Case Report

A Rare Anomaly Double Cystic Duct with Single Gall Bladder

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[Received-08/04/2015, Published-18/04/2015]

ABSTRACT:
Double cystic duct is an extremely rare anomaly. We present a case of double cystic duct with single gallbladder. Patient planned for laparoscopic approach and same was done. Intraoperatively, there is suspicious about bile duct injury. Hence, procedure converted to open cholecystectomy. A single gall bladder with a double cystic duct was identified and cholecystectomy done.

CASE REPORT:
46 yr old male patient, admitted in surgical ward with complaints of abdominal pain which is present in the upper abdomen particularly in the right side. Abdominal pain is associated with vomiting and nausea. No history of fever or previous abdominal surgeries. He is a Known smoker and alcoholic. No history of jaundice. On clinical examination, per abdomen tenderness present in the right hypochondrial region with murphy’s sign positive. There is no guarding and rigidity. Clinically patient diagnosed as acute cholecystitis hence, further investigated. Blood investigation including liver function tests found to be normal. Ultrasonography of the abdomen shows multiple gall bladder calculi with thickened GB wall (Fig.1.). Patient planned for Laparoscopic cholecystectomy and same proceeded. Diagnostic laparoscopy done. Liver appears normal. Gall bladder held at fundus and traction given. Gall bladder held at hartmann’s pouch, anterolateral traction given. Dissection started at calot’s triangle. A tubular structure long and thin (thinking as cystic duct) identified, clip applied and divided. After that another tubular structure short and wider identified, clip applied and divided. In both the structures, lumen visualised on both sides. After that there is a suspicion about, injury to the bile duct, hence planned for open cholecystectomy. Laparotomy done. Bile duct visualised and intact in nature and there is no injury to bile duct. Both the clipped ducts visualised, clips in proper position and both the cut ends communicating with the hepatic duct. Above these structures, cystic artery identified, ligated with silk and
divided. Gallbladder removed from liver bed. Perfect hemostasis obtained. There is no bile leak from liver bed. A tube drain kept. Wound closed in layers. Postoperative period uneventful.

In Vitro, Gallbladder dissected completely. It clearly shows gallbladder, cystic artery, cystic duct (short tubular structure) and accessory cystic duct (long tubular structure). Specimen cut opened which shows multiple pigmented calculi with two orifices seen in the interior of gall bladder, each of them connected with cystic duct and accessory cystic duct separately (Fig. 2). Specimen sent for histopathological examination and the findings were confirmed.

DISCUSSION:

Anomalies of extrahepatic biliary ducts are not uncommon. Double cystic duct is frequently associated with a double gall bladder. However, double cystic duct with single gall bladder is extremely rare. This anomaly was first described by Steger in 1956 [1]. First case report of double cystic duct through laparoscopic approach was described by Hirono et al in 1997 [2]. This duplication of cystic duct was divided in to three types and it was described by Dia et al [3]. Similar cases of double cystic duct with single gall bladder have been reported rarely in English and European literature [4,5,7]. They are i) Two cystic ducts arise separately from the gall bladder and unite in a common cystic duct that terminated in to common hepatic duct (Type “Y”). ii) Two cystic ducts arise separately from the gall bladder and terminate separately in to common hepatic duct (Type “H”). iii) The second (accessory) cystic duct terminates in to right hepatic duct or in an intrahepatic duct.

According to Stremple, 85% variations in hepatic pedicle are found in Moosman’s area that is a circular area 30 mm in diameter fitting in to hepatic duct angle and 50% these variations are a potential hazard during cholecystectomy[6]. While doing laparoscopic cholecystectomy, it is more important to look for rare congenital anatomy. Failure to recognise these anomalies during surgery can lead to bile duct injury which leads to biliary fistula, bile leak and biliary stricture. To avoid all this complications, Preoperative assessment of anatomy of extrahaepatic biliary tract by Endoscopic retrograde cholangiopancreatography and intraoperative cholangiogram can be done. If these facilities are not available, as like in our patient, explorative laparotomy is a must for patient who was planned for laparoscopic cholecystectomy. Similar to our case, a case was reported by Shivhare et al [7] in 2002.

To conclude, During laparoscopic cholecystectomy whenever there is suspicious about bile duct injury convert the procedure to open cholecystectomy.

REFERENCES:

Fig. 1. Ultrasonagram showing gall bladder calculi

Fig. 2. Gall bladder specimen with double cystic duct and cystic artery.