NON PARASITIC CYSTS OF THE LIVER

ESSAY

Submitted in Partial Fulfilment
of Master Degree in
(General Surgery)

By
AMR MOHAMED EMAD ELDIN EL-SOBKY

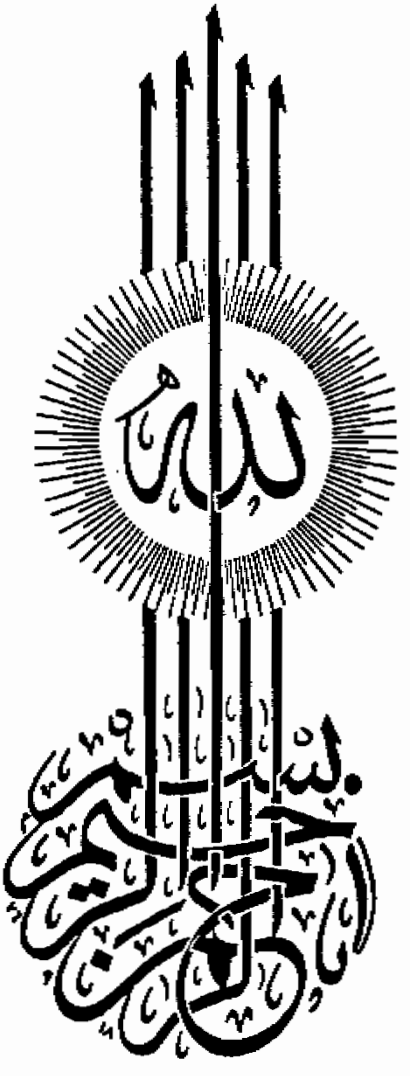
SUPERVISED BY

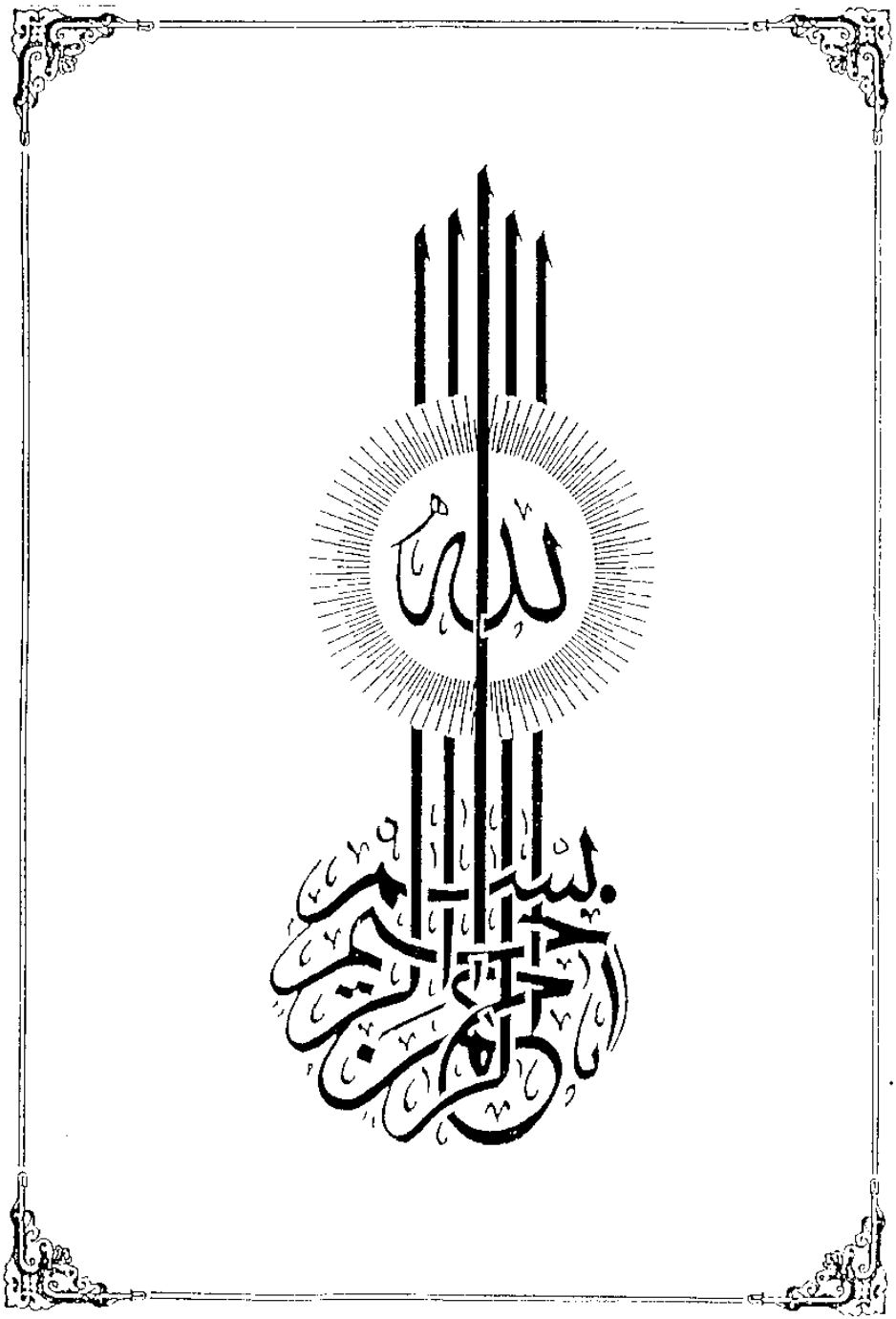
PROF. DR. MOHAMED RAGHEB

Prof. of General Surgery
Faculty of Medicine, Ain Shams University

FACULTY OF MEDICINE
AIN SHAMS UNIVERSITY

1991





CONTENTS

ACKNOWLEDGMENT

I would like to express my deepest gratitude to Prof. Dr. **Mohamed Ragheb**, professor of General Surgery, Faculty of Medicine, Ain Shams University, for his valuable supervision, guidance and continuous support throughout the work of this essay.

INTRODUCTION

INTRODUCTION

Non parasitic cysts of the liver and intrahepatic biliary tree include entities which differ in aetiology, prevalence, manifestations and severity, but have two common characteristics.

Firstly, these diseases result from a congenital malformation, inherited or not inherited, of the intrahepatic bile ducts.

Secondly, the basic lesion consists of cysts, either macroscopic or microscopic. The macroscopic cysts are easily recognized by ultrasonography or computed tomography, which are the main procedures for their diagnosis. The microscopic cysts are evidently not demonstrated by the imaging procedures, but only by histological examination **(Benhamou et al., 1988)**.

In 1856 Bristowe first reported a case of non parasitic cystic disease of the liver and emphasized the association with polycystic renal disease. In the same year, Michel recorded the first solitary, non parasitic cysts.

