EVALUATION OF DIFFERENT METHODS IN CONTROLLING ACUTE VARICEAL BLEEDING

THESIS

SUBMITTED FOR PARTIAL FULFILLMENT FOR

THE MASTER DEGREE IN

INTERNAL MEDICINE

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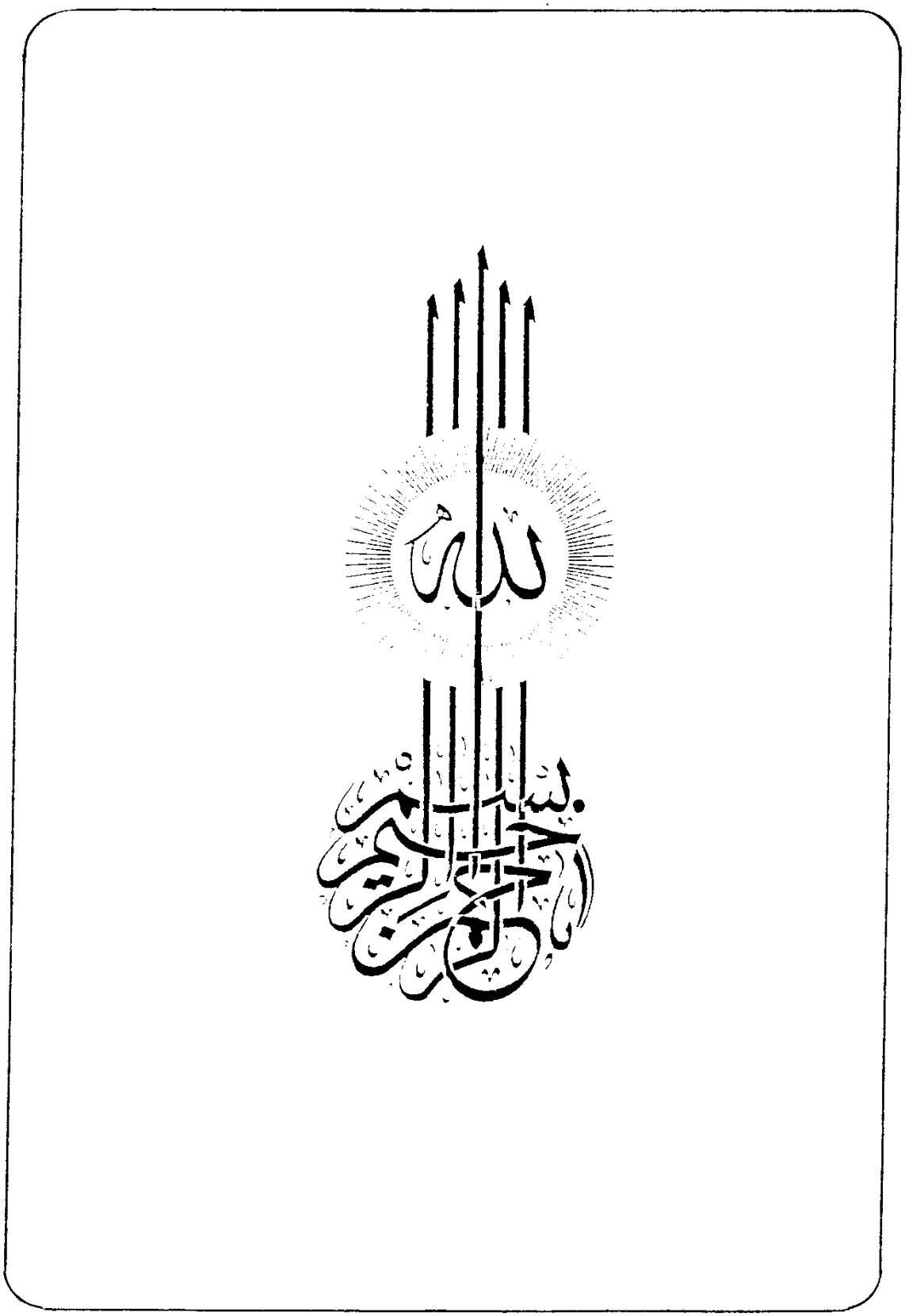
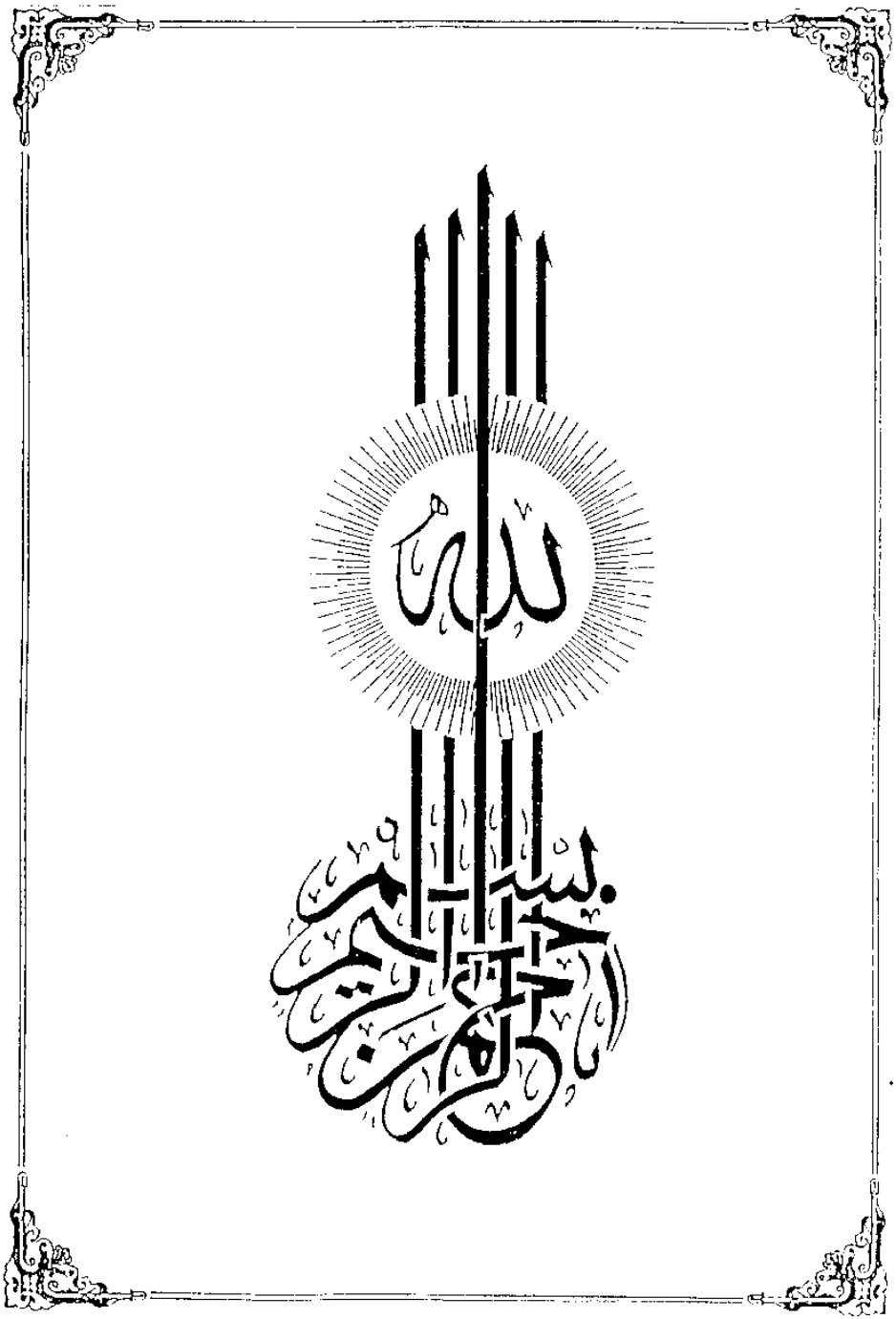
1986





ACKNOWLEDGEMENT

Thanks to God, Greater of all, for completing this work.

