Prevalence of celiac disease in patients with dyspepsia in Najaf

DR.SADIQ JEBAR ALI MB.ChB .DM.CABMKUFA MEDICAL COLLEG
Khaled Al-Taae MBCh.FICMS

Munir Abdul Amir MBChB.DM

Abstract

Background ; Although 30% to 40% of patients with celiac disease (which affects 1 in 200 individuals) have dyspeptic symptoms, there is a lack of data concerning the prevalence of celiac disease in patients with dyspepsia.

Patients and Methods:

In this prospective study we enrolled all patients (71 patient) that undergoing endoscopy of the upper gastrointestinal tract for dyspepsia. From each patient (4) duodenal mucosal biopsies were taken and examend by (2) histopathologist for the diagnosis of CELIAC disease..

Results:

In this study (71) patients , (32)male and (39) female,there ages were ranged from(16-70) years ,all of them have dyspepsia .

The results of endoscopy were ;

1- normal in 66 patients .
2- diagnosis of Celiac disease ih 5 patients .

The results of histopathology were;

1.normal in 64 patients .

2.diagnosis of Celiac disease in 7 patients.

The sensitivity and specificity of endoscopy diagnosis when compared with histopathology were (71%and,96%)respectivly.

Conclusions; from this study we can conclud that celiac disease is common in assosiation with dyspepsia and endoscopic findings can can be used for the diagnosis of Celiac.

Kye wards;Celiac, dyspepsia, endoscopy ,histopathology.

Introduction

Celiac disease is defined as a genetic, immune mediated enteropathy of the small bowel that results in malabsorption.The disease is characterized by a sensitivity to the proteins found in wheat and to a lesser extent, barley, rye and possibly oats [1]. Both adult and childhood celiac disease were first described as far back as 250 A.D, by a Roman physician named Galen. In 1888, the first reported case of “Celiac affliction” was documented in Britain by Samuel Gee. It was not; however, until 1950 that wheat was hypothesized to be the cause of celiac disease, and in 1958, Cyrus L. Rubin and his co-workers in America demonstrated that celiac disease in children and adults were identical disorders.[2]

Epidemiological research reveals that as many as three million Americans are affected, which is roughly 1% of the population. A large study in the United Kingdom found the seroprevalence to be comparable, with 1.2% of the population-testing positive for anti-endomysial antibodies. [3] As a consequence,Celiac disease is now considered the most common food intolerance in the world. [4,5]

Patients with celiac disease produce a T-cell mediated autoimmune response after the ingestion of gluten proteins.[6,7] The specific proteins are the gliadins and glutenins in wheat, the hordeins in barley, and the secalins found in rye [8] These dietary proteins are rich in proline and glutamine and have been found to be essential for the development of celiac disease. [9].

When these glutamine-rich intact peptides enter the lamina propria, they are converted (deamidated) to glutamic acid by the small intestinal enzyme tissue transglutaminase. [10] In this form, the gliadin peptides can bind more effectively to the human leukocyte antigen (HLA) receptors, HLA DQ2 and HLA DQ8, these receptors are attached to the surface of the gliadin peptide, the T cells recognize the deamidated peptides and stimulate an inflammatory cytokine response. [11]

Celiac disease is currently classified into four subphenotypes: [12]

- Classical celiac disease - manifests with classical GI symptoms of diarrhea and weight loss from malabsorption
- Celiac disease with atypical symptoms - predominance of extraintestinal manifestations with few or no GI symptoms
- Silent celiac disease - is categorized by individuals being completely asymptomatic, but testing positive with serology and biopsy
- Latent celiac disease is associated with positive serological tests, but negative biopsy results.

The prevalence of celiac disease in patents with dyspepsia is twice that of the general population , and although 30% to 40% of patients with celiac disease (CD) (which affects 1 in 200 individuals) have dyspeptic symptoms, there is a lack of data concerning the prevalence of CD in patients with dyspepsia. [12]

As a result, serological screening for celiac disease should be considered in the early workup of these patients to allow diagnosis and treatment of what is a treatable disease

Celiac disease has a wide spectrum of clinical manifestations, ranging from symptomless to atypical forms and even severe malabsorption, [17,18] other data clearly indicate that patients with dyspepsia are at definite risk for celiac disease: its prevalence was more than twice that reported in general populations from the other geographical areas and most Western countries. [19,20] .

In the case of patients with dyspepsia who are older than 45 years or those considered to be at risk for gastric cancer and for whom early endoscopy is advisable, it would be useful to obtain additional duodenal samples because of the possibility of false-negative endoscopic results: this simple procedure can rule out celiac disease on the basis of subsequent histological findings and excluded other organic cause like malignancy .

Patients and methodes;

In this prospective study(71) patient all with dyspepsyia attending the endoscopy units in Al-Sader teaching hospital Najaf,from April to September 2007, for upper GI tract endoscopy because of dyspeptic symptoms.

