

Celiac disease

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Introduction

Immunogenetic and environmental factors are the main reason in the pathogenesis of the celiac disease (1,2). These factors are leading to damages of the villi of small intestinal cause of malabsorption syndrome (figure 1).

Despite techniques development for better detection, celiac disease remains a challenging problem that often escapes diagnosis and takes sub-optimal consideration (3). There are devastating investigations and reports on celiac associated disorders but the severity and prevalence of such an involvement have not been systematically evaluated. Inflammation may lead to the malabsorption of several important nutrients (4). Malabsorption and nutritional deficiency are therefore causing a range of other disorders commonly associated with CD. In recent years abundant number of studies has been published about the immunology of CD, and there is devastating data that the immune response to

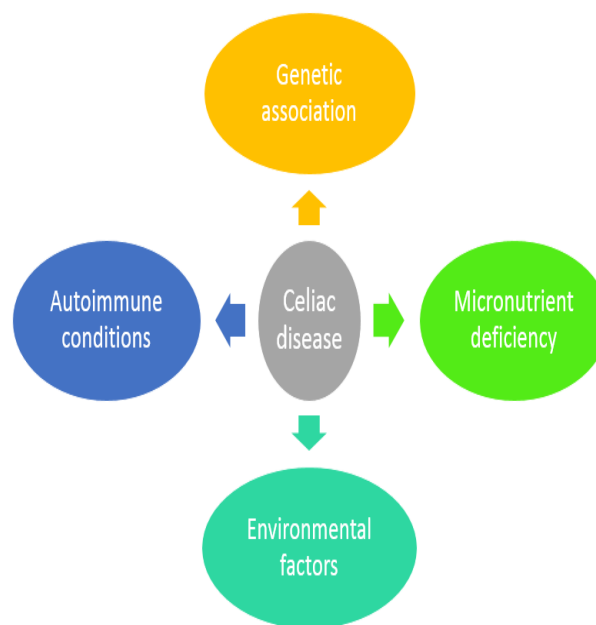


Figure 1. Associated conditions to celiac disease

gluten is principal role in the pathogenesis of celiac disease (5). This aspect provides evidence for association with some autoimmune disorders.

Although there is a clear genetic association between CD, dermatitis herpetiformis and type 1 diabetes, we are uncertain about a number of other disorders claiming an association with CD (table 1).

Table 1. A list of diseases/disorders whose symptoms resemble celiac disease

Intestinal Diverticulosis
HIV Enteropathy
Hemochromatosis
Giardiasis
Pancreatic Failure
Ischemic Bowel
Lactose/Cow's Milk Intolerance
Whipple's Disease
Protein Losing Enteropathy (Lymphangiectasia)
Pseudoobstruction
Rare Congenital Defects in the Mucosa
Effects of Some Drugs
Cow Milk Allergy/Intolerance
Common Variable Hypogammaglobulinemia
Bacterial Overgrowth Syndromes

Some other autoimmune disorder develop after a viral or bacterial illness etc. (6). On the other hand coeliac disease could be triggered by other infection or disorders too. It might a similar pathway from CD to other autoimmune disorders. The pathogenesis of this interconnection has to do with the implication of these disorders in immune system (Figure 2). There are adequately number of studies allocating CD in a variety of subdivisions in the current literature and using the silent, latent and potentials sub classification are overlapping and unclear therefore, typical (classical) and atypical would be the most simple and comprehensive classification (7). The atypical forms include a range of numerous form of this condition comprising those with typical histology with insignificant symptoms, those with insignificant or normal mucosal changes with positive or negative serology. Finally, those cases as refractory celiac disease with typical mucosal changes and symptoms but non-responsive to GFD.

