سامية محمد مصطفى

شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

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شبكة المعلومات الجامعية

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التوثيق الالكتروني والميكروفيلم

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سامية محمد مصطفى

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

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بالرسالة صفحات لم ترد بالأصل

Assessment of Gastric evacuation in peptic ulcer patients by ultrasound

Thesis
Submitted to the Faculty of Medicine University of Alexandria in partial fulfillment of the requirements of the Master degree of Radiodiagnosis.

By
Dr. Hesham Ahmed Mohamed Omer.
MBBCH, Alex.
Faculty of Medicine,
University of ALex.

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بسم الله الرحمن الرحيم

SUPERVISORS

Prof. Dr. Salama O. ElSheikh,

Professor of Radiodiagnosis,

Faculty of Medicine,

University of Alexandria.

Prof. Dr. Walaa I. Shehab,

Assist. Professor of Surgery,

Faculty of Medicine,

University of Alexandria.

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* Gastric Motility:

- Gastric motility and emptying are carefully regulated to allow the stomach to receive boluses of food from the oesophagus, to store them, to mix them with gastric juice and triturate them, and to propel the prepared chyme into the duodenum at a rate commensurate with optimal digestion and absorption by the small bowel. Disruption of these complex functions by disease or surgical therapy can lead to a variety of disorders. Diseases such as peptic ulcer or scleroderma can cause chronic gastric atony, while operations such as vagotomy, gastric resection, and gastro-enterostomy can cause one of several post-gastrectomy syndromes[1].

- The stomach accomplishes its motor functions by the interaction of two distinct motor regions: a proximal region, consisting of the gastric fundus and the oral third of the gastric corpus, and a distal region, consisting of the aboral two thirds of the

corpus, the antrum, and the pylorus. The division between the two gastric regions has been established by myo-electric and motor criteria. Pacesetter potentials, the cyclic potential changes in gastric smooth muscle that determine the frequency, direction of propagation, and velocity of propagation of peristaltic contractions, are present in the distal stomach[2,3]. In contrast , pacesetter potentials and the peristaltic contractions they trigger do not occur in the proximal stomach, which instead has slow, sustained, tonic contractions. The distinct motor patterns of the two regions of the stomach are in keeping with their unique physiologic roles in digestion. The proximal stomach functions primarily to receive and store food and to transfer ingested liquids from the stomach to the duodenum, while the distal stomach functions mainly to retain, triturate, and then empty solids and to prevent duodeno-gastric reflux.

PROXIMAL STOMACH

The proximal stomach receives and stores boluses of food from the oesophagus. By its slow, sustained tonic contractions, the proximal stomach regulates intragastric pressure and the gradient in pressure between the stomach and the duodenum. Activation of contractions of the proximal stomach is dependent on external neural and hormonal controls. The vagal nerves carry both excitatory and inhibitory messages to the proximal stomach[4]. The excitatory vagal fibers release acetylcholine, which stimulates proximal gastric smooth muscle to contract, while the inhibitory vagal neurons release a non-adrenergic, non-cholinergic neurotransmitter, perhaps nitric oxide, that inhibits proximal gastric contraction. A variety of hormones also regulate the contractions of the proximal stomach. Motilin stimulates proximal gastric contractions, while gastrin, cholecystokinin, secretin, gastric inhibitory peptide, glucagon, vasoactive intestinal peptide and somatostatin inhibit these

contractions[5,6,7]. Vagotomy decreases the sensitivity of the proximal stomach to both motilin and gastrin[8,9].

Two of the most important properties of the proximal stomach are receptive relaxation and accommodation. With the onset of swallowing and before the arrival of food from the oesophagus, the pressure within the lumen of the proximal stomach decreases. This phenomenon, termed "receptive relaxation," allows the stomach to fill without large increases in intragastric pressure with each swallowed bolus. Receptive relaxation is brought about reflexively by inhibitory vagal neurons[4,10]. Storage of food also is facilitated by another property of the proximal stomach, accommodation, which allows the proximal stomach to be distended to a considerable size with little change in intragastric pressure.

The proximal stomach exerts a steady pressure on the gastric content by its sustained contractions, and thus it plays an important