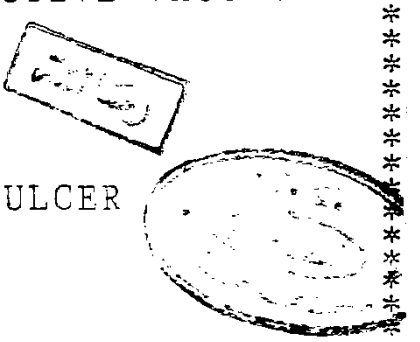
ROLE OF TAGAMET AND HIGHLY SELECTIVE VAGOTOMY

IN

TREATMENT OF DUODENAL ULCER



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G E N E R A L S U R G E R Y

B Y

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DEDICATION

This thesis is dedicated to my great professor Dr. MOHAMMED SAMEH ZAKY, Professor of Surgery, Faculty Of Medicine, Ain Shams University.

I offer this work wishing to express my warm gratitude and thanks for his help, guidance and encourgement and to him I will remain endebted for his close supervision upon this work. His remarks, comments and continuous help were a motive of inestimable value to accomplish this work.

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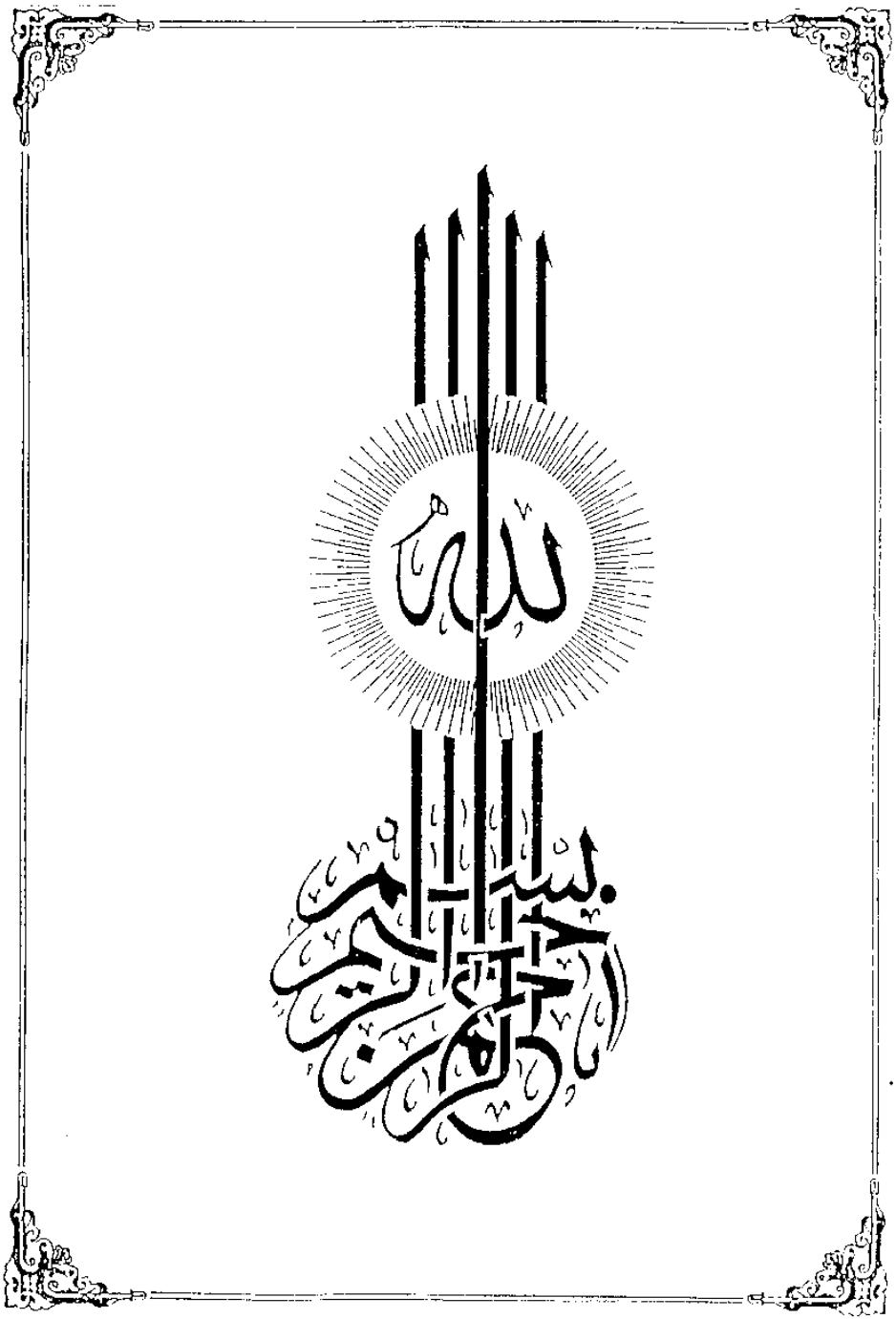

