GASTRIC ULCER

ESSAY

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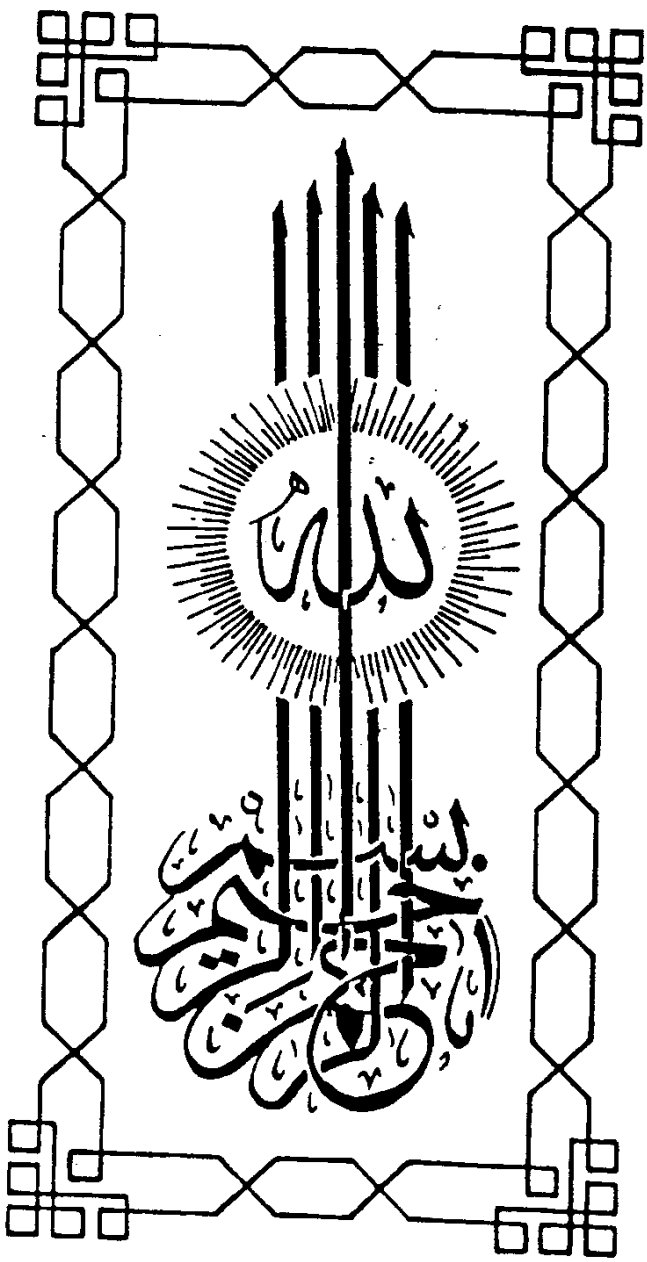

