Role Of Laparoscope In Common Bile Duct Exploration

Essay

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By

JOHN SOBHY ABDOU

M. B. B. Ch.
Faculty of Medicine
Cairo University

Supervised by:

PROF.DR. HUSSEIN A. BOSHNAK
Professor of Surgery
Faculty of Medicine
Ain shams University

DR. TAREK YOUSSEF AHMED
Lecturer of Surgery
Faculty of Medicine
Ain shams University

Faculty of Medicine
Ain shams University
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Dedication

To my Family; my dear Mother and My future Wife.

ABSTRACT

In this essay we briefly discussed the anatomy of the gall bladder and the biliary tract and its variations , these variations may increase the complication rate postoperatively by making the operation (laparoscopic CBD exploration) more difficult. This is followed by a brief discussion of the pathology of gallstone disease and CBD stones. Then we discuss the various methods of management of CBD stones. Finally, we explain the various approchs of laparoscopic CBD exploration.

Key words:

Gallstone disease, CBD Stones, Laparoscopic Cholecystectomy and Laparoscopic CBD Exploration.

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List of Abbreviations

CBD	**:**	Common Bile Duct.
CBDS	**:**	Common Bile Duct Stones.
CT	**:**	Computed Tomography.
ERCP	**:**	Endoscopic Retrograde Cholangiopancreatography.
EST	**:**	Endoscopic Sphincterotomy.
EUS	**:**	Endoscopic Ultrasound.
IOC	**:**	Intraoperative Cholangiogram.
IDUS	**:**	Intraductal Ultrasonography.
LC	**:**	Laparoscopic Cholecystectomy.
LCBDE	**:**	Laparoscopic Common Bile Duct Exploration.
MRI	**:**	Magnetic Resonance Imaging.
MRCP	**:**	Magnetic Resonance Cholangiopancreatography.
MTBE	**:**	Methyl-Tert-butyl-Ether.
PTC	**:**	Percutaneuc transhepatic cholangiography.
PTD	**:**	Percutaneuc transhepatic Dilatation.
TUS	**:**	Transabdominal Ultrasound.
UDCA	**:**	Ursodeoxycholic Acid.

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Introduction

Laparoscopic CBD exploration (LCBDE) is a cost effective, efficient and minimally invasive method of treating choledocholithiasis. Laparoscopic Surgery for common bile duct stones (CBDS) was first described in 1991, **(Petelin, 2003).**

The surgical technique has evolved since then and several studies have concluded that Laparoscopic common bile duct exploration(LCBDE) procedures are superior to sequential endo-laparoscopic treatment in terms of both clinical and economical outcomes. Choledocholithiasis is concomitant with gallstones in approximately 3%-10% of the patients, **(Cuschieri et al., 1999).**

In the pre-endoscopy and pre-laparoscope era, the standard treatment for patients suffering from gallstones accompanied with common bile duct stones (CBDS) was open cholecystectomy and common bile duct exploration, **(Bansal VK et al., 2010).**

With the advent of laparoscopic and endoscopic techniques, several alternative treatments, such as laparoscopic cholecystectomy (LC), preoperative or postoperative endoscopic retrograde cholangiopancreatography and endoscopic sphincterotomy (ERCP + EST) and laparoscopic common bile duct exploration (LCBDE), have been developed to treat cholelithiasis. In the past two decades, LC has become gradually accepted as the first choice for the treatment of cholecystolithiasis. Consequently, confirmed or suspected cases of CBDS have been routinely removed *via* a two-stage management using preoperative ERCP/EST followed by LC. However, even with the strictest selection criteria, over 10% of the preoperative ERCP are normal and only 10%-60% of patients will have stones at the time of ERCP, **(Coppola R et al., 2001).**

As a result, a number of unnecessary ERCP procedures have been performed. To avoid these unnecessary procedures, laparoscopic intraoperative cholangiography combined with selective postoperative ERCP has been proposed, **(Chang L et al., 2000).**

Nevertheless, preoperative ERCP/EST and postoperative ERCP/EST can both result in unpredictable severe complications even death. Although ERCP/EST has been proven to be a safe and effective option for extracting CBDS in most cases, it also has some adverse effects. This procedure can not only induce several postoperative complications, including bleeding, perforation and pancreatitis, but also lead to the disruption of the intact sphincter of Oddi, **(Wang P et al., 2009).**

Currently, as the laparoscopic technique matures, more and more centers prefer conducting LCBDE through either the transcystic duct or *via* the choledochotomy to remove CBDS, thus preventing unnecessary preoperative ERCP, **(Berthou JC et al., 1998).**

Above all, LCBDE has the advantage of reducing the two-stage approach to a single-stage approach by minimally invasive surgery. Previously published trials are unclear as to whether two-stage (LC + ERCP/EST) management is better or worse than single-stage (LC + LCBDE) management for choledocholithiasis complicated with cholecystolithiasis, **(Jiong Lu et al., 2012).**

Aim Of The Work

The aim of the work is to discuss the role of laparoscope in common bile duct exploration versus endoscopic retrograde cholangiopancreatography (ERCP) or open common bile duct exploration to retrieve stones.