

LETTER TO THE EDITOR

Is There Any Relation Between *Helicobacter pylori* Infection and Iron Deficiency Anemia in Children with Celiac Disease?

Celiac disease is a permanent gluten intolerance characterized by histopathologic abnormalities in the proximal intestine. It has a large spectrum of gastrointestinal and extra-intestinal manifestations. Iron deficiency anemia caused by malabsorption is common and may be the only presenting manifestation of celiac disease [1].

Helicobacter pylori infection in children is associated with gastritis and peptic ulcer disease [2]. It has been suggested that *H. pylori* infection may lead to iron deficiency anemia [3]. The mechanisms by which *H. pylori* infection can cause iron deficiency anemia are still unclear [4].

In this study, we wanted to investigate the association between *H. pylori* infection and iron deficiency anemia in patients with celiac disease. Thirty-six children (17 boys, 47%) with untreated celiac disease were evaluated. The mean age of the patients was 11.4 ± 3.1 years, ranging from 2 to 17 years. Diagnosis of celiac disease was made on the basis of the presence of positive anti-gliadin immunoglobulin A (IgA) and IgG antibodies, and anti-endomysium antibodies, and was confirmed by histological findings. The presence of *H. pylori* infection was determined by culture, rapid urease test (Dio-Helico; Diomed, Nürnberg, Germany), and histology. Iron deficiency anemia was defined as a hemoglobin concentration < 11.5 g/dl aged 2–12 years, < 12 g/dl in girls aged 12–18 years and < 13 g/dl in boys aged 12–18 years, in the presence of low serum iron levels (normal range, 22–184 µg/dl) and high iron-binding capacity (normal range, 250–400 µg/dl) [5]. In the 36 children with celiac disease, 15 (42%) had *H. pylori* infection and 21 (58%) did not. Of the 15 *H. pylori*-positive patients, 7 (47%) had iron deficiency anemia while of the 21 *H. pylori*-negative patients, 10 (48%) showed iron deficiency anemia ($p > .05$) (Table 1). Mean values of hemoglobin concentrations were 10.7 ± 1.6 and 10.7 ± 2.1 in *H. pylori*-infected and noninfected children with celiac disease, respectively ($p > .05$).

In a recent study, a relation between *H. pylori* infection and iron deficiency anemia has been suggested in patients with celiac disease. However, iron deficiency anemia does not develop in all *H. pylori*-

Table 1 Iron deficiency anemia and *Helicobacter pylori* infection in 36 children with celiac disease

	IDA positive	IDA negative
Hp positive	7 (47%)	8 (53%)
Hp negative	10 (48%)	11 (52%)

IDA, iron deficiency anemia; Hp, *Helicobacter pylori*.

Data show the number of patients, with percentages given in parenthesis.

infected patients [6]. We did not find any significant association between *H. pylori* infection and iron deficiency anemia in our patients with celiac disease. Our findings suggest that celiac disease itself plays a major role, rather than *H. pylori* infection, in the development of iron deficiency anemia.

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