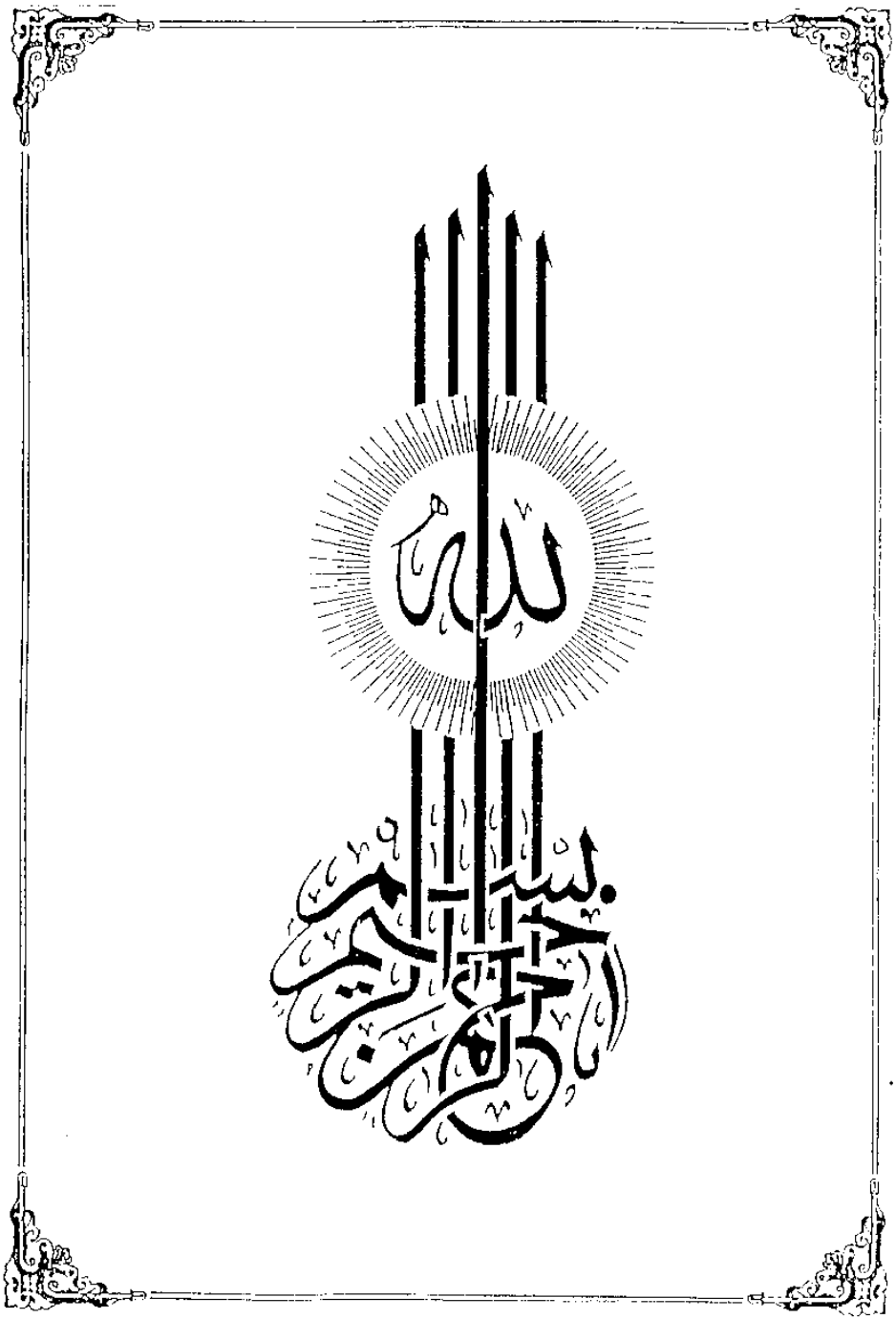

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Khaled Ahmed

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The pathogensis of gastric ulcer is not fullyunderstood. At the sametime, the classification of gastric ulcer into three types is quite arbitarary. in the sense that, there is no proof that the three types of ulcers have different aetiologies or that they require specific and different methods of treatment.

The aim of this essay is to review the whole subject to provide an account of what was done. What is done now, and why, with evaluation of nature of the problem.

HISTORICAL APECTS

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From a search of ancient and medieval records, Diocles (350-325 B.C.) apparently was the first to describe the clinical symptomatology of gastric ulcer. Galen (131-201 A.D.)and Palus Aegineta (625-690 A.D.) were each aware of gastric ulcer and the complications of haematemesis and melaena. Studies of reports from the Smith Papyrus demonstrated that, honey had excellent qualities perhaps because of its high osmotic pressure; which disrupts the walls of microorganisms trapped within it.

Periodic reports were made of gastric ulcer complicated by haemorrhage, perforation, fistula and obstruction. The first clear description of the morbid anatomy and symptomatology of gastric ulcer was that of Matthew Baillie of London who published his observations in 1793. It was during the same period that Baillie's brother-in-low, John Hunter, advanced his anatomic theory of the causation of gastric ulcer.

In the 19th century outstanding contributions of significance to the pathologic manifestation of gastric ulcer were made by Jean Cruveilhier who was the fist to distinguish between a benign gastric ulcer and a gastric cancer, and gastric ulcer was subsequently referred to thoughout France as the "Ulcer of Cruveilhier".

It was not until near the begining of the 20th century that duodenal ulcer was fully recognized as a separate entity.

The first successful closure of a perforated gastric ulcer was reported by Krige of Barman, Germany, in 1892. Hans Van Habere of Germany was one of the early advocates of primary gastric resection for both perforated gasric and duodenal ulcer.

It is indeed interesting and of historical interest that a successful resection of the distal stomach for gastric ulcer was accomplished before suture closure of a perforated gastric ulcer. Ludwik Rydygier (1850-1914) in 1882 was the first to perform a successful distal partial gastrectomy for benign gastric ulcer.

