The Prevalence of Celiac Disease in Patients Fulfilling Rome Iii Criteria for Irritable Bowel Syndrome

Thesis

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List of Contents

List of Tables

List of Tables **(Cont...)**

List of Figures

List of Figures **(Cont...)**

List of Abbreviations

Fig. No.	Title	Page No.

ACG ..... *American College of Gastroenterology*

ACTH..... *Adrenocorticotropin hormone*

ATA..... *Anti-tissue transeglutaminase antibodies*

CBC..... *Complete blood count*

CBT..... *Cognitive behavioural therapy*

CCK..... *Cholecystokinin*

CD ..... *Celiac disease*

CI ..... *Confidence interval*

CRF..... *Corticotrophin releasing factor*

CRH ..... *Corticotrophin releasing hormone*

DNIC..... *Diffuse noxious inhibitory control*

DZ ..... *Dizygotic*

EGG ..... *Electrogastrography*

EMA..... *Endomysial antibodies*

ESR..... *Erythrocyte sedimentation rate*

FBC..... *Full blood coun*t

FBD..... *Functional bowel disorders*

FDA..... *Food and Drug Administration*

List of Abbreviations **(Cont...)**

Fig. No.	Title	Page No.

fMRI..... Functional magnetic resonance imaging

fMRI..... Functional magnetic resonance imaging

GFD ..... Glutin Free diet

GI ..... Gastrointestinal tract

GWAS ..... Genome-wide association studies (GWAS)

HAPCs ..... High amplitude propagating contractions

HLA ..... Human leukocyte antigen

HPA ..... Hypothalamo-pituitary-adrenal

IBS..... Irritable bowel syndrome

IBS-C ..... Constipation predominant IBS

IBS-D..... Diarrhea predominant IBS

IBS-M ..... IBS with mixed bowel pattern

IgA ..... Immunoglobulin A

IL-10 ..... Interleukin-10

MMC..... Migrating motor complex

MZ..... Monozygotic

NNT..... number needed to treat

PET..... Positron emission tomography

List of Abbreviations **(Cont...)**

Fig. No.	Title	Page No.

PIT ..... *Psychodynamic interpersonal therapy*

PTH..... *Parathormone hormone*

RBS..... *Random blood sugar*

RCT..... *Randomised controlled trial*

Serum Alb..... *Serum Albumin*

Serum Cr ..... *Serum creatinine*

SNPs ..... *Single-nucleotide polymorphisms*

SSRI ..... *Selective serotonin reuptake inhibitor*

T. Prot..... *Total protein*

TNFa..... *Tumour necrosis factor a*

tTG..... *Tissue Transglutaminase*

WBC..... *White blood cells count*

5-HT..... *5-hydroxytryptamine receptor*

INTRODUCTION

Irritable bowel syndrome (IBS) is a functional gastrointestinal disorder characterized by abdominal pain and altered bowel habits in the absence of specific organic pathology. It is the most commonly diagnosed gastrointestinal condition and accounts for approximately 30 percent of all referrals to gastroenterologist ***(Drossman, 2002)***.

Its prevalence varies in human communities and in the majority of all studies; it is more prevalent in females than males ***(Horwitz et al., 2001)***. IBS is a disorder of the youth with most new cases appearing prior to the age of 45 ***(Drossman, 2002)***.

The ROME III criteria system was developed to classify the functional gastrointestinal disorders based on clinical symptoms. Each disorder has its own set of criteria. The Rome III criteria for irritable bowel syndrome (IBS) is as follows: Symptoms of recurrent abdominal pain or discomfort and a marked change in bowel habit for at least six months, with symptoms experienced on at least three days of at least three months. Two or more of the following must apply:

- Pain is relieved by a bowel movement.

- Onset of pain is related to a change in frequency of stool.
- Onset of pain is related to a change in the appearance of stool.

(Longstreth et al., 2006)

Celiac disease (CD) is known as gluten-sensitive enteropathy or celiac sprue, defined as a permanent intolerance to ingested gluten (the storage protein components of wheat, barley, and rye). The clinical presentation of CD can vary from a classical malabsorption syndrome to more subtle atypical gastrointestinal manifestations (similar to irritable bowel syndrome) or extra intestinal presentations (for example, infertility, osteoporosis, and iron-deficiency anemia). It can be clinically silent often detected by serologic screening of those subjects at risk, with villous atrophy in the intestine. An individual may have a latent predisposition to CD, which is defined by a positive serology in the absence of villous atrophy on the small intestine ***(Alberto et al., 2007).***

The most sensitive antibody tests for the diagnosis of celiac disease are of the IgA class. The available tests include those for antigliadin antibodies, connective-tissue antibodies (antireticulin and antiendomysial antibodies), and antibodies directed against tissue transglutaminase, the enzyme responsible for the deamidation of gliadin in the lamina propria ***(Rostom et al., 2005).***

AIM OF THE WORK

To study the prevalence of Celiac disease (CD) disease in Egyptian patients with clinically diagnosed irritable bowel syndrome (according to ROME III criteria) (with predominant diarrhea).

CELIAC DISEASE

Celiac disease was first described by Samuel Gee in 1888, although a similar description of a chronic malabsorptive disorder by Aretaeus of Cappadocia (now Turkey) dates back to the second century. Gee described the classic features of celiac disease as diarrhea, lassitude, and failure to thrive; he believed that the regulation of food was the main part of the treatment and noted that the disease was not age-specific. Since this time, much has been learned about the diagnosis and treatment of celiac disease ***(Fasano et al., 2001).***

Definition:

Celiac disease is a genetically determined autoimmune-like disorder induced by gluten, the storage protein of wheat and similar proteins found in barley and rye ***(Green et al., 2003).***

The autoimmune component of the disease is evidenced by the development of autoantibodies to the endomysium, reticulin, and tissue transglutaminase ***(Alaedini et al., 2005).***

Epidemiology:

Celiac disease occurs in both children and adults throughout the western world at rates of 1%, with some groups reporting rates five-fold greater in infants compared with adults ***(Mariné et al., 2011).***

Recent prevalence studies have begun to focus on populations in which data have been previously lacking. Celiac disease is more prevalent than first thought in Eastern Europe and Asia, with as many as 1% of Latvians and 1.44% of north Indians testing positive for celiac antibodies on routine screening ***(Leja et al., 2011).***

This rise is largely attributed to increased awareness, greater education and a resultant 16% annual increase in serological testing for celiac disease ***(Mariné et al., 2011).***

Pathophysiology:

Celiac disease is the end result of 3 processes that culminate in intestinal mucosal damage:

1- Genetic predisposition

2- Environmental factors

3- Immunologically based inflammation ***(Greco et al., 1997).***

Celiac disease may be the result of an evolutionary collision between the cultivation of wheat and the human