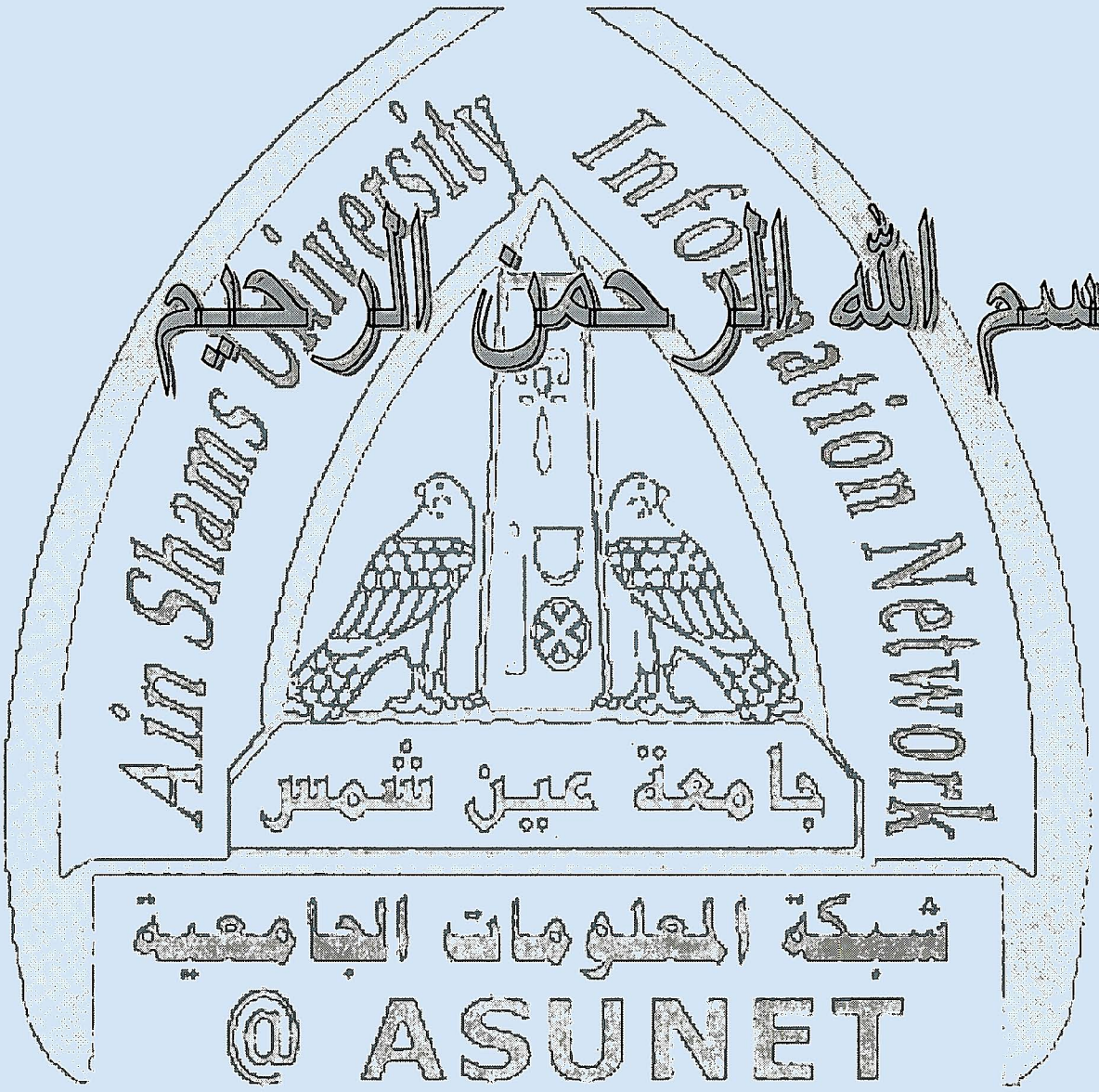
شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم



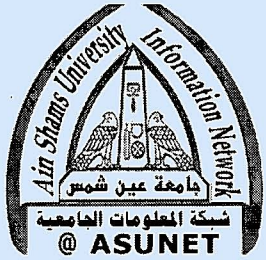
شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

