

Food Related Gastrointestinal Diseases: Celiac disease

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CD, or gluten sensitive enteropathy, is an immune mediated chronic enteropathy with a wide range of presenting manifestations of variable severity. It is triggered by the ingestion of gliadin fraction of wheat gluten and similar alcohol-soluble proteins (prolamines) of barley and rye in genetically susceptible subjects with subsequent immune reaction leading to small bowel inflammation and normalization of the villous architecture in response to a gluten-free diet (GFD). It represents a 'unique' autoimmune disease in that the environmental factor triggering the immune response is known (gluten). CD, not only affects the gut, but it is a systemic disease that may cause injury to the skin, liver, joints, uterus, brain, heart, and other organs. It is a complex genetic disorder and HLA status appears to be the strongest genetic determinant of risk for celiac autoimmunity. There is a propensity for individuals with CD to carry specific HLA class II alleles, which has been estimated to account for up to 40% of the genetic load. In affected individuals, 95% have either DQ2 or DQ8 in comparison with the general population in which 30-40% have either DQ2 or DQ8. The true prevalence of CD is difficult to estimate because of its variable clinical presentation, and many patients can have little or no symptoms. In the past, CD was considered a rare disorder, mostly affecting individuals of European origin, usually characterized by onset during the first years of life and the prevalence was estimated at 1:500 up to 1:8000 in the general population. The diagnosis at that time was entirely based on the detection of typical symptoms and confirmed by complicated and sometimes nonspecific tests. The incidence of CD has been increasing in most European countries where it has been searched.

The classic presentation associated with CD is characterized by steatorrhea, abdominal distention, edema, and extreme lethargy. However, there has been a shift in the pattern of presentation with more cases diagnosed as a consequence of widespread serological testing and increased awareness. Some individuals may have no symptoms at all. In United States, fewer patients present with severe gastrointestinal symptoms, and the clinical presentation is diverse, no longer one of a malnourished individual with a malabsorption syndrome. Recent studies suggest that only half of the adult CD cases experiences diarrhea, while almost one third is obese. In the now-common *atypical* forms of the disease, extraintestinal features, such as anemia, osteoporosis, short stature, infertility, and neurological problems, are more prominent. Because atypical presentations are increasingly found to predominate, CD is now considered to resemble a multi-system disorder rather than a mainly gastrointestinal one. The gold standard for diagnosis of CD is the intestinal biopsy. However, a stepwise approach is needed starting with a high degree of clinical suspicion and age-appropriate serological tests, including anti-tissue transglutaminase antibodies or anti-deamidated gliadin antibodies. The cornerstone of treatment of CD is a lifelong adherence to a strict GFD devoid of proteins from wheat, rye, barley and related cereals.

References

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