I would like to express my deepest gratitude to PROF. DR. YEHIA ZAKARIA MOHRAN, Professor of Int. Med., Ein Shams University for his valuable advice, honest assistance, guidance, kind supervision and continuous encouragement throughout the whole work, without this supervision and support, I would have never been able to write this thesis.

I am also very grateful to PROF.DR. MOHAMED A. SALLAM, Prof. of Int. Med., Ein-Shams University for his paternal attitude, kind supervision, constant encouragement and developing the concepts and ideas.

I wish to express my deepest thanks to DR. MOHSEN M. MAHER , Lecturer of Int. Med.,Ein Shams University for his actual help and support for completion of this work.

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AUGUST, 1986.

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INTRODUCTION

INTRODUCTION

Bleeding from oesophageal varices is one of the most dramatic , urgent ,frightening , and life threatening events for a patient with cirrhosis , so its swift and accurate diagnosis and ,consequently, confident and effective management remains one of the most challenging clinical exercise in medicine [Paquet, 1983].

- Mechanism of formation
- causes of bleeding

In an attempt to face the acute bleeding attack, different modes of management have evolved in different centres including the use of liberal blood transfusion (Bogoch, 1973), tamponade by the use of Sengstaken -Blakemore tube (Paquet et al., 1985), or the Linton -Nachlas tube (Burcharth, 1976), or the boyce modifiction of the Sengstaken-Blakemore tube (Pitcher et al ., 1971),vasopressin and its synthetic derivatives infused at pharmacological doses (Yang ,1986 ; Walker, 1986) and endoscopic sclerotherapy (Westaby, 1984 ; Westaby, 1986).

Each method has its limitations and complications .Inspite of the wide experience accumulated with the Sengstaken-Blakemore tube ,the controversy about its usefulness and complications persists (Teres et al., 1978). It has a high

incidence of oesophageal ulceration and is extremely unpleasant for the patient (Shaldon et al., 1960).

The efficacy of vasopressin in controlling acute variceal bleeding is still controversial[Young, 1986]. While reducing blood flow and portal venous pressure, the vasoconstrictive effects of vasopressin also produce adverse systemic hemodynamic effects and many cardiovascular complications. Cardiotoxicity limits the dosage that can be used [Kelly et al., 1980]. Addition of sublingual nitroglycerine to intravenous vasopressin does significantly reduce the complications [Young et al., 1980]. Glypressin [Terlipressin] is nearly devoid of such complications, effective and is the drug of choice [Sherlock, 1985].

Ulceration and necrosis of the oesophagus after oesophageal vein endoscopic sclerosis have been reported and appear to be quite common [Ayres et al., 1982]. Pulmonary and gastrointestinal complications occur in 10-15% of patients and procedure related deaths have been reported to occur in about 1% of cases [Health and Public Policy Committee, American College Of Physicians, 1984].

This study aims at evaluating the main methods of controlling acute variceal bleeding namely, drugs that reduce

portal blood flow [e.g. glypressin], balloon tamponade using Sengstaken - Blakemore tube and endoscopic sclero-therapy trying to find the most effective, suitable and safe one.

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REVIEW OF LITERATURE

CHAPTER 1.
ANATOMY OF THE LIVER AND PORTAL VENOUS SYSTEM

ANATOMY OF THE LIVER

The liver is the largest organ in the body, it is situated in the upper and right part of the abdominal cavity, occupying almost the whole right hypochondrium, the greater part of the epigastrium and extending into the left hypochondrium as far as the left lateral line [Gray's 1962].

Sheltered by the ribs in the right upper quadrant it is shaped like a pyramid whose apex reaches the xiphisternum [Sherlock, 1985].

The liver is divided into a large right and a much smaller left lobe. On the anterior and superior surface the two lobes meet along the line of attachment of the falciform ligament. On the inferior surface they are separated by fissure for ligamentum teres, and posteriorly by fissure for ligamentum venosum [Gray's 1962].

The left lobe is thin, flattened from above downwards and only about one-sixth of the size of the whole organ.

The right lobe constitutes the remaining five-sixths of the whole organ. The portion of the right lobe which

adjoins the left lobe on the inferior and posterior surfaces is further subdivided into smaller lobes, termed the quadrate and caudate lobes [Gray's 1962].