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CHAPTER 1

1. AIM OF WORK

Are the duodenal ulcer medical or surgical disease and should they be managed by physcians or surgeons ? The treatment of duodenal ulcer cuts across the boundaries between surgery and medicine, so that optimal management depends on close collaboration between physicians and surgeons.

Some patients, notably those with organic pyloric channel abstruction or those in emergency situations because of acute perforation or major haemorrhage, will need obviously surgical attention.

At the other end of the clinical scale are those whose duodenal ulcer is causing them minimal discomfort and do not need a surgeon. This leaves, however, a substantial middle ground of patients, where the choice between surgical and medical management may not be always clear-cut and where the awaraness of what each treatment modality has to offer becomes very important.

This is especially so because of the recent

advances made in the medical management of duodenal ulcer. Progress in this area has been due to several factors :

(a). The development of fibreoptic endoscopy has improved the accuracy of diagnosis and has made possible accurate measurement of the effect of medical therapy on the healing of duodenal ulcer .

(b). Further progress in the medical management of duodenal ulcer has been due to fresh interest in the pharmacology of ulcer-healing drugs.

(c). The development of agents that powerfully inhibit gastric acid secretion by blocking the action of endogenous histamine at H_2-receptors has led to intense research activity.

The number of therapeutic strategies available to the surgeon or physician managing a patient with duodenal ulcer has rapidly and substantially increased, making the decision making process more interresting, but also more difficult .

It is therefore more than ever important that surgeons should be aware of the advantages and limitations of medical therapy in duodenal ulcer.

Improved understanding of the physiology of the digestive system has been translated into more effective medical treatment, endoscopy has opened the way to accurate diagnosis and offers an exciting prospect for therapy, and surgeon have striven for a better balance between safety, risk of recurrent ulceration and undesirable sequelae of operations.

In this work, I have invited acknowledged authorities to provide up-to-date coverage of growth areas, paying particular attention to advances in accurate diagnosis, and to the implications of available medical and surgical treatments.

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CHAPTER 2

2 - SURGICAL ANATOMY OF THE VAGUS NERVE

1. BASIC PATTERN AND TERMINOLOGY OF VAGAL STRUCTURE :

The left and right vagus nerves descend parallel to the oesophagus and form an oesophageal vagal plexus between the level of the tracheal bifurcation and the level of the diaphragm. From this plexus two vagal trunks, anterior and posterior, form and pass through the oesophageal hiatus of the diaphragm . Each trunk subsequently separates into two divisions.

From the anterior trunk, the hepatic division passes to the right in the lesser omentum, branching before it enters the liver. One branch turns downward to reach the pylorus and sometimes the first part of the duodenum. The second division, the anterior gastric division descends along the lesser curvature of the stomach giving branches to the anterior gastric wall.

From the posterior trunk arises the coeliac division which passes to the coeliac plexus, and

the posterior gastric division, which supplies branches to the posterior gastric wall.

2. IDENTIFICATION OF VAGAL STRUCTURES AT THE HIATUS :

To the surgeon planning a vagotomy, the pattern of the vagus nerves at the oesophageal hiatus is important. The basic configuration and variations are well known, but the thoracic pattern is not visible to the abdominal surgeon , who must proceed on the basis of the structures that can be seen.