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



يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار

في درجة حرارة من ١٥-٢٥ مئوية ورطوبة نسبية من ٢٠-٤٠%

To be Kept away from Dust in Dry Cool place of 15-25- c and relative humidity 20-40%

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

بعض الوثائق الاصلية تالفة

Intraepithelial Cells With Irregular Nuclear Contours As A Marker of Esophagitis In Patients With Gastroesophageal Reflux Disease

Thesis
Submitted for Partial fulfillment of
Master Degree in Tropical Medicine
by

Amal Ahmed Hafez
(M.B.,B.Ch)

Supervised by

Dr. Mohga Ali Reda
Assistant Professor of Tropical Medicine
Faculty of Medicine, Ain Shams University

Dr. Mohamed Amin Sakr
Assistant Professor of Tropical Medicine
Faculty of Medicine, Ain Shams University

Dr. Gamal Mohamed Abou El Naga
Assistant Professor of Pathology
Faculty of Medicine, Ain Shams University

Faculty of Medicine
Ain Shams University
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Introduction And Aim of The Work

INTRODUCTION AND AIM OF THE WORK

Gastroesophageal reflux disease (GERD) refers to the varied clinical manifestations of reflux of stomach and / or duodenal contents into the esophagus (***Cohen et al.,1995*****).** It occurs as a normal event, but the clinical feature of GERD occur only when antireflux measures fail sufficiently allowing gastric content to make prolonged contact with the esophageal mucosa causing damage to tissue (**spechler,1996**).

The disease characterized by combination of symptoms , radiologic, endoscopic or pathologic changes. In its milder form, it is a common disease. Its most florid state is uncommon but may be life threatening (**Cohen,1995).**

Full diagnostic evaluation is not necessary in every patient with reflux esophagitis , in mild cases with a clear out history a therapeutic trial may be sufficient . In persistent cases and when the diagnosis is not clear , barium swallow , esophagoscopy , esophageal motility with pH monitoring are indicated .In endoscopic grasp biopsies, histopathological findings include epithelial findings such as the presence of eosinophils and / or neutrophiles have been validated and show to be reliable indicator of esophagitis **(Shup et al., 1985 & Pyams et al., 1988).** Other histopathological findings of esophagitis include elongated papillae and basal zone hyperplasia **(Fink et al., 1983).**

Recently , cells with irregular nuclear contours (CINC) have been observed within the epithelium of esophageal mucosal biopsies in cases of GERD , and is detected with immunohistochemistry and represent a sensitive and early criterion of esophageal mucosal damage in GERD **(De Nardi et al., 1991 & Mangano et al., 1992**).

AIM OF THE WORK

The aim of this work is to assess the diagnostic usefulness of intraepithelial cells with irregular nuclear contours (CINC) as a marker of esophagitis in patients being investigated for GERD .

Review Of Literature

ANATOMY OF THE ESOPHAGUS

The esophagus is a muscular tube , approximately 24 cm in length , that passes through the mediastinum connecting the pharynx above at the 6 th cervical vertebra and the stomach below (Gastroesophageal junction)at the level of 11 th thoracic vertebra . At both the pharyngoesophageal junction and the esophagogastric junction , there are sphincters that normally occlude the lumen except during swallowing.

The general direction of the esophagus is vertical but it presents two slight curves in its course . It is the narrowest part of the digestive tract (excluding the vermiform appendix) and is constricted at four sites :-

A- At its commencement, six inches from the incisor teeth.
B- Where it is crossed by the aortic arch, nine inches from the incisor teeth.
C- Where it is crossed by the left bronchus, eleven inches from the incisor teeth
D- Where it pierces the diaphragm fifteen to sixteen inches from the incisors teeth **(Gray, 1995) .**

* **Structure of the esophagus:**

The esophagus has four coats:
*An external (fibrous) , a muscular, submucous (areolar), an internal (mucous) coat.
*The muscular layer consists of an outer longitudinal layer and an inner circular which is some what thinner than the longitudinal layer.
*The mucosa coat is thick and disposed in longitudinal folds, which disappear on distention of the tube.

