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RESEARCH ARTICLE

LAPAROSCOPIC CHOLECYSTECTOMY IN A DUPLICATED GALLBLADDER WITH DIFFERENT PATHOLOGIES

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ABSTRACT

Duplication of gallbladder is one of the rare embryological anomalies with clinical significance. Inspite of the advancement in modern imaging, only around 50% of cases have a definitive preoperative diagnosis, which is imperative in every case to avoid serious operative complications. It is even rarer to have both gallbladders pathologically involved. This anomaly is important to know for surgeons as it is associated with anatomical variations of Common Bile Duct and Hepatic artery and increased risk of Common Bile Duct injury. We describe the pathological findings of double gallbladder that was successfully removed laparoscopically.

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INTRODUCTION

A 28 year old unmarried man reported to our clinic for evaluation of sudden pain in the right hypochondrium for a day. The clinical diagnosis made by the resident after thorough examination was acute cholecystitis. The patient had one day history of severe pain in the right hypochondrium, vomiting and mild fever. There was no history of jaundice. He was managed conservatively by antibiotics, IV fluids and analgesics, with an advice to get an ultrasound done. The patient settled on conservative management and reported a second time to the resident who had examined the patient earlier. The ultrasound report revealed a sealed perforation of gallbladder with a stone in it. To define the event better, a CECT Scan of abdomen was advised. CECT abdomen showed features of settled acute cholecystitis with an undefined plane between gallbladder and the liver (Fig.1).However, it could not pick up the anomaly of double gallbladder (Fig.2). We did not have a preoperative diagnosis of duplicated gallbladder in this patient. The patient was advised to go for Laparoscopic Cholecystectomy. He was evaluated and his routine preoperative surgical workup was performed. No significant haematological or biochemical abnormality was detected.

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Laparoscopy was performed using veress technique at the umbilical site. After pneumoperitoneum was established, three additional ports were inserted, one in the epigastrium and two in the right upper quadrant. Double Gallbladder was identified on diagnostic laparoscopy, enclosed in a common capsule (Fig.3). Both the lobes were adjacent with a common serous coat. The dissection was carried at Calot's triangle, which looked bulky. With gentle dissection at Calot's, two cystic ducts were identified, and there was one cystic artery (Fig.4). They were individually ligated with clips and cut (Fig.5). The dissection was carried further and the gallbladders were removed from the liver bed without any bile leak. A wide bore drain was inserted and patient shifted to postoperative recovery room. Post-operative period was uneventful and the patient was discharged on first post-operative day. Post-Extraction examination of the specimen revealed that the two gallbladders were covered with a common serous coat (Fig.6). One of the gallbladders had a stone with thick sludgy bile. The other gallbladder showed a pus-like fluid thick in consistency, resembling empyema of the gallbladder (Fig.7).

DISCUSSION

Double gallbladder is not an uncommon surgical pathology and here and there, surgeons keep on encountering this surgical anomaly. Many classifications have been proposed over the period of time by Boyden, Harlaftis among others (Zhou, 2020).

