Laparoscopic Management of Double Gallbladder

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ABSTRACT

Double gall bladder is a rare congenital anomaly and is challenging to the surgeons due to increased risk of post-operative complications. We present a case of double gall bladder that was successfully managed laparoscopically. Preoperative ultrasonography showed one vesicle of the gall bladder had thick wall with multiple calculi while the other had normal thickness without calculus. Both the gallbladders were connected to the common bile duct with a single cystic duct.

Keywords: cholelithiasis; cholecystectomy; double gallbladder; laparoscopy.

INTRODUCTION

Double gallbladder is an uncommon embryological abnormality with a reported incidence of 1:4000 in autopsies.1,2 Its importance is higher in clinical practice because it may cause clinical, surgical and imaging problems. Congenital anomalies of the gallbladder with anatomical variations of their positions are associated with more risk of complications after laparoscopic cholecystectomy.3 Most of the cases of gallbladder duplication are asymptomatic and may be missed during investigation.4 Failure to detect the accessory gall bladder has been reported as resulting in repeated episodes of cholecystitis in the remaining gall bladder after cholecystectomy.5 In English literature only 13 cases of successful laparoscopic cholecystectomy for double gall bladder have been reported.6 We present a case of double gall bladder that was managed laparoscopically.

CASE REPORT

A 36 years old lady presented in out patient department with a history of intermittent pain in epigastrium and right hypochondrium for three months. The pain was associated with nausea and occasional vomiting. She didn’t have any past medical or surgical illness. There was mild tenderness in right hypochondrium. Laboratory investigations of complete blood count, blood sugar, blood urea, serum creatinine, serum electrolyte were normal. Liver function tests (Total bilirubin, conjugated and unconjugated bilirubin, SGOT, SGPT, Alkaline phosphatases, Total Protein, Albumin) and serum amylase were normal. Abdominal ultrasonography showed double gall bladder. One gall bladder contained multiple calculi and had thick wall while the other had normal wall thickness with no calculus. Both the gallbladders were connected to the common bile duct with a single cystic duct (Figure 1). Ultrasonic murphy’s sign was negative.

The patient was admitted to department of general surgery for laparoscopic cholecystectomy and had undergone operation on 2nd day of admission after getting clearance from anaesthesist. A standard four port laparoscopic access was used. Grossly laparoscopic
examination of the abdomen showed no abnormality, except two distinguished fundus of the gallbladder. The area of Calot’s triangle was similar to that of single gall bladder (Figure 2). On moving towards body and fundus, two gallbladders were found attached to each other and were draining with single cystic duct, as seen on abdominal ultrasonography (Figure 3). Dissection was started on the calot’s triangle. Single cystic duct and cystic artery was detected during dissection. No anomalous vascular or biliary structures were found during dissection. Both the gallbladders were attached only at neck and draining through single cystic duct. Both gallbladders were removed laparoscopically with no spillage of bile or stones.

**DISCUSSION**

In this rare case of double gallbladder we did not encounter difficulties during laparoscopic cholecystectomy possibly because we were careful before hand with preoperative details of ultrasonography and being extra careful for the anatomic variations.

Boyden’s classification of gallbladder duplication has three types: a) bilobed, incomplete gallbladder division with one common cystic duct; b) complete gallbladder duplication with separate cystic ducts that lead to a common hepatic duct; c) complete gallbladder duplication with a common cystic duct entering the common hepatic duct. There are several conditions that may mimic duplication of gallbladder like: folded gallbladder, choledochal cyst, phrygian cap, gallbladder diverticula, pericholecystic fluids, focal adenomyomatosis, vascular bands across the gallbladder and intraperitoneal fibrous bands. Surgically relevant Harlaftis classification includes common variety of type-1 occurring in split primordium, type-2 (often called accessory gallbladder) from double primordium during 5th and early 6th week of embryogenesis and type-3 is known as combined bladder. In most cases of gallbladder duplication, they may remain adjacent and invariably shares the same serous coat. They may have independent or shared arterial supply and cystic duct. Ultrasonogram has high sensitivity in detecting this condition, but lacks in specificity when compared with MRCP.

Despite of different classifications, presence of a double gallbladder is not associated with any specific symptoms and there is no known predisposition for cholelithiasis or cholecystitis in patients with multiple gall bladders. Either one or both gall bladders may be diseased. Usually the cephalic gallbladder remains normal while the caudal one gets infected and forms stones. The likely reason is that the gallbladder lying at a lower level gets sedimentation of solid constituents and infection more frequently due to gravitation forces. When one of the two gallbladders is normal, both should be removed to prevent persistence of symptoms and need for re-exploration.

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REFERENCES


