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Radiology

A CASE REPORT OF DOUBLE GALL BLADDER

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ABSTRACT Gallbladder duplication is a rare anatomic malformation, which can now be detected by preoperative imaging study. Multiplication of gall bladder is less likely to be discovered unless associated with sludge, cholelithiasis, cholecystitis and carcinoma. This anomaly is important to know because of associated anatomical variations of main bile duct and hepatic artery and increased risk of common bile duct injury during operation. We hereby report an incidentally diagnosed duplicate gallbladder in a patient on ultrasound followed by Contrast enhanced computed tomography and was confirmed on Magnetic resonance cholangiopancreatography.

KEYWORDS :

I. Introduction:

Incidence of Gallbladder duplication,vesicafellae duplex,is about one per 4000 births being a rare congenital malformation[1]. Anatomical variations of gallbladder positions and their congenital anomalies are associated with an increased risk of complications after laparoscopic cholecystectomy [2– 5]. The clinical importance of finding GB multiplications is that there is high prevalence of pathological conditions like sludge, cholelithiasis, cholecystitis, cellular metaplasia, and adenocarcinoma [6,7,8,9]. Preoperative awareness of this anatomic variation can minimize the chance of an unexpected course of cholecystectomy and avoid damage to the biliary tract. When symptomatic, laparoscopic removal of both gallbladders with intraoperative cholangiography seems to be the appropriate treatment. The limitation of sonography is the inability to define the precise anatomic structures of the cystic ducts, which are better established by MRCP. In our case, the diagnosis of duplicate gall bladder was established by a sonographic study followed by CECT and was later confirmed on MRCP. Likewise, it seems appropriate for surgeons to know in advance about the anomaly so that they can remove all the GBs and avoid "postcholecystectomy syndrome" due to a retained accessory GB.

II. Case report:

A 32-year-old man presented with mild ,intermittent ,non colicky pain localised primarily to right renal angle . There was no h/o vomiting, fever or hematuria. On physical examination there was no jaundice ,localized tenderness or organomegaly. His pulse rate was 72 beats per minute; blood pressure was 116/80mm Hg; and temperature was 36.7C. Blood test values (complete blood cell count, liver function tests, and amylase level) were all within normal limits. Ultrasound examination of whole abdomen was performed. It revealed two separate ellipsoidal anechoic cystic structures lying side by side in gall bladder fossa, both appearing normal, with normal wall thickness, dimension, echo texture, and no calculi or sludge was appreciated(Fig 1-5). Both anteroposterior cystic structures were identified as two separate GBs with separate necks and non dilated common bile duct. Pancreas appeared normal in echo texture with non dilated MPD .CECT findings two hypotenuse structures adjacent to each other in gall bladder fossa which on reformatted saggital images showed two separate GBs clearly. Because the precise anatomic structures of the cystic ducts in relation to the 2 GBs were not entirely clear on ultrasound and CECT, MR cholangiography was also performed, showing two hyperintense structures in GB fossa with two separate necks and cystic ducts opening in the CBD.Other USG findings revealed a bright foci 7 mm casting DAS in user calyx of right kidney suggestive of right nephrolithiaisis

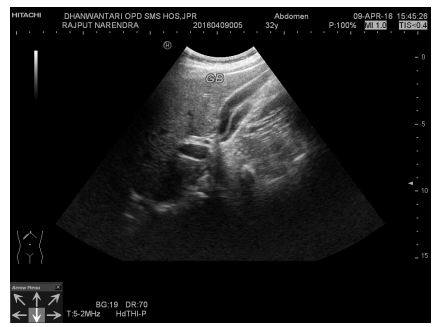

Fig.1

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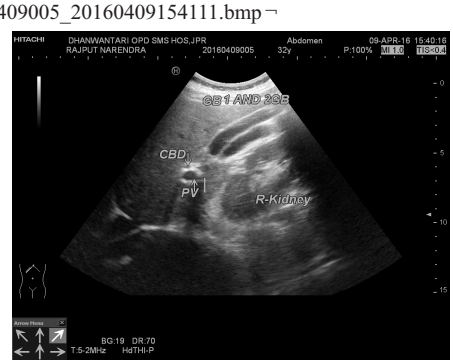

Fig.2

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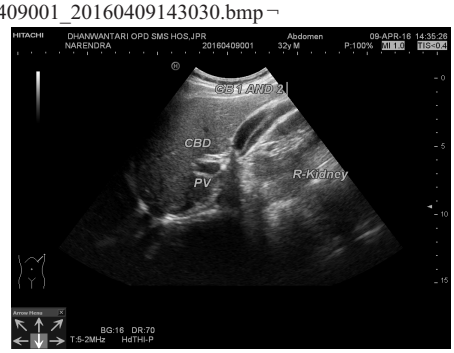

Fig.3

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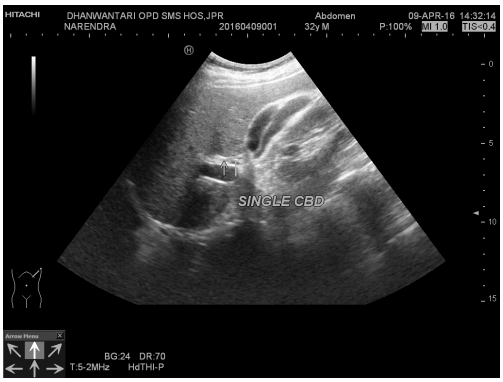

Fig.4

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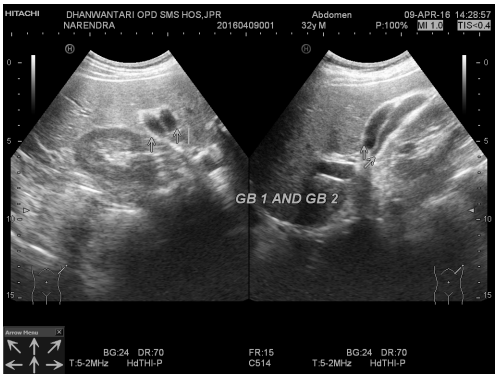

Fig.5

III. Discussion& Conclusion:

The first reported human case was noted in a sacrificial victim of Emperor Augustus in 31 BC [5]. Duplication of the gallbladder is thought to be the result of exuberant budding of the developing biliary tree during the division of the caudal bud of the hepatic diverticulum [10,11]. Anatomic variants of gallbladder duplication are differentiated according to Boyden's classification [1, 10]. Gallbladder diverticula, gallbladder fold, Phrygian cap, choledocal cyst, pericholecystic fluid, focal adenomyomatosis, and intraperitoneal fibrous bands are the differential diagnosis[2]. In symptomatic patients, to avoid pathologies in the remaining organ,simultaneaous removal of both gallbladders at surgery is recommended [2, 12]. As there is no evidence of significantly increased risk for subsequent disease, prophylactic cholecystectomy in an asymptomatic patient with gallbladder duplication is not recommended [2]. It could now be detected preoperatively by imaging studies. US is generally the first choice of imaging modality in patients with suspected biliary disease. US may diagnose gallbladder duplication if the viscera are located separately. Some criteria have been defined to diagnose gallbladder duplication on US examination in limited case reports [13-16]. Although US findings may suggest a double gallbladder, the cystic duct is usually not identified and it is often impossible, as in our case, to distinguish bilobed gallbladder from a true duplication by US. Duplication should be considered when two cystic ducts are present on preoperative imaging. MR Cholangiography has proved to be a valid and noninvasive imaging technique for evaluation of suspected anomalies of the gallbladder after initial scanning with US [17]. Helical CT scan can also be helpful [16].

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