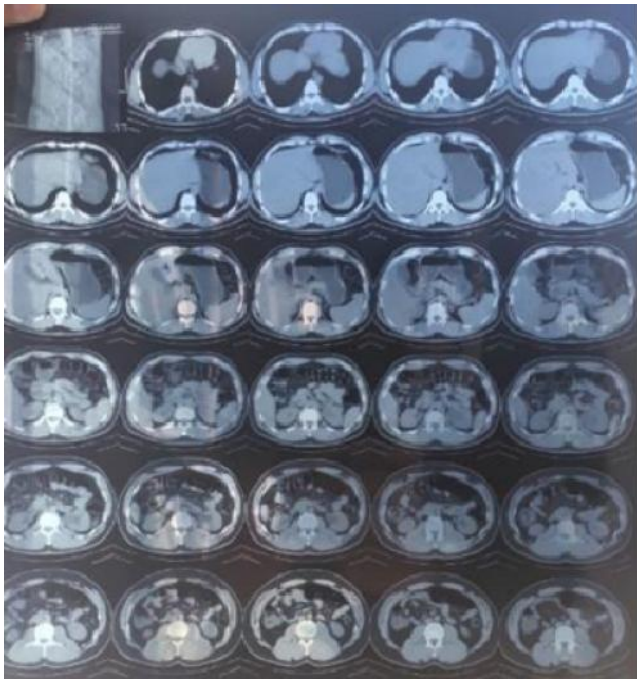

Fig 1. CECT Abdomen of the patient

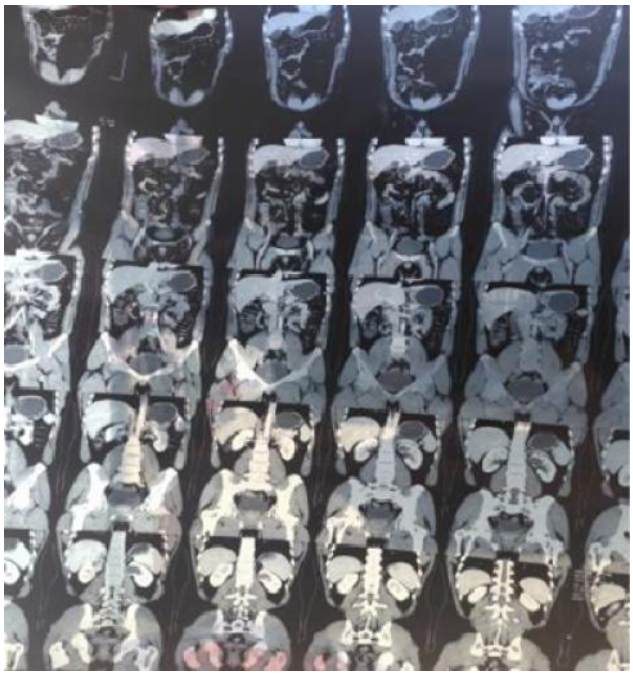

Fig 2. CECT of the patient not showing Double Gallbladder

In most cases, both the gallbladders remain adjacent and invariably share the same serous coat, however they may be apart with one component completely or partially intrahepatic (Pillay, 2015). They may share a common arterial supply. Ultrasound has high sensitivity in detecting this condition, but lacks in specificity when compared with Magnetic Resonance Cholangiopancreaticography. Endoscopic Retrograde Cholangiopancreatography is the Gold Standard for pre-operative diagnosis (Mazziotti, 2001). It is difficult to differentiate Phrygian cap, choledochoal cyst, folded gall bladder and diverticulum of gallbladder on ultrasound (Goiney, 1985). Only 50% of double gallbladders are diagnosed preoperatively, the rest are identified during surgery (Musleh, 2017). Unless diseased, this anomaly is of no clinical significance.

