Oesophageal Motility After Trunkal Vagotomy

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By
SAMEH MAHMOUD SHIMY
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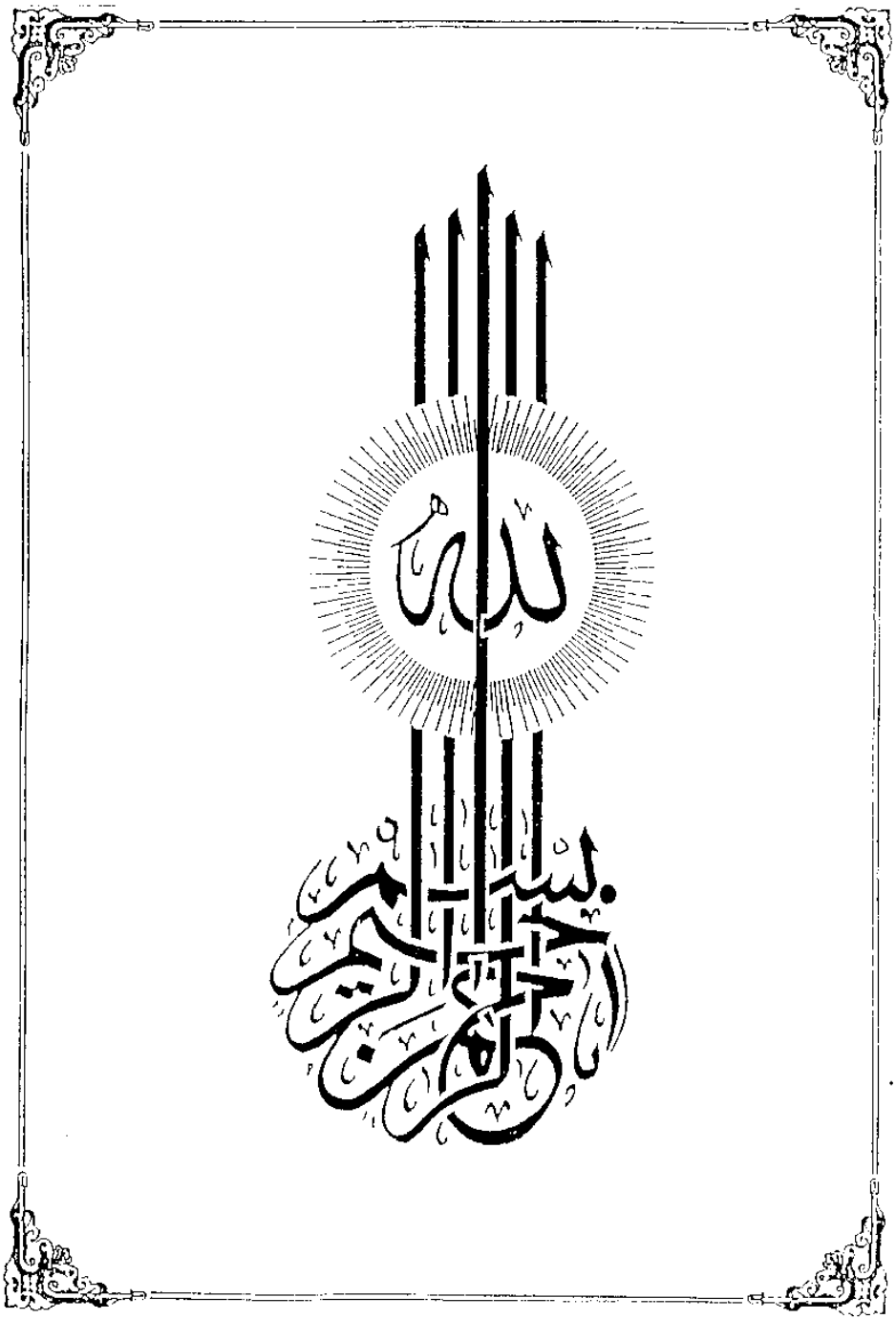
Supervised by

Prof. Dr. Alaa Ismail
Professor of General Surgery
Faculty of Medicine
Ain-Shams University

