Adult celiac disease, increasingly diagnosed in India,1-4 may present in atypical fashion without diarrhea. Gastroenterologists often receive referrals to screen for celiac disease. These referrals originate from hematologists (for non-responsive iron-deficiency anemia), endocrinologists (growth retardation or osteoporosis) and gynecologists (infertility and menstrual disturbances).

Historically, the gold standard for the diagnosis of celiac disease included demonstration of the typical histological lesion on small bowel biopsy together with clinical and histological improvement after appropriate dietary intervention. In recent years, the diagnosis is more often based on serological tests that are now widely available. Two articles, one by Makharia et al in this issue1 and the other by Agarwal et al in the May-June issue of the Journal,2 bring into focus the need to have adequate criteria for the diagnosis of celiac disease in adult patients. Celiac disease in both these studies was ostensibly diagnosed using the revised 1989 criteria of the European Society for Paediatric Gastroenterology and Nutrition (ESPGAN revised criteria) published in 1990.5 These criteria include suggestive clinical observations, positive serology, and single histology suggestive of the disease, followed by adequate symptomatic response. A later ESPGHAN Working Party in 2004 recognized the need for revising the diagnostic criteria for celiac disease in children.6

The ESPGAN revised criteria were designed for the diagnosis of children with celiac disease who are presumed to have more severe disease, and were not primarily intended for adult celiac disease patients who remain clinically silent in childhood and present in adulthood with atypical manifestations. In adults, several difficulties abound in diagnosis. Since diarrhea is often not a significant symptom, the term ‘suggestive clinical manifestations’ may need to be replaced with a listing of the exact clinical syndromes (i.e., diarrhea, non-responsive iron-deficiency anemia, growth retardation, osteoporosis, etc.) that could be considered in diagnosis. The ESPGAN revised criteria also called for adequate symptomatic response to gluten withdrawal. While it is possible to assess this in patients with diarrhea or malabsorption, it becomes less easy to assess in adults whose only presentation is growth retardation or infertility. Similarly, a response in anemia may be due to gluten withdrawal but may equally be due to simultaneous iron supplementation.

Serological tests, in particular IgA anti-human tissue transglutaminase (anti-tTG) antibodies, are now used to screen for the disease in adult patients. These antibodies are very sensitive but less specific than the anti-endomysial antibodies that were earlier used in diagnosis.7,8 Using these antibodies as the sole basis for diagnosis, the prevalence of celiac disease is now estimated to be close to 1% in Western countries. Antibodies to tissue transglutaminase occur as a result of mucosal injury in patients with active celiac disease and can return to normal in celiac patients who are stably in remission following gluten withdrawal. Tissue transglutaminase 2 is an enzyme that is present in a number of tissues,9,10 and it is possible that antibodies to this widely distributed enzyme may occur in diseases other than celiac disease. Anti-tTG antibodies are reported in patients with liver disease, neuronal diseases, and inflammatory bowel diseases, conditions whose relationship to celiac disease is not clear.11,12,13 Furthermore, these antibodies may test negative in patients with IgA deficiency. Jejunal or duodenal mucosal biopsies may be apparently normal in adults with anti-tTG antibodies,14 raising the issue of specificity of these antibodies for diagnosis of celiac disease. In India, and several other countries in this region, minor mucosal abnormalities including blunting of the villi, elongation of the crypts, and increased intraepithelial lymphocytes occur commonly as a result of tropical enteropathy and tropical sprue. For all these reasons, the diagnosis of adult celiac disease must be made with caution and after sufficient observation.

A molecular understanding of celiac disease may lead to better diagnosis of the disease in adult patients. Diagnosis of celiac disease in adults may require, in addition to serology, testing for HLA DQ2 (which is associated with the disease in the large majority of patients) as well as immunohistochemistry of mucosal biopsies to look for gamma-delta T cells infiltrating the epithelium.14 With celiac disease approaching frequencies of 1% in Western populations and approximately 1 in 300 in
India, adequate diagnostic criteria for adult celiac disease need to be rapidly framed.

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**References**


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