The quadrate lobe is placed on the inferior surface and is somewhat rectangular in outline. The caudate lobe is situated on the posterior surface.

The porta hepatis is a deep fissure placed on the inferior surface of the liver between the quadrate lobe in-front and the caudate process behind. Through the porta hepatis, the portal vein, the hepatic artery proper and the hepatic plexus of nerves enter the liver and the right and left hepatic ducts and some lymph vessels emerge [Gray's 1962].

The liver is completely covered with peritoneum except in three places. It comes into direct contact with the diaphragm through the bare area which lies to the right of the fossa for the inferior vena cava. The other two areas are the fossa for inferior vena cava and gall bladder.

The liver is kept in position by peritoneal ligaments and by the intra-abdominal pressure transmitted by the tone of the muscles of the abdominal wall [Sherlock, 1985].

SEGMENTAL ANATOMY OF THE LIVER

One lobar fissure is in line with the fissure of the inferior vena cava above and the fossa of the gall bladder below. This fissure takes an oblique course from left to right to the porta hepatis and divides the liver into two anatomical left and right lobes. The left segmental fissure divides the left lobe into medial and lateral segments. The right segmental fissure divides the right lobe into an anterior and a posterior segment [Healey, 1970]. Knowledge of this anatomy is particularly valuable in planning hepatic surgery [Sherlok, 1985].

FUNCTIONAL ANATOMY OF THE LIVER

Study of the distribution within the liver of the right and left branches of the portal vein, hepatic artery, and common hepatic duct indicates that, from a functional point of view, the liver should be divided into right and left lobes of approximately equal size. This is because the quadrate lobe and most of the caudate lobe are supplied [or drained] by the left branches of the vessels and so belong to the functional left lobe of the liver. This division is emphasized by the fact that there is little or no anastomosis between the vessels supplying the functional right and left lobes [Gupta and Gupta, 1976; Gupta, Gupta, and Arora, 1977].

Functional segments supplied by main branches of the right and left lobar vessels are also recognized. Each functional lobe has two segments, those in the left being called the left lateral and the left medial, and those in the right, the right anterior and right posterior. The left lateral segment corresponds to the left anatomical lobe and the left medial to the quadrate and most of the caudate lobe. The place of separation between these segments corresponds to the fissures for the ligamentum teres and ligamentum venosum. The plane of separation between the segments of the right lobe is less sharply outlined and appears to run obliquely from the middle of the anterior surface of the right anatomical lobe to the groove for the inferior vena cava. With the exception of the hepatic veins, the arterial, portal, and biliary vessels do not cross to adjacent segments-a feature of considerable surgical importance [Braash 1958].

ANATOMY OF THE PORTAL VENOUS SYSTEM

The portal system is a system of veins which drains blood from the abdominal part of the alimentary tract, the spleen, the pancreas and the gall bladder. The main veins which are responsible for the formation of this system are the portal vein, the splenic vein, the superior and inferior mesenteric veins [Sherlock, 1985].

The portal vein itself usually begins at the level of the second lumbar vertebra [posterior to the head of pancreas] at the union of the splenic and superior mesenteric veins. It then ascends behind the bile duct and the hepatic artery where it receives a variable number of small veins. It ends at the porta hepatis by dividing into two branches, one to each of the corresponding lobes of the liver. The right branch is usually joined by the cystic vein before its entrance into the liver. The left branch gives branches to the caudate and quadrate lobes of the liver and is also connected to a fibrous cord, the ligamentum teres which is a remnant of the obliterated left umbilical vein [it runs in the free border of the falciform ligament] [Last, 1973]. Together with the ligamentum teres, the small paraumbilical veins run and connect the portal vein with the veins around the umbilicus. These may become prominent in cases of portal hypertension. A second fibrous cord, the"ligamentum venosum", is a vestigue of the obliterated "ductus venosus" and connects the inferior vena cava with the left portal vein [Davies and Caupland, 1960]. The splenic vein begins by five or six tributaries issuing from the spleen which are joined by the short gastric vessels to form a single vessel. It then descends to the right [across the posterior abdominal wall] where it receives numerous short tributries from the pancreas. It usually receives the inferior mesenteric vein at