It consists of :

1-A layer of stratified squamous epithelium lining the tube.

2-A layer of connective tissue, from which papillae project into the epithelium.

3-The muscularis mucosa, a layer of longitudinally arranged, non stripped muscular fibers.

At the gastroesophageal junction , the stratified squamous epithelium of the esophagus is abruptly succeeded by the simple columnar epithelium of the stomach. The junction is visible to the nacked eye **(Gray , 1995) .**

Esophageal Sphincters:

Both ends of the esophagus are especially modified to maintain closure when required. At the upper end ,a sphincter is present at pharyngoesophageal junction (The upper esophageal sphincter) which is a clearly defined anatomic structure consisting of the cricopharyngeus muscle, which is the lower most part of the inferior pharyngeal constrictor. It is 2 to 3 cm in length and has a normal resting pressure of 20 to 80 mm Hg.

The second sphincter is present at the esophagogastric junction (The lower esophageal sphincter). It is anatomically not defined from the remainder of the muscle of the esophagus. Its normal position is within the diaphragmatic hiatus, approximately the lower two third of the sphincter being situated below the diaphragm. It measures 3 to 4 cm in length. It is now clear that both the intrinsic smooth muscle of the distal esophagus and the skeletal muscle of the crural diaphragm constitute the sphincter mechanism **(Boyle etal.,1985).**

Blood Supply &Lymphatic Drainage:

The arterial blood supply to the esophagus is variable, The cervical portion of the esophagus receives its blood supply by branches from the inferior thyroid arteries. The thoracic portion is supplied by branches from the right intercostal arteries, small arterial branches arising directly from

the aorta. The abdominal portion of the esophagus is supplied by branches arising from the coeliac axis (**Gray, 1995**) .

Venous Drainage:

The cervical portion of the esophagus drains into right & left inferior thyroid veins, thoracic part drains into the right & left superior intercostal veins , the azygos vein on the right, the hemi-azygos. The abdominal esophagus drain into the right & left gastric veins (**Gray, 1995**) .

Lymphatic Drainage:

The principal group of lymph nodes that receive the lymphatic drainage from the esophagus includes the internal jugular nodes from cervical esophagus , the tracheal and posterior mediastinal nodes and anterior intercostal nodes from thoracic esophagus. Diaphragmatic nodes and left gastric nodes from abdominal aorta (**Ogorek, 1995**) .

Nerve Supply :

The esophagus is supplied with extrinsic and intrinsic supply.
The extrinsic supply from vagus nerve (parasympathetic) and sympathetic fibers derived from the cervical and thoracic sympathetic ganglia.
The intrinsic nerve supply is composed of the plexuses of Auerbach and Meissner (**Ogorek, 1995).**

PHYSIOLOGY OF THE ESOPHAGUS

The esophagus, is a relatively simple organ, is responsible for the transport of food bolus from the mouth to the stomach and for the prevention of retrograde flow of gastric content.

Antegrade flow is achieved by the act of swallowing with the initiation of peristaltic movement. Retrograde flow is prevented by the two esophageal sphincters which remain closed between swallows .

Swallowing can be divided into :

1) The voluntary stage; which initiates the swallowing process.
2) The pharyngeal stage which is voluntary and constitutes the passage of food through the pharynx into the esophagus.
3) The esophageal stage, another involuntary phase, which promote passage of food from the pharynx to the stomach (**Guyton 1987**).

The lower esophageal sphincter (LES) prevents gastric and duodenal contents from refluxing into the lower esophagus . The tone of the sphincter is influenced by many things including food , gastric distension , smoking and gastrointestinal hormones . The diaphragm also contributes to the action of the LES. The function of the physiological sphincter was first demonstrated by code by manometry using small balloons . Nowadays LES pressure is measured by perfused tubes or microtransducers . (The normal LES has a pressure of 10-25 mmHg) , Manometry may also be used to assess peristalsis (**Russell et al .,2000).**

The LES relaxes in advance of peristaltic wave, Primary peristalsis is induced by swallowing , Secondary peristalsis is the normal response to a food bolus or refluxed material and also clears the esophagus (**Russell et al ., 2000).**