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Type 1 diabetic adults should be screened for coeliac autoimmunity

TO THE EDITOR

Dear Sir:

We read with great interest the article by Joshi et al. in the June 2014 issue of Arab Journal of Gastroenterology.(1) The authors investigate the presence of coeliac autoimmunity in patients with type 1 diabetes in India. Patients were screened for celiac autoimmunity by IgA tissue transglutaminase (tTG) levels in IgA-sufficient cases and IgG anti-gliadin levels in IgA-deficient cases. A seroprevalence of celiac autoimmunity of 12.75% was evidenced. The association between celiac disease and type 1 diabetes is well established and was first described in the sixties(2, 3). Different prevalences have been reported in type 1 diabetes patients, according to the region and population studied. In the United Kingdom the estimated prevalence among children and adolescents is of 4.8%(4). And a trial with children with type 1 diabetes revealed a prevalence of 6.2% of seropositivity(3), while in Italy the prevalence reported is of 5.5% at diagnosis of diabetes and an additional 40% of patients develop celiac disease a few years after diabetes onset.(5)

Southern Brazil is characterized by European colonization, especially by Portuguese, Italian and German people(6). Though, one would imagine that this would be an area of high incidence of celiac disease. In Brazil, most studies

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evaluated children with type 1 diabetes, and found celiac disease in a prevalence that varied from 10-21% in Recife(7, 8) to 2,5% in Rio de Janeiro(9). Though, we thought to evaluate the prevalence of celiac autoimmunity among type 1 diabetes adults in an endocrinology outward clinic in Southern Brazil. The immunoglobulin A (IgA) tTG and IgA Endomysial antibody (EmA) serological tests were used for celiac disease screening.(10) EmA was detected by indirect immunofluorescence, and tTG was detected using a commercial enzyme linked immunosorbent assay (ELISA). Fifty-six type 1 diabetes adults, were evaluated, with a mean age of 25 ± 10.1 years, 60.7% were men. All were negative for EmA and two (3.6%) were reactive for tTG. The prevalence observed was surprisingly lower than others previously reported, probably because of the age group studied. EmA IgA and tTG IgA are the most sensitive and specific serologic tests for identifying individuals who need to undergo an intestinal biopsy examination to diagnose CD. Even though direct comparison between EmA IgA and tTG IgA failed to show any significant differences on Sensitivity and Specificity(11), not one single serological test seems to be sufficient to identify all cases of celiac disease. EmA has shown poor sensitivity in some studies, as the test is more expensive, complex, and operator dependent, with larger interobserver variation(12).

Despite medical advisory, patients never performed an upper digestive endoscopy. None of them presented diarrhea, anemia, abdominal

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pain/discomfort, or and none had autoimmune thyroid disease. Although individuals with positive serology presented similar body mass index to those with negative serology (17.9 vs. 24.0 kg/m²; P = 0.106), body weight was significantly lower in patients with celiac autoimmunity (46.2 vs. 67.0 Kg; P = 0.040). In spite of similar hemoglobin levels (14.1 vs. 14.0 g/dL; P = 0.947), patients with positive tTG demonstrated a tendency to exhibit lower ferritin levels (41.1 vs. 116.5 ng/ml; P = 0.085). With regard to glycaemic control, both groups presented similar serum fasting glucose levels (204.5 vs. 175.0 g/L; P = 0.791) but seropositive individuals demonstrated higher glycated hemoglobin levels (8.9 vs. 6.5%; P = 0.030). These findings are similar to those reported by Joshi et al. Worse glycaemic control was also demonstrated by Leeds et al(12) but not confirmed by Bakker et al(11). Nonetheless both authors agree that early diagnosis and treatment have a protective role in the development of diabetes complications such as retinopathy. Inopportunately, hormone abnormalities and bone mineral density were not evaluated in our study.

Although we did not find a high prevalence in our population as expected, we would like to emphasize the importance of active screening of celiac disease not only in children, but also in adults with type 1 diabetes. It is essential to point out the benefits of an early diagnosis, as gluten free diet can not only prevent nutritional deficiencies, improve glycaemic control, but also avoid the triggering of associated autoimmune diseases and intestinal neoplasia(13, 14).

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