Comer Gothy

Effect of Sulpride on Gastric and Gall Bladder Emptying in patients with Functional Dyspepsia

Thesis submitted for partial fulfillment of Master degree in internal Medicine

By

Dr. Mohamed Mahmoud Mohamed Faculty of Medicine ,Ain Shames University MB. Bch.

616.332 M.M.

Under Supervision of

63.32

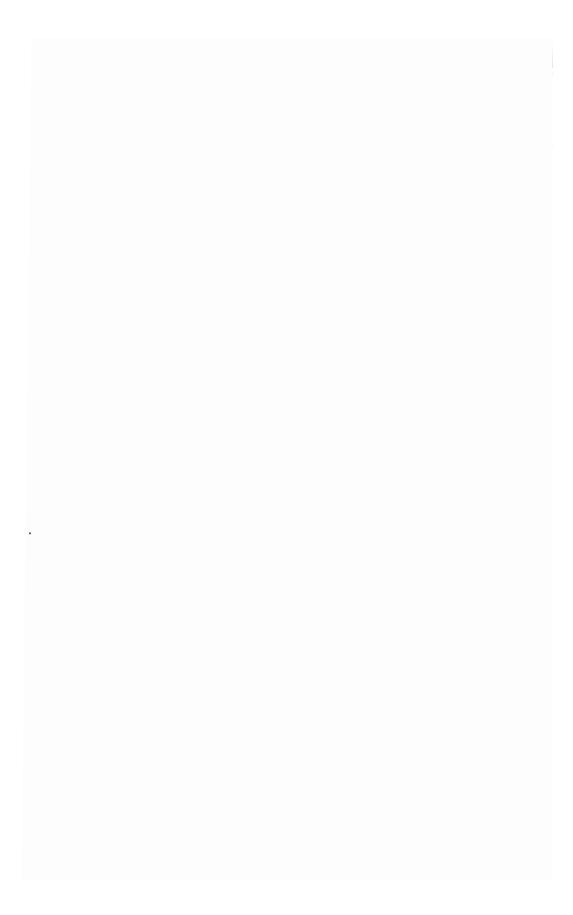
Prof. Dr. Fatthy El-Shreif Professor of Internal Medicine Faculty of Medicine ,Ain Shames University

Prof. Dr. Mohamed Salah Eldin Abdel Baky Professor of Internal Medicine Faculty of Medicine ,Ain Shames University

Dr. Adel Mahmoud Ali Lecturer of Internal Medicine Faculty of Medicine ,Ain Shames University

(1.1.)

Faculty of Medicine Ain Shames University 1998





بسم الله الوحن الوحيم قالوا سيحانك لا علم لنا الا ما علمتنا انك انت العليم الحكيم صدق الله العظيم

سورة البقرة الايه ٣٢



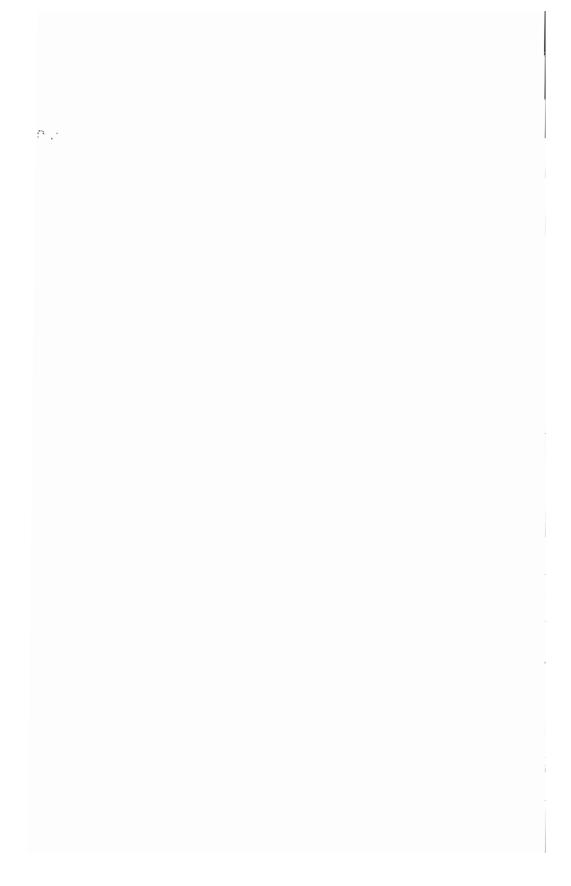
- II –

Contents

	Page
Introduction and aim of the work	1-2
Introduction	1
Aim of the work	2
Part (1) Physiology perspective	3-5
Physiology of the stomach	3
Function of the stomach	3
Part (2) Gastric emptying	5-13
Gastric emptying	5
Mechanism of gastric emptying	5
Factors which determine emptying of liquids.	6
Factors which determine emptying of solid	7
Role of different parts of the	7
Factors affecting gastric emptying	10

part (3) clinical perspective	14-24
clinical disorders associatedwith abnormal gastric emptying	14
other uncommon causes for delayedgastric emptying	14
diseases associated with rapid gastricemptying	14
other diseases causing rapid gastricemptying	15
Delayed gastric emptying	16-24
Gastric ulcer	16
Metabolic causes	16
Non diobetic metabolic causes	20
Neuro muscular gastro paresis	. 20
Others	21
Part (4) Non ulcer dyspepsia	25-35
Definition	25
Acute gastritis	26
Chronic gastritis	27
Other classification of gastnitis	31

