Laparoscopic cholecystectomy in acute calcular cholecystitis early versus delayed interval surgery

THESIS

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Technique of laparoscopic cholecystectomy

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Introduction

Gall stone-related disease is one of the most common ailments that general surgeons treat. Between 10% and 15% of the population have gallstones, and of these, between 1% and 4% will be become symptomatic each year. About 30% of cholecystectomies performed are for acute cholecystitis, the commonest form of the disease is acute calcular cholecystitis that accounts for 90 to 95% of cases. The attack develops when the cystic duct becomes obstructed by a gall stone impacted in the Hartmann's pouch ***(Gurusamy et al., 2010)***.

The clinical presentation of acute calcular cholecystitis depends on the severity of the underlying disease. Generally, it is characterized by a sudden and severe pain, mainly in the right hypochondrium. Often there is a history of previous attacks of biliary colic. Nausea and vomiting are frequent features in early stages. On examination the patient is usually febrile with tenderness and rigidity in the right upper quadrant with mid-inspiratory arrest "Murphy's sign" ***(Cuschieri, 2000)***.

Real-time ultrasonography and biliary scintiscanning form the mainstays in the confirmatory diagnosis of acute cholecystitis , the sonographic features include positive Murphy's sign on probing ,calculi or sludge, thickened gallbladder wall and pericholecystic oedema , gall bladder scintiscanning can be used to confirm non functioning gallbladder and is regarded the most accurate test of acute cholecystitis . Normal gall bladder scintiscan is virtually 100% accurate in excluding acute cholecystitis ***(Kiviluto et al., 2006).***

Laparoscopic cholecystectomy is the procedure of choice for elective treatment of cholelithiasis. However, in acute cholecystitis laparoscopic cholecystectomy can be done early within the first seventy two hours but with risk of conversion to open cholecystectomy and bile duct injury, as a consequence, delayed laparoscopic cholecystectomy, which is performed about 6 weeks later than early laparoscopic cholecystectomy, has gained popularity. However, a number of studies have demonstrated the safety of early laparoscopic cholecystectomy ***(Wilson et al., 2010).***

Aim of the work

To evaluate the safety and efficacy of early laparoscopic cholecystectomy in acute calcular cholecystitis and whether delayed interval surgery will alter the outcome

Anatomy of the biliary tract

A. Intrahepatic bile duct anatomy:

The right liver and the left liver are respectively drained by the right and left hepatic ducts whereas the dorsal lobe (caudate lobe) is drained by several ducts. The intrahepatic ducts are tributaries of the corresponding hepatic ducts which form part of the major portal triade which penetrate the liver invaginating Glisson's capsule at the hilum. Bile ducts are usually located above corresponding portal branches whereas hepatic arterial branches are situated inferiorly to the veins. The left hepatic duct drains the three segments (II,III,IV) which constitute the left liver. The right hepatic duct drains segments V,VI,VII and VIII **(Blumgart and Hann, 2000).**

The biliary drainage of the caudate lobe (segment I) enters both the right and the left hepatic duct systems in 80% of individuals. In 15% of cases the caudate lobe drains only into the left hepatic duct system and in 5% it drains only in the right system . The caudate process is drained by both right and left hepatic ducts **(Skandalakis et al., 2004).**

B. Extra hepatic bile duct Anatomy:

The right and left hepatic ducts join to form the biliary confluence and the main biliary channel draining to the

duodenum (Figure 1). The accessory biliary apparatus, which constitutes a reservoir, comprises the gall bladder and cystic duct **(Blumgart and Hann, 2000).**

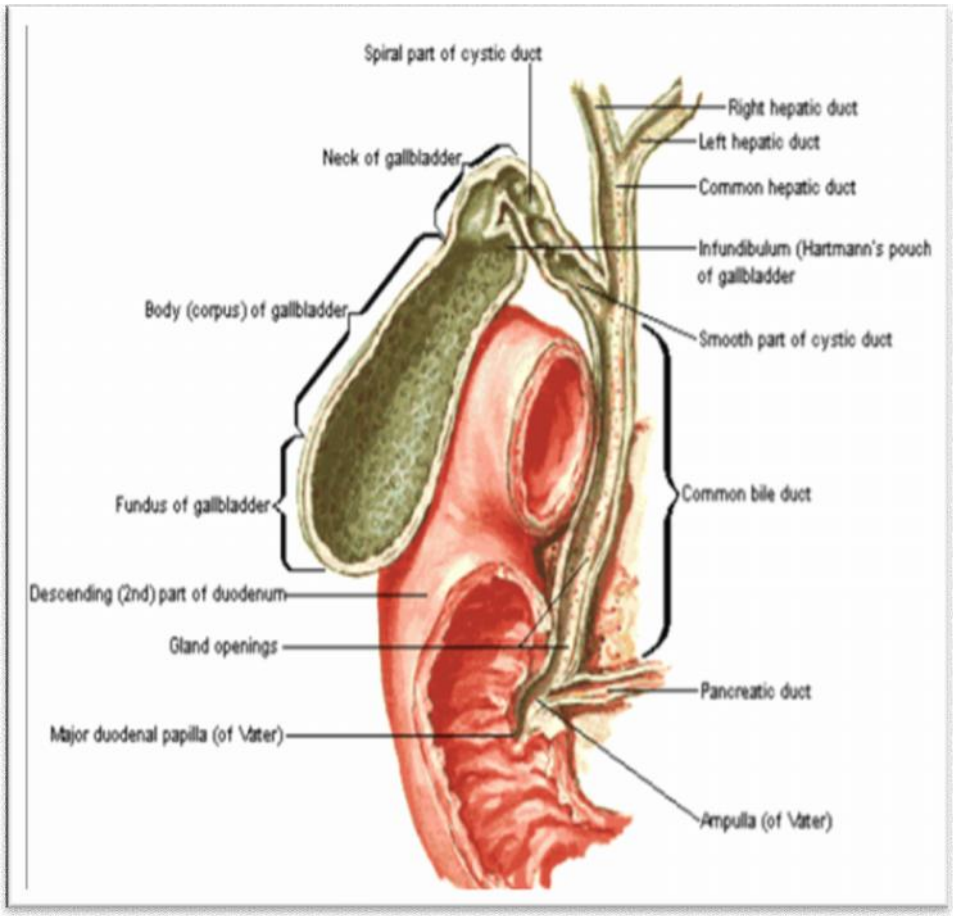

Figure (1): Extra-hepatic biliary system **(Netter, 2003)**.

The confluence of the right and left hepatic ducts takes place at the right of the hilar fissure of the liver anterior to the portal venous bifurcation and overlying the origin of the right branch of the portal vein. The extrahepatic segment of the right duct is short but the left duct has a much longer extra hepatic course **(Cashoeira et al., 2012).**