

Prevalence of Celiac Disease in Omani Children with Type 1 Diabetes Mellitus: A Cross Sectional Study

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To the Editor,

I presume that the actual prevalence of celiac disease (CD) in Omani children with type 1 diabetes mellitus (T1DM) is higher than the 5.5% reported by Al-Sinani et al.¹ This is based on considering the following 2 points.

Firstly, Al-Sinani et al. conducted a cross-sectional study to determine the prevalence of CD in a cohort of T1DM among Omani children.¹ Compared to that type of studies, a prospective observational cohort study can better determine the risk of being infected with a new disease because it is a longitudinal observation over time, and the collection of results is done at regular time intervals, and thus recall error is minimized. This is obvious upon noticing that children with T1DM screened for CD at the onset of T1DM and annually thereafter have shown a substantial ongoing increase in the prevalence of CD.

In an American study,² the prevalence of CD in patients with T1DM was noticed to be approximately 20 times higher than in the general population, with 60% of cases having already presented at onset of diabetes, mostly undetected, but an additional 40% of patients had developed CD a few years after diabetes onset. In another Swedish study,³ the low prevalence (0.7%) of diagnosed symptomatic CD at the time of clinical diagnosis of T1DM was multiplied by an increasing prevalence of silent CD during the five years follow-up to reach an overall prevalence of 10%.

Secondly, the methodology applied in the study by Al-Sinani et al.¹ consisted of screening all patients with T1DM with the use of serum anti-tissue transglutaminase (anti-tTGA) antibodies. The results were considered positive when serum anti-tTGA levels were higher than 20 U/mL. Patients with positive anti-tTGA were thereafter brought in for confirmation of CD by upper gastrointestinal endoscopy and intestinal biopsies. The flow chart of the study by Al-Sinani et al. (Fig. 1), showed that out of 93 patients with T1DM, positive anti-tTGA was found in only 16 patients (17.3%) who later underwent endoscopy and intestinal biopsies, while negative anti-tTGA was found in the remaining 77 patients (82.7%).¹ Since elevated serum anti-tTGA antibody levels in diabetic children may spontaneously normalize despite continued consumption of gluten,⁴ it is therefore expected that a substantial number of T1DM patients with occult CD and normal serum anti-tTGA antibody levels were missed in the study by Al-Sinani et al.¹

Sincerely,

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References

1. Al-Sinani S, Sharef SW, Al-Yaarubi S, Al-Zakwani I, Al-Naamani K, Al-Hajri A, et al. Prevalence of celiac disease in omani children with type 1 diabetes mellitus: a cross sectional study. *Oman Med J* 2013 Jul;28(4):260-263.
2. Barera G, Bonfanti R, Viscardi M, Bazzigaluppi E, Calori G, Meschi F, et al. Occurrence of celiac disease after onset of type 1 diabetes: a 6-year prospective longitudinal study. *Pediatrics* 2002 May;109(5):833-838.
3. Larsson K, Carlsson A, Cederwall E, Jönsson B, Neiderud J, Jonsson B, et al; Skåne Study Group. Annual screening detects celiac disease in children with type 1 diabetes. *Pediatr Diabetes* 2008 Aug;9(4 Pt 2):354-359.
4. Waisbourd-Zinman O, Hojsak I, Rosenbach Y, Mozer-Glassberg Y, Shalitin S, Phillip M, et al. Spontaneous normalization of anti-tissue transglutaminase antibody levels is common in children with type 1 diabetes mellitus. *Dig Dis Sci* 2012 May;57(5):1314-1320.

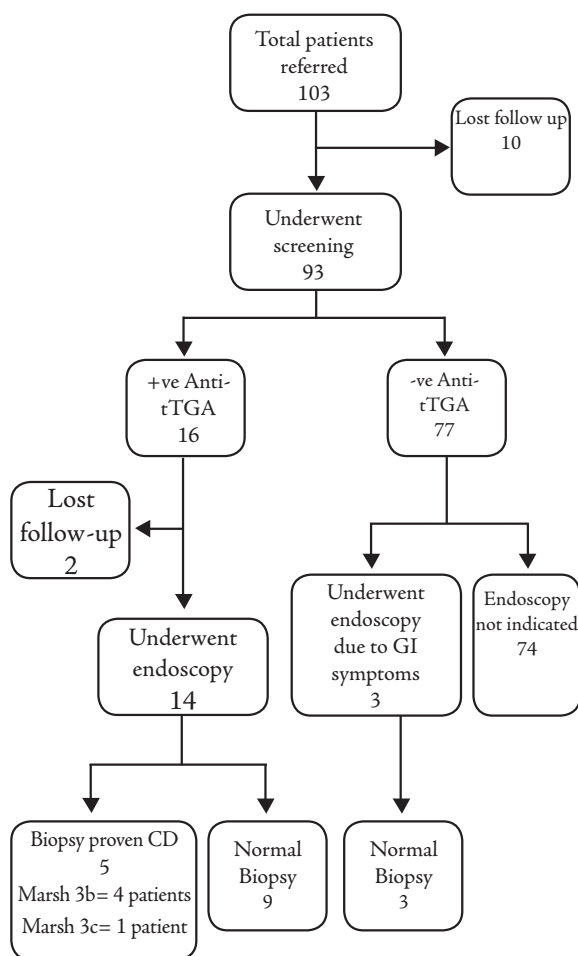


Figure 1: Flowchart for results of serologic tests and biopsy proven celiac disease. +ve: positive, -ve: negative; Anti-tTGA: anti-tissue transglutaminase IgA; GI: gastrointestinal, CD: celiac disease.¹