

# Trans-cystic Common Bile Duct Exploration

## An Evaluation of Its Value in Young Patients

S. Mahmood, R. Date, J. Ward, P. Turner, R. Stockwell

### Introduction

The established methods for the treatment of common bile duct stones are pre-operative ERCP and intraoperative cystic duct exploration (LCBDE). The more traditional option of ERCP is efficient but for the patient means a longer hospital stay, damage to the sphincter of oddi and more radiation. The development of both laparoscopic equipment and skill has meant that LCBDE is a much more feasible option and reduces the dose of radiation. It has already been shown that LCBDE is as effective as ERCP in removing CBD stones.<sup>(1)</sup>

The aim of this study was to examine whether LCBDE is a viable option in younger patients who present with gallbladder stones in the pursuit of avoiding excess radiation and providing a “one stop” service.

### Materials and Methods

Patients were identified from a prospectively kept database since 2015 (n=19). The inclusion criteria were any patient under the age of 50; with up to 2 CBD stones (as identified on MRCP) which were less than 5mm. The length of operation, average radiation dose, success of stone removal and need for further ERCP were examined. Any peri-operative complications and intraoperative details were also studied.

### Results

Nineteen patients were listed for LCBDE. Indications for surgery included biliary colic (n=8), gallstone pancreatitis (n=6), acute cholecystitis (n=3), painless jaundice (n=1) and night sweats (n=1).

8 did not have any CBD stone visualised during on table cholangiogram. LCBDE exploration was successful in 3 patients and 7 required post-operative ERCP.

The reasons for requiring post operative ERCP included a bile leak, 1 case of retained stones and unsuccessful stone removal.

The average duration of operation was 122 minutes. Average radiation dose was 1282.5 DAP.

### Discussion/Conclusion

Since its advent in the early nineties LCBDE has come a long way to be regarded as a safe, minimally invasive and a financially preferred option for treating choledocholithiasis. In our centre, the regular use of the procedure and surgical proficiency still requires some development as is shown by the results. In this study there were many patients who went on to need post-operative ERCP. This is something that could be improved with practice. However it could be argued that these 3 patients who successfully had CBD stones removed laparoscopically were spared an adjunctive procedure and another radiation dose, making it worthwhile in these cases. What also became apparent over the course of this study was that a robust radiological service is also required for a LCBDE service.

LCBDE is a safe and feasible option in a selected group of patients. If successful, LCBDE serves as a one-stop option to efficiently remove gallbladder and CBD stones without necessitating further admissions or procedures.

Good quality imaging and radiology support are pre-requisites for a LCBDE service. The majority of small stones in the CBD pass spontaneously and do not require ERCP. Even when LCBDE is unsuccessful, post op ERCP remains a reasonable option. LCBDE should be attempted in young and fit patients with small CBD stones to avoid ERCP.

### References

(1) J. B. Petelin. *Laparoscopic Bile duct Exploration. Surgical Endoscopy And Other Interventional Techniques.* 2003;17(11): 1705-1715.