HISTOPATHOLOGICAL STUDY OF CHRONIC GASTRITIS

Thesis submitted in partial fulfillment of
M.Sc. Degree in Pathology
By

Somaia AbduLatif Mahmoud Soliman
M.B.B.Ch
Faculty of Medicine, Cairo University

Supervised by

Prof. Dr. Dalal Anwar Elwi
Professor of pathology
Faculty of Medicine
Cairo University

Ass. Prof. Dr. Mostafa Mohamed Salem

Assistant Professor of pathology
Faculty of medicine
Cairo University

Dr. Ahmed Abd- El Monem Soliman
Lecturer of Pathology
Faculty of Medicine
Cairo University

Faculty of Medicine
Cairo University
2012

بسم الله الرحمن الرحيم

وَاللَّهُ أَخْرَجَكُمْ مِنْ بُطُونِ أُمَّهَاتِكُمْ لا تَعْلَمُونَ شَيْئاً وَجَعَلَ لَكُمُ السَّمْعَ وَالْأَبْصَارَ وَالْأَفْئِدَةَ لَعَلَّكُمْ تَشْكُرُونَ.

صدق الله العظيم

(النحل:٧٨)

Acknowledgement

*First and foremost "**Thanks to God**", the most merciful and kind.*

*I am honored to have **Prof. Dr. Dalal Anwar Elwi**, Professor of Pathology, Faculty of Medicine, Cairo University, as a supervisor of this work. I am deeply grateful and most appreciative to her great efforts, kind guidance and valuable advice that encouraged and helped me to finish this work.*

*My profound gratitude goes to **Prof. Dr. Mostafa Mohammed Samy Salem** assistant Professor of Pathology, Faculty of Medicine, Cairo University for his close supervision and precious remarks throughout the course of this study.*

*Special thanks are owed to **Dr. Ahmed Abd-Elmonem Soliman**, lecturer of Pathology, Faculty of medicine, Cairo University, who saved no time and effort in helping me, his constant support, continuous encouragement and constructive comments allowed me to accomplish this work.*

Finally, I would like to thank my family for their patience, love, motivation and support throughout this work.

Somia AbduLatif

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List of Abbreviation

1	AIDS	Acquired immuno deficiency syndrome
2	AG	Autoimmune gastritis
3	CLO test	Campylobacter like organism test
4	CAG	Chronic antral gastritis
5	CMV	Cytomegalovirus
6	DAG	Diffuse antral gastritis
7	ECL cells	Enterochromaffin-like cells
8	ELISA	Enzyme linked immunosorbent assays
9	GAVE	Gastric antral vascular ectasia
10	G cells	Gastrin cells
11	GIT	Gastrointestinal tract
12	GVHD	Graft versus host disease
13	H. heilmannii	Helicobacter heilmannii
14	*H.pylori*	Helicobacter pylori
15	H & E	Hematoxylin & eosin
16	HIV	Human immuno deficiency virus
17	IELs	Intraepithelial lymphocytes
18	MALT	Mucosa associated lymphoid tissue
19	MAG	Multifocal atrophic gastritis
20	NSAIDs	Non steroidal anti-inflammatory drugs
21	PCR	Polymerase chain reaction
22	PG1	Prostaglandings
23	PPIs	Proton pump inhibitors
24	PHG	Ptoral hypertensive gastropathy
25	VacA	Vacuolating cytotoxin A

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ABSTRACT

Aim of Work: Analysis of chronic gastritis cases in 2 years duration, to detect rate of occurrence of different histological types, to reclassify cases according to the latest grading and staging systems and to compare the clinico-pathological features among Egyptian patients included in the study with registries of other countries.

Methods: This was a retrospective study conducted at the Department of Pathology, Kasr Al Aini Hospital, Cairo University between January 2009 and December 2010. Analysis of 224 gastric biopsy specimens was done. We routinely make Hematoxylin/Eosin stained slides and perform Giemsa stain to check for *H. pylori* on all endoscopic gastric biopsies.

Results: Out of two hundred & twenty four cases, H.pylori was found in 68.7% of the cases. Increased frequency of chronic gastritis was seen between 51 & 60 years. The most common clinical presentation was epigastric pain. The most common endoscopic finding was gastritis. The mean age of patients was 42 years and the age of patients ranged from 2.5 to 80 years. Females constituted 52% of cases while males were 48%. The mean age of female patients 41 years was less than that of male patients 43.4 years.

