pain was colicky, and it shot in the back and got worse with fatty and heavy foods. The patient had a history of angioplasty (percutaneous coronary intervention) and Ischemic Heart Disease. Moreover, the patient was a drug abuser. The initial diagnosis of cholecystitis was made for the patient.

Initial laboratory data, including AST (Aspartate Aminotransferase) , Amylase, Bill.T(Bilirubin Total), and Bill.D (Bilirubin Direct) were normal. In addition, serum creatinine level was 1.5 mg/dL. Ultrasonography

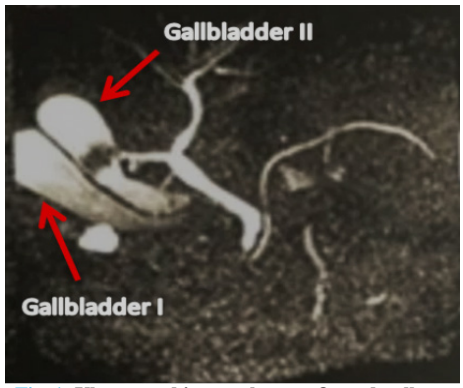

Fig. 1: Ultrasound image that confirmed gallbladder duplication

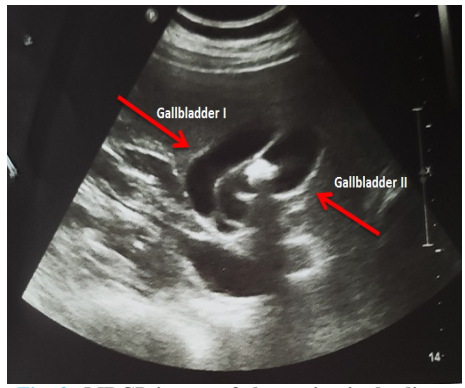

Fig. 2: MRCP image of the patient's duplicated gallbladder

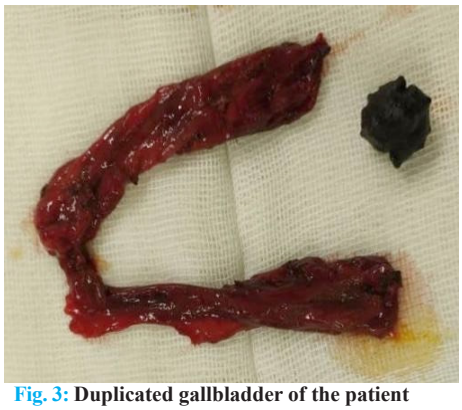

Fig. 3: Duplicated gallbladder of the patient

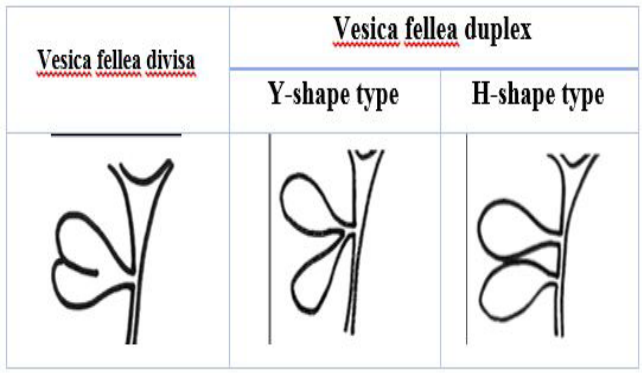

Fig. 4: Boyden's classification of gallbladder duplication (5)

showed a duplicated gallbladder (probably Boyden's Type II) with foci of echogenicity (stones) up to a maximum of 10 × 15 mm (figure 1). Therefore, MRCP was suggested for further evaluation that the presence of duplicated gallbladder was confirmed (figure 2). Consequently, the patient was scheduled for cholecystectomy. After the start of surgery and access to the gallbladder, two separate gallbladders were observed that were connected to each other by the infundibulum and had a common cystic duct.

The left gallbladder contained 15 mm stones; nevertheless, the right gallbladder was only inflamed. Finally, the gallbladder was ligated and removed from the cystic duct; moreover, the drain was placed in the bed of the gallbladder. On the fourth day, the drain was removed; and the patient was discharged. The patients had no problem in the follow-up. In the pathology report, chronic inflammation of the gallbladder was reported; in addition, the presence of a second gallbladder was confirmed.

DISCUSSION

Congenital gallbladder abnormalities and anatomical alterations of the bile ducts are of great significance due to the increased risk of damage to adjacent tissues during laparoscopy and open cholecystectomy (3). Based on the Boyden's classification (7), there are two main types of gallbladder duplication. The first type is vesica fellea divisa; and the second type is vesica fellea duplex. The vesica fellea duplex group is divided into two types, namely H and Y, which differ in the shape of the duct with each other (figure 2)(3,8). In individuals with gallbladder duplication, the probability of being in the first group is 45.1% and in the second group is 54.9% (9).

In our case, the duplication was in Boyden's Type II, Y-type, with two separate gallbladders with

a common cystic duct. Goh and colleagues (10), in their study, introduced a 28-year-old patient who, after MRCP, like our patient, had a Y-type duplication that underwent cholecystectomy. Moreover, both gallbladders were removed. In another study (5), the reported case had two gallbladders with a common cystic duct as our case. However, in the study of Boyle and colleagues (8), a 29-year-old patient with duplication of the second group and type H was described, for whom the robotic surgery was used to remove the gallbladder. Paraskevas and co-workers (9) also described a patient with gallbladder duplication of the second group and type H.

Finally, gallbladder duplication is a special abnormality that is not normally diagnosed until the individual shows inflammation or gallstones symptoms. However, it can be detected by creating biliary problems and using diagnostic tests. Furthermore, one or both gallbladders can be removed by using different surgical methods based on the needs.

CONFLICT OF INTEREST

The authors declare no conflict of interests related to this work.

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