

# Publication of the Month

## March 03/09: Diagnosis of Celiac Disease is useful in unexplained anemia

Celiac disease (CD) very often presents with atypical symptoms rather than the expected gastrointestinal problems. Unexplained iron deficiency anemia is one of these symptoms which usually would not alert the physicians to order an anti-tTG or anti-gliadin test. Several publications estimate the prevalence of CD in iron deficiency anemia at up to 6 % and even higher if anemia is unexplained. The fundamental novelty of the publication presented is that a gluten-free diet is strongly recommended in CD patients with atypical symptoms as well as in gluten-sensitive patients with abnormal mucosa which is not compatible with CD, and is able to cure iron deficiency anemia.

Zamani F, Mohamadnejad M, Shakeri R, Amiri A, Najafi S, Alimohamadi SM, Tavangar SM, Ghavamzadeh A, Malekzadeh R

### **Gluten sensitive enteropathy in patients with iron deficiency anemia of unknown origin**

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In this cross-sectional study 206 patients with iron deficiency anemia (IDA) of obscure origin were screened for gluten sensitive enteropathy (GSE) using EMA and anti-tTG tests. If the serological tests were elevated, small intestine biopsy was performed. GSE could be confirmed in 30 out of 206 patients, which is equal to a high 14.6 %. In 16 of these patients villous atrophy gave rise to the diagnosis of celiac disease. Among the 30 GSE patients were 22 (73.3 %) without gastrointestinal symptoms and with IDA as the only visible consequence of GSE. Interestingly the severity of the duodenal lesions correlated with the severity of anemia.

14 GSE patients agreed to adhere to gluten-free diet without receiving iron supplementation during a 6 months follow-up period. Interestingly, their mean hemoglobin levels (Hb) increased from 9.9 to 12.8 g/dL ( $P < 0.01$ ), only due to the avoidance of gluten. Even more surprising in 6 out of 14 patients who had Marsh 1/2 lesions (e.g. no villous atrophy, no CD) on duodenal biopsy, mean Hb increased from 11.0 to 13.1 g/dL ( $P < 0.01$ ). This should be particularly emphasized, since all 30 GSE patients were treated with oral iron before diagnosis of GSE, but IDA improved in only 8 of them.

The most important take-home messages of the publication are

1. Unexplained iron deficiency anemia is quite often a result of GSE or CD and can be cured by a gluten-free diet.
2. Even in GSE with pathological mucosal changes not compatible with the diagnosis of CD a gluten-free diet leads to an improvement of iron deficiency anemia.

This is a strong hint that also other atypical GSE or CD symptoms might improve on a gluten-free diet. This would mean that GSE patients having silent CD or even milder mucosal lesions than CD patients may benefit from a gluten-free diet.

The authors conclude that celiac disease should be considered in any patient with unexplained IDA, even if they do not have any gastrointestinal symptoms. Furthermore, gluten-free diet can improve anemia in IDA patients who have positive anti-tTG/EMA and mild duodenal lesions without villous atrophy.

