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Ain Shams University
Faculty of Medicine
General Surgery Department

UPDATES IN Hepato-Biliary Injuries

Essay
Submitted For Partial Fulfillment of Master Degree
In General Surgery
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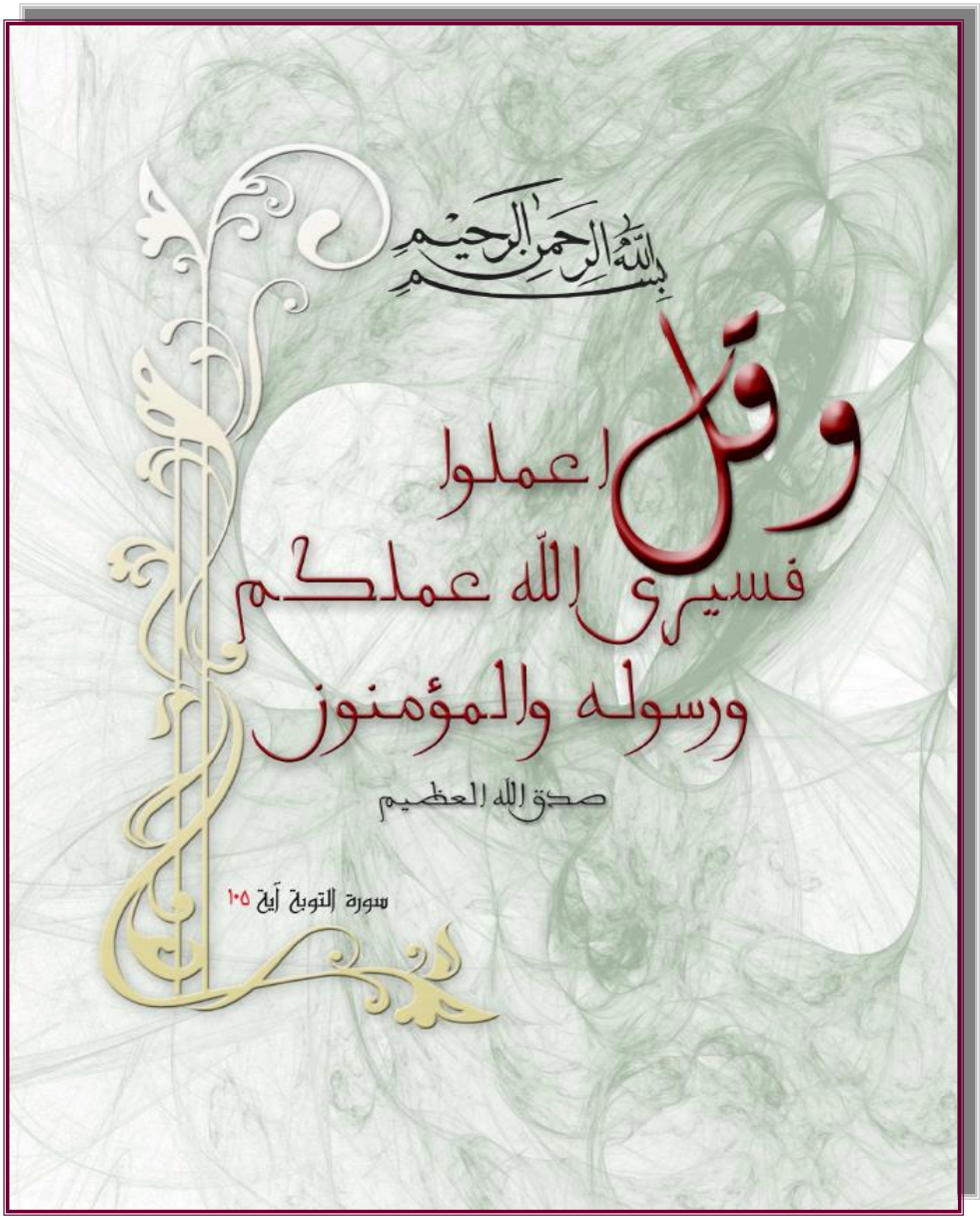
بسم الله الرحمن الرحيم
وقل اعملوا
فسيرى الله عملكم
ورسوله والمؤمنون
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Candidate