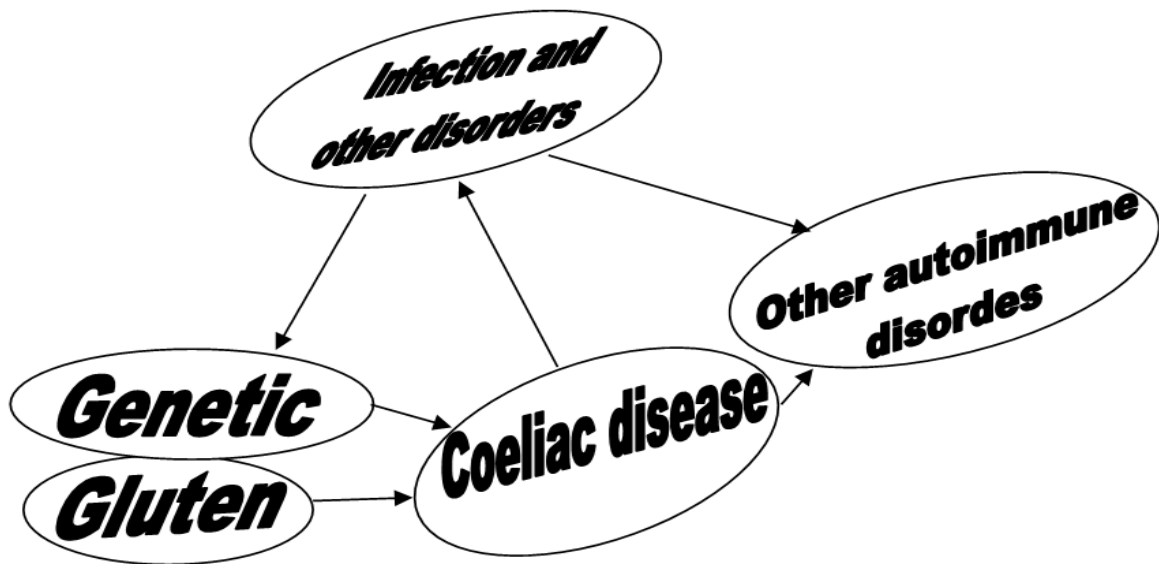


Figure 2. Celiac disease triggered by other infection or disorders.

Discussion

Celiac disease has numerous autoimmune structures but is an exclusive case of autoimmunity since quick diagnosis and nutritive management can degenerate the autoimmune progression and can avoid its severe, occasionally life-threatening difficulties (8). Most of the associated autoimmune conditions with celiac disease are or must be HLA-DQ2/DQ8 positive (2). That means that they all have a common characteristic sharing a similar genetic background. Environmental factors play other key role in the appearance of this condition. The percentage of involvement of the environmental and genetic factors in the beginning of CD appears to be non-homorganic and flexible in dissimilar subdivision (1,2). This multifactorial etiology would elucidate why we are unable to clarify the rational for numerous of these relatives between celiac disease and other disorders (7).

In fact the most important advantage of these associations would be their possible improvement on a gluten free diet. Unfortunately, this is not the case in all patients, and we should keep in mind that a good part of associated disorders require a separate treatment in addition.

Despite previously belief, CD represents one of the most common gastro-intestinal disorders with prevalence of > 1:100 in Europe and the rest of the world (3). It is very likely that many associated disorders represent as a simple coincident rather than a real association. However, there are clearly many disorders in different way related to gluten sensitivity (9).

The theories behind this coexistence first of all bring to our attention that a good part of these associated disorders might be simple overlaps and/or coincidences as coeliac disease is quite a

common and easily can overlap with these disorders (10). On the other hand the immunogenesis leading to CD is stimulated by an exogenous antigen with a different pathway compared to many of the associated disorders. Gluten free diet might be necessary only for those on the top and those very close to the top of Iceberg. We know that gluten is an antigen tolerated by most and as long as is tolerated there is no need for intervention, keeping in mind many disorders like fractures, osteoporosis, and malignancies prevalence's are not reaching a significant higher incident in celiac compared to general population. There is a need for risk stratification, a systematic workup to assign the patients to appropriate plan (amount of gluten intake etc)

Conflict of Interest

Not Declared

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