Recommendations: For proper assessment of distribution of gastritis, multiple biopsies (at least five) from antrum, corpus & incisura angularis are important.

Key Words: Chronic gastritis, Helicobacter pylori, lymphoid follicles.

Introduction

The incidence and natural history of chronic gastritis has been greatly clarified by the systematic use of endoscopic gastric biopsy (**Wyatt et al., 2001)**.

Chronic gastritis is a histopathologic entity characterized by chronic inflammation of the stomach mucosa. Gastritis can be classified based on the underlying etiologic agent (e.g, *Helicobacter pylori,* bile reflux, nonsteroidal anti-inflammatory drugs [NSAIDs], autoimmunity, allergic response) and the histopathologic pattern, which may suggest the etiologic agent and clinical course (e.g, *H. pylori* –associated multifocal atrophic gastritis) (**Merck, 2007. Retrieved 2009)**.

Although minimal inflammation is observed in some gastropathies, such as those associated with NSAID intake, these entities are frequently included in the differential diagnosis of chronic gastritis. Chemical or reactive gastritis is caused by injury of the gastric mucosa by reflux of bile and pancreatic secretions into the stomach, but it can also be caused by exogenous substances, including NSAIDs, acetylsalicylic acid, chemotherapeutic agents, and alcohol. These chemicals cause epithelial damage, erosions, and ulcers that are followed by regenerative hyperplasia detectable as foveolar hyperplasia, and damage to capillaries, with mucosal edema, hemorrhage, and increased smooth muscle in the lamina propria. Inflammation in these lesions caused by chemicals is minimal or lacking; therefore, the term gastropathy or chemical gastropathy is more appropriate to describe these lesions than is the term chemical or reactive gastritis as proposed by the updated Sydney classification of gastritis (**Gao et al., 2009)**.

No single classification of gastritis provides an entirely satisfactory description of all types of gastritis. However, an etiologic classification provides a direct target toward which therapy can be directed (**Sepulveda et al., 2008)**.

Infectious gastritis: Chronic gastritis caused by *H. pylori* infection. This is the most common cause of chronic gastritis. The most important advance in the field of chronic gastritis & other gastric diseases (peptic ulcer, carcinoma & malignant lymphoma) has been the awareness of the crucial role played by *H.pylori* (**Wu et al., 2001)**. Infection by Helicobacter heilmannii, granulomatous gastritis associated with gastric infections in mycobacteriosis, syphilis, histoplasmosis, mucormycosis, South American blastomycosis, anisakiasis, or anisakidosis. Chronic gastritis associated with parasitic infections such as *Strongyloides* species, schistosomiasis, Diphyllobothrium latum. Viral infections such as CMV and herpes virus infection (**Hasegawa et al., 2009)**.

Noninfectious gastritis: autoimmune gastritis, chemical gastropathy, usually related to chronic bile reflux or NSAID and aspirin intake, Uremic gastropathy (**Siegelbaum et al, 2006).** chronic noninfectious granulomatous gastritis, associated with the following: Crohn disease, Sarcoidosis, Wegener granulomatosis, Foreign bodies, Cocaine use, Isolated granulomatous gastritis, Chronic granulomatous disease of childhood, eosinophilic granuloma, allergic granulomatosis and vasculitis, plasma cell granulomas, rheumatoid nodules, tumoral amyloidosis and granulomas associated with gastric carcinoma, gastric lymphoma, Langerhans cell histiocytosis (**Maeng et al., 2004)**. Eosinophilic gastritis, radiation injury to the stomach, GVHD, ischemic gastritis, gastritis secondary to drug therapy (**Quentin et al., 2006)**. Lymphocytic gastritis, including gastritis associated with celiac disease (also called collagenous gastritis) (**Leung et al., 2009).**

Cases of histologically documented chronic gastritis are diagnosed as chronic gastritis of undetermined etiology or gastritis of undetermined type when none of the findings reflect any of the described patterns of gastritis and a specific cause cannot be identified (**Galiatsatos et al., 2009)**.

AIM OF THE WORK

Histopathological revision of all available archival material of chronic gastritis in the last 2 years (2009-2010), collected from the pathology department, Faculty of medicine, Cairo University Hospital, then statistical evaluation and correlation between age, clinical data, endoscopy or any relevant data available in the request sheets and the histopathological findings.

Assessment of histopathological types, their incidence, & complications in order to have better treatment chances.