Gastric and systemic disease	32
Idiopathic dyspepsia	34
Gastrooesophagreal reflux	35
Part (5) Measurement of gastric emptying	39-55
Radio scintigraphy	40
Ultra sonographic tecniques	43
Perfused tube manometry	45
Ambulant manometry	49
Protochol for the study	50
Intubation technique.	51
Radio logical technique	52
Gastric inpedance techniques	52
Electro- gastrography E.G.G.S	53
Applied potential tomography techniques.	54
Measurement of gastric emptyingby mangetic nesonance image MRI	54



- VII -

List of Tables	Page
Table 1: gastric emptying D1 and D2 before meal in patients and controls (Fig 25)	78
Table 2: gastric emptying D1 and D2 after meal in patients and controls (Fig 26)	78
Table 3: gastric emptying D1 and D2 before treatment by sulpride in patients and controls	79
Table 4: gastric emtying D1 and D2 15 days after sulpride administration in patients and controls.	79
Table 5: Gall bladder emtying D1 and D2 before meal in patients and controls.	80
Table 6: Gall bladder emptying D1 and D2 after meal in patients and controls.	80
Table 7: Gall bladder emptying D1 and D2 before sulpride in patients and controls.	81
Table 8: Gall bladder emptying D1 and D2 after sulpride in patients and controls.	81
Table 9 : Gastric emptying D1 x D2 before meal and 1 hr after meal in patients and controls (Fig 27)	82
Table 10: Gastric emptying D1 x D2 before and 15 days after sulpride in patients and controls.	82

- XII -

List of Abbreviations

- 1- $\mathbf{G} \mathbf{E} = \mathbf{gastric}$ emptying
- 2-D1 = Distance(1)
- 3- D2 = Distance(2)
- 4- \mathbf{B} . \mathbf{M} = before meal
- 5-A.M = after meal
- 6- B s = before sulpride
- 7- A s = after sulpride
- 8-G.B = gall bladder

Introduction And Aim of the work

Introduction

Functional Dyspepsia is impaired accommodation of proximal stomach to a meal (Hausken- T et al., 1996)

On the other hand biliary dyskinesia is delayed response of gall bladder contraction to a meal (James Taouli et al., 1994)

Functional dyspepsia and gall bladder dyskinesia can be scanned by Ultrasonographic examination to investigate the postprandial accommodation of the proximal stomach to a meal and delayed gall bladder contraction.

The symptoms of gall bladder dyskinesia and gastric dysmobility include epigastric pain and burning post prandial fullness, nausea and vomiting (Monetti et al., 1996)

Sulpride is a selective antagonist of the Dopaminergic (D2) Receptors .

It inhibits a pomorphine induced vomiting and increase gastric motility and blood flow (Davis et al., 1985, Kuga et al., 1968)

Sulpride was found to improve functional dyspepsia in patients with irritable bowel syndrome.

Aim of the Work

The aim of this study is to evaluate the relationship between gastric emptying and gall bladder emptying and other clinical features of functional dyspepsia.

On the other hand, patient will be subjected to ultrasonographic study before and after sulpride.

Physiology of the stomach:

Function of the stomach:

The stomach has 2 main function:

A serectory function and a motor function. The two main function go hand in hand in perfect hormony. in fed state, while in fasting both are dinished (Abd-EL-Hamed., et.al 1994)

The secretary function of the stomach: There are five main cell types:

1- Chief or zymogen cells:

Secrete pepsinogen which is activated to pepsin by exposure to acid (Hirschowitz. 1967)

2- Parietal or oxyntic cells:

Present in the fundus and they secrete hydrochloric acid (Guyton., 1991)

3- The suraface epithial cells:

Are mucous secreting cells. They line the gastric mucosa They may give rise to Chief or parietal cells and thus may be considered multipotentials (Hunt LE et .al 1962)

These contractions can propel material into the duodenum or propel it retrogradely into the body of stomach (Kelly.et.al 1980) The stomach discriminates between solid and liquid contents and follows fluid empty before smalles particles and the latter before large particles.

(Meyer J.H., et. al 1980)

Factors which determine emptying of liquids:

The contraction of the fundus generate a pressure gradient between the stomach and duodenum that is responsible for the exit of liquid from the stomach (Kelley et.al 1980) recent experiments suggest that normal intragastric pressure of around 6 mm Hg would be insufficient by itself to cause emptyed of liquid.

The liquid emptying is by coordination of contraction of antrum, pylorus, and duodenum (King et.al. 1984)

The role of fundus in emptying of liquids may be prime the antral pump and enhance it.s efficiency by filling the antral pump during diastole and enhance it's efficiency during systole by increasing antral distension and preventing antral contents from being displaced back into the fundus (Read and Haughton 1989) Surigical procedure as pyloric myotomy and fixing the diameter of pylorus accelerate the emptying of saline (Read and Haughton 1989)