The frist successful attempt at gastric resection for carcinoma of the distal stomach was performed by Christian Albert Theodor Billroth in 1881, and Billroth's name bas been associoted with resection for gastric ulcer ever since (Herrington and Sawyers, 1987).

Everything changed, at least in surgery of duodenal ulcer, when Dragstedt in 1943 introduced truncal vagotomy, initally without drainage, by tran-

sthoracic route. Of the first 131 patients 5 developed gastric ulcer secondary to gastric stasis and a drainage procedure was used later which cured the problem. Several years later truncal vagotomy with drinage was used for treating gastric ulcer(Johnson, 1983).

The modern concept of denervating the parietal cell mass of the stomach began with the experimental work of Griffith and Harkins in the 1950s. Griffith subsequently applied the operation successfully to patients with duodenal ulcer, but the operation was first widely used on clinical basis in the late 1960s by Holle and Hart. On the other hand, the treatment of gastric ulcer by denervation of the parietal cell mass was frist reported by Johnston in 1972 (Herrington and sawyers, 1987).

ANATOMY

THE ANATOMY OF THE STOMACH

The stomach is a muscular bag, fixed at both ends, mobile else where, and is subjected to great variations in size in conformity with the volume of its contents. Much of it lies under cover of the lower ribs. It consists of fundus, body, pyloric antrum and pylorus. The fundus is that part which projects upwards, in contact with the left dome of the diaphragm, above the level of cardiac orifice. It is usually full of gas. The body extends from the fundus to the level of the incisura angularis, a constant notch in the lower part of the lesser curvature.

The pyloric antrum extends from this level, narrowing gradually towards the pylorus. The pylorus is palpably thicker than the rest of the stomach wall and the pyloric canal is held closed by the tonus of the pyloric sphincter except when the latter relaxes to allow the stomach to expel a jet of its contents into the duodenum

The mucous membrane of the stomach is smooth and very red, in the pyloric antrum it is thrown into longitudinal folds which flatten - out when the organ is greatly distended. The outer longitudinal and inner circular muscle coats completely invest the stomach, they are reinforced by an innermost oblique muscle coat, which is incomplete. Its fibres loop over the

fundus, being thickest at the notch between the fundus and the oesophagus. They pass along the anterior and posterior walls of the organ in a direction oblique to its long axis, but they lie vertically when the body is erect, and thus obtain the best mechanical advantage in supporting the weight of the stomach contents. It is the contraction of the oblique coat which produces the magenstrasse. This a pathway along of the lesser curvature which allows liquids to pass along while the body and greatere curvature are pinched off. Thus a meal of rice and meat remains undisterbed in the stomach while the following drink of water flows directly through to the duodenum.

The stomach is completly invested in peritoneum, which passes in a double layer from its lesser curvature as the lesser omentum and from its fundus and greater curvature as the greater omentum. There is only a small area on its posterior wall just below the gastrooesophageal junction not coverd with peritoneum.

Relationships of the stomach :-

The upper part of the lesser curvature is overlapped in front by the sharp inferior border of the left lobe of the liver, elsewhere, the anterior surface is in contact with the diaphrgm and the anterior a bdominal wall. The fundus occupies the concavity of the left dome of the diaphragm. The convexity of the

greater curvature lies in contact with the transverse colon, the gastrocolic omentum being instermental in making their curvatures conform to each other.

The posterior wall of the stomach lies with its serous coat in contact with the peritoneum of the lesser sac. If the stomach is removed, the stomach bed may be inspected. It extends on the left of the oesophageal opening to the highest part of the dome of the diaphragm. The lesser sac is limited by the attachment of greater omentum to the diaphragm and to the front of the left kidney (the lienorenal ligament). The upper part of the greater curvature bulges to the lift of this ligament and the stomach is here in contact with the spleen. Below this level, the posterior surface of the stomach lies upon the downward sloping transverse mesocolon. Above the attachment of the transvers mesocolon, the body of the pancreas lies behind the peritoneum, the crests of the waves of the tortuous splenic artery appearing obove its upper border. In front of the left crus of the diaphragm, lies the crescentic left suprarenal gland, closely applied to the medial border of the left kidney. To its right, in the middle line, lies the aorta with the short Trunk of the coeliac artery dividing into its three divisions at the upper border of the pancreas. The coeliac artery lies between the coeliac ganglia and is surrounded by the coeliac lymph node and coeliac plexus (Last, 1981).