Mahmoud Saad Ibrahim El-Shenawy

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Introduction

Introduction

Blunt hepatic injury remains a frequentintra-abdominal injury in the adult trauma population. The management of blunt hepatic injury has undergone a major paradigm shift from mandatory operative exploration to non-operative management. Hemodynamic instability with apositive focused abdominal sonography for trauma and peritonitis are indications for emergent operative intervention. Although surgical intervention for blunt hepatic trauma is not as common as in years past, it is imperative that the current trauma surgeon be familiar with the surgical skill set to manage complex hepatic injuries (***KozarRA et. al., 2010*****).**

The management of blunt hepatic injury has considerably changed. Three options are available as follows: nonoperative management (NOM), transarterial embolization (TAE) and surgery (***Melloul, et. al., 2015)*****.**

A high complication rate following high-grade liver injuries should be anticipated. In patients with clinical evidence of biliary complication, CT scan is useful diagnostic and therapeutic tool. ERCP and temporary internal stenting, together with percutaneous drainage of intra-abdominal or intra-hepatic bile collection, represents a safe and effective strategy for the management of

complications following both blunt and penetrating hepatic trauma (***Gazalla Bala, et. al., 2012).***

Bile leaks are a frequent complication in the non-operative management of liver injuries, occurring in 6%to 20% of cases. Majority of bile leaks can be treated by ultrasound or CT-guided percutaneous drainage or ERCP and stenting .(***Jagad, R., et. al., 2013).***

Injury to the extrahepatic biliary tract occurs frequently due to damage inflicted during upper abdominal operations, cholecystectomy being the commonest situation followed by other upper abdominal surgeries, and less often due to blunt or penetrating abdominal injury. Identification and management of biliary tract injuries demand precise judgement, expertise, timely and appropriate intervention and prevention of complications. Such injuries often require staged surgeries, i.e. drainage as an initial damage control procedure followed by definitive reconstructive surgery ***(Chaudhary, et. al., 2015).***

Calot's triangle is an important anatomical and surgical landmark of great importance in surgical procedure of laparoscopic cholecystectomy as well as open cholecystectomy. Only about 25% of major bile duct injuries are recognized at the time of operation. Most commonly, intraoperative bile leakage, recognition of the

correct anatomy, and an abnormal cholangiogram lead to the diagnosis of a bile duct injury. More than half of patients with biliary injury will present within the first postoperative month. All these injuries are invariably fatal and can be avoided my meticulous dissection and knowledge of normal anatomy and variations in anatomy around the area of Calot'striangle**.** ***(Khanday S, et. al., 2013).***

Biliary leakages and bile duct stricture are the most severe complication after cholecystectomy, it is usually an early complication whereas biliary strictures are considered as late complication. Investigating biliary leakage, laboratory parameters including: serum bilirubin, serum alkaline phosphatase, serum gamma glutamyltransferase and leucocytic count, are to be determined, also radiological investigations such as laparoscopic ultrasound and intraoperative cholangiography are very useful (***Weber, et. al., 2009).***

Prevention of bile duct injury, technique has been developed for intraoperative assessment of bile duct anatomy. The critical-view-of-safety approach should be used during laparoscopic cholecystectomy intraoperative cholangiography or laparoscopic ultrasound is recommended to be performed routinely. Hyperspectalcholangiography and near-infrared fluorescence cholangiography are promising novel technique

to prevent bile duct injury and increase patient safety ***(Buddingh KT, et al., 2011).***

Currently, standard management of patients with suspected biliary leak after cholecystectomy remains to be determined and both clinical and imaging findings are taken into account in these patients. Also in an emergency setting non-invasive imaging would be ideal for planning further management ***(Cantu P, et al., 2011).***

Aim Of The Work