Dr. Fathy Kh. Ahmed
Head of Surgery Departments
El Kobba Armed Forces Hospital

Faculty of Medicine
Ain-Shams University
1999



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Introduction

INTRODUCTION

Duodenal peptic ulcer is now a common condition in Egypt. Yet, its surgical treatment is a problem, which has not been completely solved, and for long time, surgeons have been seeking an ideal operation. The major considerations in selecting an operation for a duodenal ulcer patient are the immediate mortality, the risk of recurrent ulceration and the late post-operative sequelate. Vagotomy has played important rule in the surgical treatment of peptic ulcer (Lester Dragedt and Owens et al., 1943). Although truncal vagotomy has the two-fold effect of reducing hypermotility and hypersecretion of the stomach, unfortunately it also causes gastric retention. It is therefore essential to perform some sort of drainage procedure such as gastrojejunostomy, pyloroplasty, double pyloroplasty, or antrectomy. An intra-luminal pressure barrier at the esophago-gastric junction is a mechanism by which esophageal reflux of gastric contents is prevented. This well defined high pressure zone (HPZ) is demonstrated by monometric studies in normal humans and is taken as evidence for a physiological gastro-esophageal sphincter (Mann et al., 1964). The HPZ amplitude is modified by pH (Giles et al., 1969), pharmacological and anatomical factors (Skinner et al., 1970). The effect of various types of vagotomy performed for duodenal ulcer disease upon the HPZ,

competence and esophageal body function is controversial (Ahamed F.KH, 1998).

This work aims to study the effects of trunkal vagotomy on esophageal function (lower esophageal sphincter-LES or HPZ, esophageal body, and upper esophageal sphincter -UES), to quantify the therapeutic and adverse effects.

Anatomy and Histology Of the Oesophagus

Anatomy and histology

The oesophagus is a muscular tube, about 25cm long connecting the pharynx to the stomach. It begins in the neck at the caudal border of the cricoid cartilage, opposite the sixth cervical vertebra, where it is continuous with the pharnex, in thorax it passes through the superior and the posterior mediastinum and pierces the diaphragm at the level of the tenth thoracic vertebra, and ends at the cardic orifice of the stomach at the level of the eleventh thoracic vertebra. Through its course it is divided into three parts: cervical, thoracic and abdominal parts. ***(William and Waraich,1980)***

The Cervical portion

The cervical part of the oesophagus is the direct continuation of the pharnex begines at the level of the sixth cervical vertebra and it is loosly at tached to the prevertebral fascia by sagittal septa in the cervical region, despite its proximal fixation with the pharynx, the oesophagus is capable of considerable upward and latteral displacement due to its interinsic elasticity and loose connection with the trachea and prevertebral fascia. It is overlapped by the lower poles of the thyroid gland, and the thoracic duct runs upward behind its left border, the recurrent laryngeal nerves are on each side in the groove between the trachea and the oesophagus. ***(Anson and Mcvay, 1984).***

The thorcic portion

The thoracic oesophagus is the continuation of the cervical oesophagus and follows curved course. It reaches the oesophageal orifice of the diaphragm at the level of the tenth thoracic vertebra, the oesophagus presents three narrowing, the 1st at its beginning at the level of the cricoid cartilage, the and is behind the bifuracation of the trachea at the level of the fourth thoracic vertebra, the 3rd is at its point of passage thrghou the oesophageal hiatus into the abdominal cavity, ***(Mc Minn, 1990).***

Abdominal oesophagus and gastroesophegeal Junction

The abdominal oesophagus is said to be from 5 to 2.5 cm. In length and occasionally may reach 7cm. The surgeon has access to an appreciable length of the oesophagus below the diaphragm the abdominal oesophagus lies at the level of the 11th or 12th thoracic vertebra, and is partially covered by peritoneum in the front and on its left lateral wall. It has the flowing relations: anterior: the posterior surface of the left lobe of the liver, left vagal trunk, posterior: one or both crurae of the diaphragm, the left inferior phrenic artery, and the aorta, to the right: the caudate lobe of the liver, to the left: the fundus of the stomach. The gastro esophageal junction lies in the abdomen just below the diaphragm where the oesophagus enters the stomach obliquely at a point about 7cm below