Visualization of biliary tree during laparoscopic cholecystectomy by using Methylene blue intracholecystic injection

Thesis

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بسم الله الرحمن الرحيم

قالوا سبحانك لا علم لنا الا ما علمتنا انك

أنت العليم الحكيم

صدق الله العظيم

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AKNOLEDGEMENT

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Abstract

Gallstones are an extremely common condition, arising in approximately 10% to 20% of the adult population. 90% of cholecystectomies are done laparoscopically.

The incidence of bile duct injury in laparoscopic cholecystectomy is still high. In these, many factors have been incriminated in occurrence of bile duct injuries.

Sari et al (2005) described a technique by which the methylene blue is injected into the gall bladder to delineate the bile ducts. This seems to be easier to perform, without any radiation exposure and less time consuming than conventional IOC

(Key words)

Bile ducts, Laparoscopic cholecystectomy, methylene blue, Gallstones, injection

CONTENTS

LIST OF APPREVIATIONS

ASA…….anterior Sectional Artery

CBD……Common Bile Duct

ERCP……Endoscopic Retrograde Cholangiography

CCK……...……Cholecystochynin

CHD……...Common Hepatic Duct

CMV……Cytomegalovirus

GDA……..…….Gastroduodenal Artery

HIDA……..Hepatic Iminodiacetic Acid

HJ……Hepatico Jejunostomy

HLA…….Human Leukocyte Antigen

IOC……..……..Intra-Operative Cholangiography

IOUS……..Intraoperative Ultrasound

Ku…….…….Kursten number

LC……....……Laparoscopic Cholecystectomy

LED……..Light Emitting Diode

MB…….Methylene Blue

MRCP……..Magnetic resonance cholangiopancreatography

PSA……...Posterior Sectional Artery

PSPD……..…….Posterior Superior Pancreaticoduodenal

PTC…….Percutaneous Transhepatic Cholangiography

RHA……..…Right Hepatic Artery

SRB……...Sulfate Reducing Bacteria

SSRIs……...Selective Serotonin Reuptake Inhibitors

TPN……Total Parenteral Nutrition

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION

INTRODUCTION

Gallstones are an extremely common condition, arising in approximately 10% to 20% of the adult population, and as such pose an important public health problem. It has been recognized that the treatment for symptomatic gallstones is removal of the gallbladder, not because it contains stones, but because it causes them. For over 100 years the technique of cholecystectomy evolved little and required a generous abdominal incision to provide sufficient light and exposure to perform the operation safely. In the late 1980s, with the advent of improved optics, the technique of laparoscopic cholecystectomy was introduced and widely adopted by practicing general surgeons. Overall, over 90% of cholecystectomies are now done using the minimally invasive approach ***(Fried et al, 2009).***

The incidence of bile duct injury in laparoscopic cholecystectomy (LC) is still two times greater compared to classic open surgery ***(Sari et al, 2005)***. Many factors have been incriminated in occurrence of bile duct injuries during LC. These are mainly anatomical misidentification of main hepatic duct, right hepatic ducts or of aberrant right hepatic duct, other anatomical variations or unidentifiable anatomy, surgeon's experience, technical difficulties, poor visualization of the operative field, acute and chronic inflammation of the gall bladder and local factors such as excessive fat tissue and hemorrhage ***(Ahrendt and Pitt, 2005).*** However, misidentification of the anatomy and surgeon's experience seems to be preliminary ***(Flum et al, 2008).***

Laparoscopic cholecystectomy can be performed safely without routine Intraoperative cholangiography (IOC). Although there has been stress on the routine use of IOC in laparoscopic cholecystectomy to delineate the extrahepatic biliary anatomy and to know the status of the common bile duct (CBD),