Hadad et al 1977, reviewed almost 900 cases. An autopsy incidence of 0.15 to 0.5 percent has been reported. Cystic disease of the liver has been reported at all ages.

The disease most frequently makes its appearance during the fourth, fifth and sixth decades. The average age of the patient with symptomatic, solitary cysts of the liver is 55 years old **(Schwartz 1990)**

NON PARASITIC CYSTS OF THE LIVER

I. NON NEOPLASTIC

a. Congenital:

1. Simple cysts.
2. Adult fibropolycystic disease.
3. Childhood fibropolycystic disease.
4. Congenital hepatic fibrosis.
5. Congenital intrahepatic biliary dilatation:
    a. Locolized.
    b. Multiple (Caroli's disease)

b. Acquired:

1. Inflammatory or infective pseudocyst (pyogenic liver abscess).
2. Post - traumatic cyst.
3. Endometrial cyst.
4. Cerebrospinal fluid pseudocyst.

II. NEOPLASTIC

a. True Cysts:

1. Cystadenoma.
2. Cystic mesenchymal hamartoma.
3. Cystic neuroendocrine neoplasms.
4. Cystadenocarcinoma. 5. Metastatic cysts

b. False Cysts:

Neoplastic pseudocysts (cystic degeneration in a malignant tumour).

SURGICAL ANATOMY OF THE LIVER

SURGICAL ANATOMY OF THE LIVER

The anatomy of the liver can be described according to different aspects: morphological, functional and segmental anatomy.

Morphological Anatomy

The liver, the largest organ in the body, lies in the upper right part of abdominal cavity, occupying most of the right hypochondrium and epigastrium and extending into the left hypochondrium **(William's et al., 1989)**.