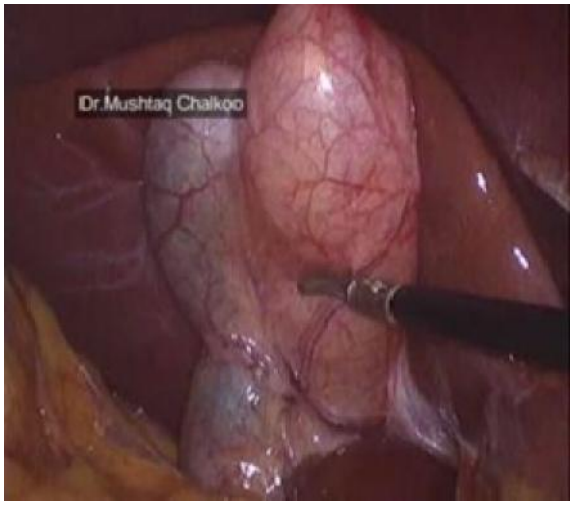

Fig. 3. Laparoscopic view of Double Gallbladder

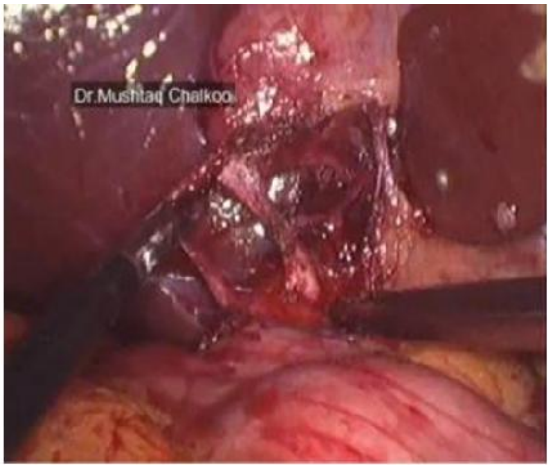

Fig 4. Dissection at Calot's with Two Cystic ducts and a Cystic Artery

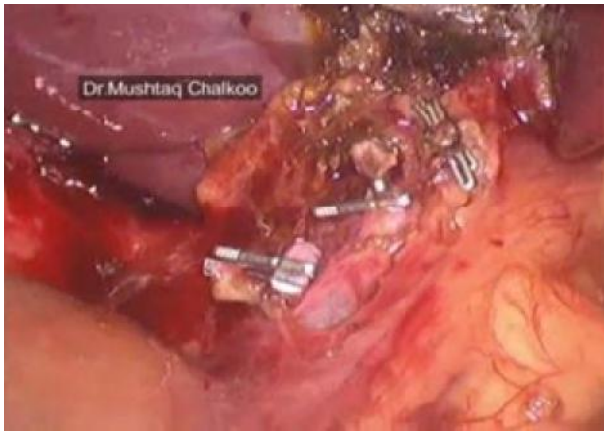

Fig 5. Ligated cystic ducts and cystic artery

It does not present with any specific symptoms. There is no role of prophylactic cholecystectomy in incidentally diagnosed cases. Both the gallbladders may be affected or one may be spared, however both the gallbladders should be removed even if the disease is present only in one. Though there have been a lot of case reports published about double gall bladder disease, but the co-existence of two different pathologies in two lobes is even rarer (Ghosh, 2014). In our case report, we had two gallbladders covered with the same serous coat, with two cystic ducts and a single cystic artery.

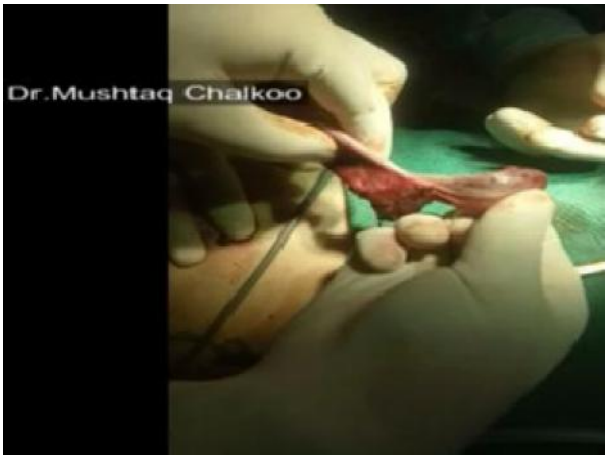

Fig 6. Post Extraction Dissection showing Two gallbladders

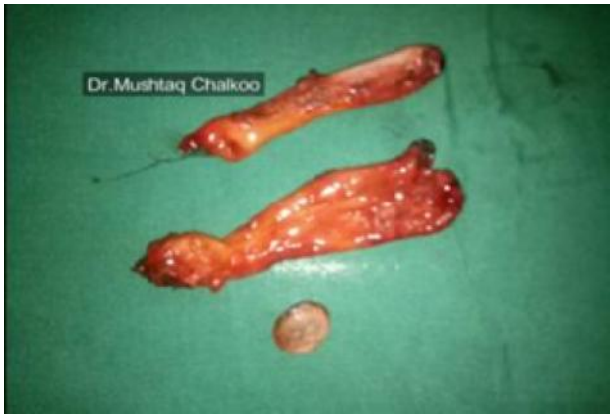

Fig 7. Specimen of two gallbladders with a stone

CBD was normal. One of the gallbladders contained a stone and the other one had a thick pus-like fluid consistent with empyema gallbladder. The post extraction specimen confirmed two separate gallbladders sharing same serous coat with two separate ducts. One of the gallbladders contained the stone and the other had a thick pus-like fluid. According to Boyden's Classification, our Double gallbladder anomaly qualified for Vesica Fellea Duplex Y- Shaped type.

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