Exclusion criteria includ:

1.patient younger than 12 years.
2-Those undergoing clinical workup for an upper GI tract disease suggested by previous radiographic or ultrasonographic findings.
3-Those refered for malabsorption ,suspected Celiac disease or iron defciency anaemia,.
4-Those receiving regular follow-up for a known disease (eg, peptic ulcer).
All patients who fulfilled the inclusion criteria(dyspeptic symtoms) gave their informed consent for upper GI tract endoscopy and histological sampling .

The endoscopic findings were classified as:

1- normal.
2-suggestive of celiac disease that includ;
A- Loss or reduction in duodenal folds.
B-Nodular or mosaic pattern
C- Duodenal fold scalloping.

Four duodenal mucosal samples (2 from 2 cm above and 2 from 2 cm below the major duodenal papilla[35]) were obtained from all patients during upper GI tract endoscopy (using EPF-100; PENTAX Optical endoscopy). The biopsy specimens were examined by two expert pathologist in Al-Sader teaching hospital.

The diagnosis of celiac disease histopathologicaly was based on the "Marsh classification. [35]which include the following stages:

- Marsh stage 0: normal mucosa
- Marsh stage 1: increased number of intra-epithelial lymphocytes, usually exceeding 20 per 100 enterocytes
- Marsh stage 2: proliferation of the crypts of Lieberkuhn
- Marsh stage 3: partial or complete villous atrophy
- Marsh stage 4: hypoplasia of the small bowel architecture

The SSPS statistical program was used in this study and P-value < 0.05 was considerd as statisticaly significant.

Results

seventy one patients were included in this prospective study , 32 (45%) were males and 39 (55%) were females (table 1) .
Patients ages were ranged from (16-80)years, mean age was 49.9+-16 years ,the largest age group was (31-40) years which included 19 patient in this study .
All patients were investigated by endoscopy for the upper GIT , the duodenal biopsies were examend histopathologicaly.
Endoscopy results showed 5 patient with Celiac disease 3 males and 2 females ,there ages were betwen (20-34)years (table 2 &4).
Histopatholoy results showed 7 patients with Celiac disease 5 males and 2 females,there ages were btwen (20-46) years (table 3&4).
In this study the sensitivity and specificity of endoscoy finding, when compared with histopathological finding , were 71% & 96% respectivly.

Table -1 . show the distribution of patients with dyspepsia according to age and sex

Age	male		female		total	
	NO.	%	NO.	%	NO.	%
16-20	3	4	5	7	8	11
21-30	7	10	11	15	18	25
31-40	9	13	10	14	19	27
41-50	5	7	4	6	9	13
51-60	3	4	6	9	9	13
61-70	2	3	1	1	3	4
71-80	3	4	2	3	5	7
Total	32	45	39	55	71	100

Table2 endoscopy findingin 71 patients with dyspepsia.

normal	66	93%
CD	5	7%

Table 3 -histopathologicalfindining in 71 patints with dyspepsia.

Normal	64	90%
CD	7	10%

Table 4 – age and sex distribution in both endoscopic and histipothological Celiac disease

	males	females	age
Histopatho.(no.7)	5	2	20- 46 year
Endoscopy(no. 5)	3	2	20-34 year

Discussion

Although (30-40%)of patients with Celiac disease have dyspeptic symptoms , there is a lack of data concerning the prevelanc of Celiac in patients with dyspepsia.

In this study the prevelanceof Celiac in dyspeptic patients was 10%, which is higher than that in other studies which is ranging from(1.4-3 %) 2,4 .

This high figur need more studies in Iraq , toprove this result which may be the real prevelanc in Iraq , or it may be due to over diagnosis by the endoscopist or the pathologist.

In this study the males were affected more than femal ,inspit that the number of females is higher than males in our study, this is in contrast to astydy that conducted by Bardella MT (22,36)in which the females ratio is higher than that of males .

In Ciacci study (28)the females are affected more frequent ,more sever and more rapid.

The age of patient in this study ,that affected by Celiac was ranging from (20-46) which similar to that in Brdella MT study.
The use of endoscopy as addiagnostic tool in this study has a sensitivity of 70%and specificity of 96%,while in Maurino E. Study in Argentina it was 76%and 90% respectivly (18).
In Lecleie S. Study in France the sensitivity and specificity were 100% and 90% respectivly(30), these results indicat that endoscopy of distal duodenum is sensetiv and specific indicator of Celiac disease.

Conclusion

In this study the prevalence of Celiac disease is higher than expected , males are affected mor than females and endoscopy can be used for the diagnosis of Celiac disease.
From these data we have to recomend that more studies are requaired ,extratraining of both endoscopest and pathologest for the acurat diagnosis of Celiac disease.

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