Ain Shams University
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Laparoscopic Management Of Common Bile Duct Stones

Protocol for an essay
Submitted for partial fulfillment of master degree in general surgery

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علاج حصوات القنوات المرارية باستخدام منظار البطن الجراحي

رسالة
توطئة للحصول على درجة
الماجستير في الجراحة العامة

مقدمة من

الطبيب/ **محمود عطية محمد قاسم**
بكالوريوس الطب و الجراحة

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بسم الله الرحمن الرحيم

{قالوا سبحانك لا علم لنا إلا ما علمتنا إنك أنت العليم الحكيم}

صدق الله العظيم

(سورة البقرة اية ٣٢)

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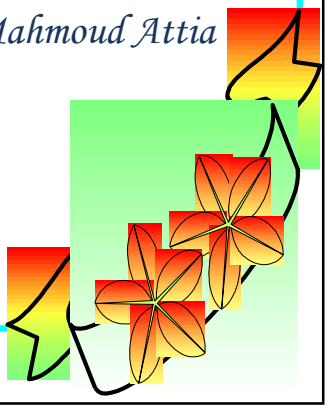

Abbrev.	*Meaning*
ALP	Alkaline phosphatase
ALT	alanine aminotransferase
APACHE score	Acute Physiology and Chronic Health Evaluation score
ASA	American Society of Anesthesiology
AST	Aspartate transaminase
CA	Cystic artery
CBD	Common bile duct
CCK	Cholecystokinin
CD	Cystic duct
CDD	Cholecystoduodenostomy
CDJ	cholecystojejunostomy
CHD	Common Hepatic Duct
CO	Carbon monoxide
CT scan	Computed tomography
EHL	Electrohydraulic lithotripter
ERCP	Endoscopic retrograde cholangiopancreatography
ES	Endoscopic Sphincetrotomy
EUS	Endoscopic Ultrasound
GB	Gall Bladder
GGT	Gamma glutamyl transpeptidase
IBAT	ileal bile acid transporter
IL	Interleukin factor
IOC	Intraoperative cholangiography
IOFC	Intraoperative fluorocholangiography

IVC	Intravenous cholangiography
LC	Laparoscopic Cholycystectomy
LCBDE	Laparoscopic common bile duct exploration
LTCBDE	Laparoscopic Transcystic common bile duct exploration
LC+ IO-ERCP	Laparoscopic Cholycystectomy + Intra-operative Endoscopic retrograde cholangiopancreatography
LUS	Laparoscopic ultrasound
MMC	migrating myoelectric complex
MRCP	magnetic resonance cholangiopancreatography
MRI	magnetic resonance imaging
NAFLD	non alcoholic fatty liver disease
OR	Operative Room
PTC	Percutaneous trans-hepatic cholangiography
PTCSL	Percutaneous transhepatic choledochoscopic lithotomy
SGOT	serum glutamic oxalo-acetic transaminase
SGPT	serum glutamic pyruvic trans aminase
SOFA score	Sequential Organ Failure Assesment score
The GB-IVC line	The Gall Bladder – Inferior Vena Cava Line
TNF	Tumor necrosis factor
US	Ultrasonography
5NT	٥-neucleotide

AIM OF THE WORK

The aim of this study is to review the advantages of laparoscopic treatment of common bile duct stones among other methods.

INTRODUCTION

Choledocholithiasis (Common bile duct stones) , literally the presence of gall stones in the common bile duct (CBD) occurs in ١٥–٢٠٪ of patients with cholecystolithiasis. The majority of gall stones are believed to form in the gall bladder where they pass into the CBD via the cystic duct. (Nataly et al., ٢٠٠٢).

Primary calculi originating inside the duct are uncommon. The majority of these stones is secondary calculi, having been produced in the gall bladder and migrates to the common bile duct **(Chen et al., ٢٠٠٥).**

Choledocholithiasis may appear in one of the following five ways: without symptoms, biliary colic, jaundice, pancreatitis and cholangitis. The classic triad of fever with chills, jaundice and pain leads to the suspicion of choledocholithiasis and when associated with known cholelithiasis, the diagnosis is certain. Total bilirubin, Direct bilirubin, Alkaline phosphatase and liver function tests are elevated and the common bile duct diameter is more than ٨ mm on sonography (Girard, ٢٠٠٧).

Many common bile duct stones are small and therefore can pass spontaneously into duodenum; the larger ones can be impacted in common bile duct due to narrowing in the ampulla of vater and cause jaundice, cholangitis or biliary pancreatitis. Twenty-five to ٥٠٪ of asymptomatic case may eventually develop symptoms and so this group will require treatment as well, the procedures of removal of the common bile duct stones are controversial (**Chen et al., ٢٠٠٥**).

Whereas laparoscopic cholecystectomy represents the gold standard treatment for gallstones, there is no universal consensus on the optimal treatment of common bile duct stones. The options available for the treatment of common bile duct stones are various and include the following: Pre-operative endoscopic retrograde cholangiopanc-reatography plus sphincterotomy (ERCP+S) and Post-operative (ERCP+S), laparoscopic trans-cystic exploration of common bile duct, laparoscopic choledochotomy and traditional open choledochotomy**.** ***(Tattulli and Cuttitta,*** ***).***

Nowadays management of common bile duct stones can be conducted by laparoscopic exploration of common bile duct and extraction of stones if respective experience and equipments are available. It represents a safe and minimally invasive alternative to a two-procedure approach ***(Ebner et al.,*** ***).***