

H. pylori Eradication in Iron Deficiency Anemia

Annibale B, Marignani M, Monarca B, Antonelli G, Marcheggiano A, Martino G, et al. Reversal of iron deficiency anemia after *Helicobacter pylori* eradication in patients with asymptomatic gastritis. *Ann Intern Med* 1999;131:668-72.

Study Overview

Objective. To examine the impact of eradicating *Helicobacter pylori* with combination antibiotic therapy on iron deficiency anemia in patients with *H. pylori*-associated gastritis.

Design. Case series.

Setting and participants. A group of 30 patients referred to a university hospital gastroenterology department between September 1994 and December 1997 and who met the following 2 criteria: (1) a lengthy history of iron deficiency anemia (defined as hemoglobin concentration less than 14 g/L for men and less than 12 g/L for women, a mean corpuscular volume less than 80 fL, and a serum ferritin level less than 30 µg/L [1]), and (2) *H. pylori*-associated gastritis as the only pathologic gastrointestinal finding.

Intervention. Patients received eradication therapy for *H. pylori* (2 antibiotics) and discontinued iron replacement therapy.

Main outcome measures. Complete blood count, serum ferritin levels, and gastroscopy with biopsy to determine *H. pylori* status. Eradication therapy as treatment for iron deficiency anemia was considered successful if the patient had no need for iron replacement therapy, recovered from anemia, or both.

Main results. Of the 30 participants, 26 were women (3 of whom were postmenopausal); the mean age was 35.5 years. Median history of anemia and oral iron therapy was 4.8 years (range, 2 to 20 years). A total of 24 patients in whom *H. pylori* infection was cured were available for evaluation. Six months after beginning eradication therapy, 18 of these patients (75%) had recovered from anemia ($P < 0.001$), and their serum ferritin values rose from 5.7 ± 0.7 µg/L to 24.5 ± 5.2 µg/L (95% confidence interval [CI] = 8.85 to 29.97). At 12 months, 22 patients (91.7%) had recovered from anemia, and all had a decrease in ferritin levels.

Conclusion

Cure of the *H. pylori* infection in patients with iron deficiency anemia and chronic *H. pylori*-related gastritis is associated with reversal of iron treatment and dependence, normalization of hemoglobin levels after 6 months, and long-term recovery from iron deficiency anemia.

Commentary

Epidemiologic studies have found an association between *H. pylori* infection and iron deficiency [2,3]. *H. pylori* may lead to iron deficiency anemia by impairing iron uptake or increasing the demand for iron [2]. These findings and those from the current study suggest that eradication of *H. pylori* is a promising approach for achieving long-term recovery from iron deficiency anemia in certain patients.

Applications for Clinical Practice

Although randomized clinical trials with a larger sample size must be conducted to confirm the results of this study, physicians may find that eradication therapy for *H. pylori* has the added benefit of eliminating the need for iron treatment.

References

1. Marignani M, Delle Fave G, Mecarocci S, Bordi C, Angeletti S, D'Ambra G, et al. High prevalence of atrophic body gastritis in patients with unexplained microcytic and macrocytic anemia: a prospective screening study. *Am J Gastroenterol* 1999;94:766-72.
2. Milman N, Rosenstock S, Andersen L, Jorgensen T, Bonnevie O. Serum ferritin, hemoglobin, and *Helicobacter pylori* infection: a seroepidemiologic survey comprising 2794 Danish adults. *Gastroenterology* 1998;115:268-74.
3. Peach HG, Bath NE, Farish SJ. *Helicobacter pylori* infection: an added stressor on iron status of women in the community. *Med J Aust* 1998;169:188-90.

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