In the study of vagal structures in 100 cadavers (Skandalakis et al.,1974),the following was found :

a- Two vagal structures only (88%) :

These will be the anterior and posterior vagal trunks which have not yet split to form the four typical divisions. Both trunks are usually to the right of the midline of the oesaphagus. The posterior trunk lies closer to the aorta than to the oesophagus.

b- Four vagal structures (7%) :

These will be the four divisions of the vagal trunks. Division has occurred above the diaphragm.

c- More than four vagal structures (5%) :

These may be (1) divisions and branches of divisions (the anterior and posterior trunks lie entirely within the thorax), and (2) elements of the oesophageal vagal plexus (the anterior and posterior trunks lie entirely within the abdomen).

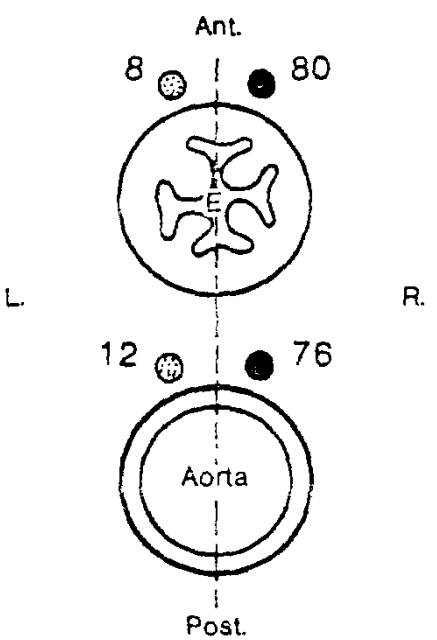
3. DISTRIBUTION OF THE VAGUS NERVES TO THE STOMACH :

a- Anterior gastric division :

Among 100 specimens have been dissected by(Skandalakis et al.,1980),the separation of the anterior gastric and hepatic divisions occasionally occurred above the diaphragm, but they usually lay on the abdominal oesophagus or the cardia.

In 96 of the 100 specimens, a major branch of the anterior gastric division formed the principal anterior nerve of the lesser curvature (anterior nerve of Latarjet) . It usually lay from 0.5 to 1.0 cm from the lesser curvature. In one of the specimens it lay beneath the serosa of the gastric wall. This nerve can be traced distally to about the level of the incisura in most subjects, but in many it reaches the pylorus and in a few it is visible as far as the first part of the duodenum.

The relation of the anterior and posterior vagal trunks to the aorta and the esophagus. The trunks are usually to the right of the midline; the anterior trunks are closer to the esophagus than are the posterior trunks.



The vagal branches that are subserosal at the surface may penetrate the muscularis and continue downward to the antrum by the submucosal (Meissner's) plexus.

From 2 to 12 branches pass from the principal nerve to the stomach wall . The average in these subjects was 6. In two of these subjects, the anterior nerve of latarjet was duplicated : each nerve supplied its own branches to the stomach wall.

In some subjects there is no true nerve of Latarjet, a fan of gastric branches arises from the anterior vagal trunk above the origin of the hepatic division, and one or more long branches below this origin descend to supply the antrum. Even where a definite nerve of Latarjet is present, there are usually some, and often many branches to the gastric cardia and fundus that arise from the anterior trunk proximal to the origin of the hepatic division .

Constant landmarks on the stomach are difficult to obtain. The position of the incisura angularis often has to be estimated.

Griffith (1977) found " in the operating room this landmark either cannot be found or can be only vaguely located " . While some have often seen the nerve of latarjet branch in the " Crow's foot formation"this pattern is far from constant, being equivocal in some cases and absent in many .

b. Hepatic division :

The hepatic division of the anterior vagal trunk usually separates from the anterior gastric division at the level of the abdominal oesophagus. It lies between the leaflets of the avascular portion of the gastrohepatic ligament. It is frequently found in multiple and usually closely parallel branches.

c. Posterior gastric division :

In most subjects, the posterior gastric division forms the principal posterior nerve of the lesser curvature (Posterior nerve of Latarjet). As a rule the posterior nerve appears to terminate slightly higher on the lesser curvature and possesses fewer gastric branches than does the anterior nerve.