The liver is a large wedge - shaped with base to the right and apex to the left. It has 2 surfaces, diaphragmatic and visceral. The diaphragmatic surface is convex, moulded to the diaphragm. The visceral surface, flat, slopes down to the right and forwards. Shallow visceral impression are moulded on this surface. From the diaphragmatic and visceral surfaces peritoneal folds pass across to the diaphragm and down to the stomach, these persists from the ventral mesogastrium into which the developing liver grows **(Last 1984)**.

Surfaces and Margins

As the liver is wedge shaped with the base of the wedge to the right and the apex to the left it has the following surfaces and margins.

The superior surface is molded to the diaphragm and reaches the 5th rib on the right and the 5th space on the left. Above the diaphragm lie the lung and pleura on each side, with the pericardium in between. Liver abscess may reach the thorax through the diaphragm, similarly, intrathoracic diseases may involve the liver.

The right lateral margin, a favorite site for liver biopsies, lies against the diaphragm and chest wall. The diaphgram separates the liver from the lung and pleura as far as the 8th and tenth ribs, respectively. A needle placed below the tenth rib will reach the liver and avoid the lung and pleura.

The inferior border is sharp and, on the right, lies just below the costal margin from which it slops up from right to left across the epigastrium to the level of the apex beat of the heart.

The anterior surface lying between the superior blunt and inferior sharp margins, lies behind the ribs and cartilages, separated by the diaphragm, pleurae, and lungs.

A small portion in the epigastrium lies immediately behind the anterior abdominal wall **(Ger 1989)**.

The posterior and inferior surfaces (visceral surface) merge into each other and are seen by elevating the anterior margin. The inferior concave surface presents a prominent porta hepatis (the hilum of the liver) which is enclosed between the two layers of lesser omentum which are seperated by bile ducts and hepatic vessels. The vessels are the ingoing hepatic artery and portal vein. They lie in the usual order, V.A.D. (vein, artery, duct), with the ducts in front (more access bile in surgery). The cystic duct lies in loose contact with the right end of the porta together with several lymph nodes. These vessels together with the nerves of the liver, lie enclosed between the layers of the free edge of the lesser omentum **(Last 1984)**.

The inferior surface is related, from right, to the upper half of right kidney and suprarenal gland posteriorly, with the hepatic flexure of the colon and the junction of the first and second parts of the duodenum anteriorly. Passing leftword, the liver is in contact with the inferior vena cava and the oesophagus and proximal part of the stomach.

The posterior surface is largely retroperitoneal and lies in contact with the retrohepatic I.V.C. and upper pole of the right kidney and suprarenal gland. This retroperitoneal (bare) area is enclosed by the leaves of the coronary ligaments, and access to this area can only be obtained by division of these ligaments **(Ger 1989)**.

Ligaments of the Liver

Four peritoneal folds (the falciform, coronary, and two triangular ligaments) suspend the liver from the anterior abdominal wall and the diaphragm.

The round ligament (ligamentum teres) is not really a ligament but a fibrous cord resulting from obliteration of the left umbilical vein.

Similarly, the ligamentum venosum is the fibrous remnant of the ductus venosus. The two layers of the falciform ligament run to the right and the left as the anterior (or superior) and return as the posterior (or inferior) layers of the coronary ligament.

Where these layers meet on either side they are called the right and the left triangular ligaments **(Ger 1989)**.

The hepatic lobes

The liver is divisible into a right and a much smaller left lobe. The original basis for demarcation was a concatenation of superficial features (attachment of the falciform fold, the position of fissures for ligamenta teres and venosum, etc.) lesser segments of right. lobe are the quadrate lobe, on its inferior surface, and the qudate lobe, on the posterior surface **(Wiliams et al., 1989).**

Functional and Segmental Anatomy

The study of the functional anatomy of the liver permits the description of hepatic segmentation based upon the distribution of the portal pedicles and the location of the hepatic veins.

The three main hepatic veins divide the liver into four sectors, each of which receives a portal pedicle, with alternation between hepatic veins and portal pedicles. The four sectors individualised by the three hepatic veins are called portal sectors, for these portions of parenchyma are supplied by independent portal pedicles **(Bismuth 1988).**

The scissurae containing the hepatic veins are called portal scissurae, while the scissurae containing portal pedicles are called hepatic scissurae and the umbilical fissure corresponds to an hepatic scissura.