Common bile duct (CBD) stones are detected in approximately 10-15% of patients with gallstone disease. They can be formed in the absence of gallbladder stones, or in patients who underwent cholecystectomy, as retained CBD stones. This is an uncommon but recognised complication with an incidence of 0.5-2.3%.

Treatment options for CBD stones include endoscopic retrograde cholangiopancreatography (ERCP) with sphincterotomy and stone extraction followed by laparoscopic cholecystectomy (LC) as a two-stage procedure, laparoscopic common bile duct exploration (LCBDE) and cholecystectomy or, open cholecystectomy and bile duct exploration. These are equally effective.

LCBDE can be categorised into laparoscopic transcystic common bile duct exploration (LTBDCE) and laparoscopic cholecystectomy for CBD exploration (LCCEBE).

The transcystic duct approach, using the lumen of the cystic duct, avoids the need for opening the CBD. This approach reduces biliary morbidity, especially bile leakage and CBD stricture, hospital stay and hospital expenses. The reported success rate of LTCBDE is about 85% as clearance of the duct.

Re-exploration of the CBD involves laparoscopically locating the cystic duct (CD) remnant, opening this via removal of clip/suture and gaining access with instrumentation to the cystic duct, and distally to the common bile duct. There is no documented evidence of re-do exploration of CBD following LC in the literature.

In this retrospective case series, we discuss the re-exploration of the bile duct post laparoscopic cholecystectomy for retained stone.

**Methods**

Review of four cases in 2020 in Aberdeen Royal Infirmary. Each underwent re-do laparoscopic transcystic common bile duct exploration (LTBDCE) for retained stone, following previous laparoscopic cholecystectomy.

**References**

4. Images 1 - 2 – accessed via Google Images 10/10/20
5. Fig. 1 – used with kind permission of patient 08/10/20

Case one shows the difficulty of initial successful CBD exploration and the benefits of approaching transcystically which allowed simple endoloop closure, enabling ready access when needed on day five post LC.

This is evident in case two and three with previous cystic duct closure with haemolocks allowed ready access for re-exploration of cystic duct. This was aided in the former by distension of cystic duct from stone. In case three this patient had previous incision over her CBD and a transcystic route allowed for adequate re-exploration avoiding further incisions of the CBD. Stone clearance was achieved in 100% of cases.

**Conclusion**

It is clear LTCBDE post laparoscopic cholecystectomy is a complex procedure, therefore multi-centre studies have not been carried out, nor has it been universally accepted.

To aid re-exploration, we advocate pre-operative imaging (e.g. MRCP) to show the anatomy of the biliary tree for appropriate surgical planning.

We propose LTCBDE is a feasible therapeutic intervention with minimal barriers, even in patients who have had previous biliary surgery.