

## Occult celiac disease in adult Omanis with unexplained iron deficiency anemia

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Celiac disease (CD) results from an abnormal response of the small bowel mucosa to gluten peptides derived from wheat. Classically, affected individuals have abdominal distension, malabsorption and diarrhea but in the last few years occult forms of the disease presenting with isolated iron deficiency anemia have been recognized.<sup>1</sup> The disorder is more common in women, is familial and is associated with other autoimmune disease, in particular type 1 diabetes where 2-6% of the patients may be affected.<sup>2</sup> It is more common in the Northern and Western hemisphere with declining incidence as you move to the East and towards the equator. Not surprisingly, therefore less than 10 cases were diagnosed in our pediatric and none in the adult population in our hospital over the last 10 years. On the other hand iron deficiency anemia is common here and attributed mainly to dietary iron lack. To investigate the possibility that some of these individuals might have occult CD, a small group of patients with unexplained iron deficiency were screened for CD disease, using antiendomysial antibody (AEA) titres, a highly specific and sensitive assay.<sup>3</sup> Serum samples were obtained from 51 consecutive patients with unexplained iron deficiency anemia attending general endocrine, hematology and student health clinics in Sultan Qaboos University Hospital, Muscat, Oman. The samples were separated, frozen and analyzed in London, United Kingdom (UK). Samples were analyzed for immunoglobulin A (IgA) and immunoglobulin G (IgG) anti-tissue transglutaminase (tTG) antibodies, using the method described by Sulkanen et al.<sup>3</sup> Positive IgA tTG was followed up with IgA antiendomysial antibodies (EMA). In the case of positive IgG tTG, in the absence of IgA tTG, selective IgA deficiency was excluded by measuring total serum IgA and IgG1 EMA. All patients with positive serology were offered endoscopy and small bowel biopsy to confirm the diagnosis. Forty-three patients were female, ages ranged from 17-61 (mean 23), hemoglobin ranged from 5.9 to 11.3 (mean 9) with confirmed low serum ferritin. Two of them were found to have positive IgA tTG and IgA EMA. Two patients had positive IgG tTG, but neither of these were selectively IgA deficient, nor did they have IgG1 EMA. One of these patients has been biopsied, histology of which showed sub-total villous atrophy, the other refused to have endoscopy. Both patients were advised to take a gluten-free diet. This is the first reported use of EMA titres as a screening test for the presence of CD in the Arabian peninsula. Our preliminary observations

confirm the presence of occult CD in Oman and indicate a prevalence similar to that occurring in the UK, where approximately one in 30 patients with iron deficiency and 1 in 200-300 of the general population are affected.<sup>1,4</sup> The continuing use of rice as the major dietary carbohydrate here would explain the lack of overt disease in adults but increasing imports of wheat containing foods might change all this as seems to be the case in Jordan.<sup>5</sup> Obviously a much larger population should be screened to confirm or refute our conclusions. Celiac disease affects 2-6% of type 1 diabetes patients in Europe and we are currently investigating CD prevalence among type 1 diabetics in Oman.

In conclusion, we recommend that occult CD should be considered in any Omani patient with unexplained iron deficiency anemia.

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## Adhesive intestinal obstruction in infants and children

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In adults, the treatment of adhesive intestinal obstruction (AIO) is well established, and conservative treatment in the form of intravenous fluids and nasogastric aspiration form the basis for the initial therapy in selected patients.<sup>1</sup> This however is not the case in the pediatric age group, where the treatment is still controversial.<sup>2-5</sup> One reason for this is that AIO is relatively rare in the pediatric age group. Add to this the lack of consensus regarding the place of conservative