

Celiac Disease in Adults

One of the most important cause of malabsorption is Celiac disease. Celiac disease is caused by intolerance to storage protein gluten which is found in wheat, barley and rice. Initially it was considered to be pediatric disease but according to some studies, it is now being diagnosed in adults and elderly population also. It is defined as an exaggerated immune response to ingested gluten seen in genetically susceptible individuals. It roughly affects nearly 1% of world's population but its incidence is increasing in different geographical areas partly owing to better diagnostic tools and public awareness. It is associated with large variety of autoimmune diseases particularly in adult population. Presenting complaints are typical gastrointestinal symptoms like anemia, chronic diarrhea, bloating, flatulence, abdominal pain and altered bowel habits. Non gastrointestinal symptoms include short stature, abnormal liver function, metabolic bone disease, arthritis and infertility. Pathogenetic mechanism involves injury to the small intestinal mucosa with decreased absorptive surface area, reduction of digestive enzymes resulting in impaired absorption of micronutrients such as fat-soluble vitamins, B-12, iron and folic acid. Mucosal injury results in inflammation which leads to net secretion of fluids causing diarrhea. The usual age of presentation in adults is third or fourth decade. The rising trend has been observed more in Asian countries. Celiac disease has immunogenetic basis.¹ It has strong association with HLA phenotype B8, DR3 and DQw2. Siblings who share HLA phenotype have a high chance of concordance of celiac disease. Celiac disease is more common in females, female to male ratio in celiac is 2:1. Proximal portion seems to be more affected than the distal portion of small intestine and healing process begins from distal to proximal portion.

Clinical detail and serological testing have a significant role in forming the diagnosis. The HLA typing can also be done in seronegative patients. Several additional studies in extensive series of coeliac patients have clearly shown that TG2A sensitivity varies depending on the severity of duodenal damage, and reaches almost 100% in the presence of complete villous atrophy (more common in children under three years), 70% for subtotal atrophy, and up to 30% when only an increase in IELs (Intraepithelial Lymphocytes) is present.² However, biopsy of the small intestine remains the gold standard. It is performed when clinical suspicion is high, irrespective of the results of serological tests. Currently, the diagnosis is made on the basis of modified criteria of European Society of Pediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN). Histopathological parameters are analyzed according to Marsh criterion which includes altered appearance of duodenal folds (scalloping and attenuation), crypt hyperplasia and increased number of intraepithelial lymphocytes. Increased number of intraepithelial lymphocytes is a typical feature of active disease. Majority of these lymphocytes are of CD3/CD8+ T cell type. A substantial subpopulation of these cells bears natural killer cell receptors and may respond to stress signals. Serological tests such as positive tissue transglutaminase and anti-endomysial antibodies are also helpful in establishing a diagnosis.³ In rare instances, the intestinal injury of celiac disease doesn't respond to a strict gluten-free diet. This is known as refractory celiac disease.⁴ In a study at Army Medical College Pakistan it was concluded that maximum adult patients, suspected of celiac disease were of age group of 21 - 30 years with males being affected more frequently than females. The common presentation was iron deficiency

anaemia along with chronic diarrhea. Majority of the cases showed partial villous atrophy along with lymphocytic enteritis in almost all cases. Immunohistochemical marker analysis showed that CD3 was positive in intraepithelial lymphocytes, thus establishing its T-cell origin.⁵ That was analysis of a small study and frequency of this group of diseases in adult population of Pakistan is exactly not known and not much of clinical data has been documented about presentation of this disease.

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