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Recurrent Iron Deficiency Anemia Revealing Chronic Gastritis with *Helicobacter pylori*

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Abstract

We report a clinical case of a 21-year-old patient with iron deficiency anemia related to *Helicobacter pylori* (*H. pylori*) infection. The pan gastritis due to *H. pylori* and an unexplained iron deficiency anemia has recently been proposed although still discussed. Among the possible causes the role played by this bacterium remains controversial. The diagnosis had been mentioned in view of the recurrence of anemia and confirmed by endoscopic biopsy. Anemia was corrected by iron supplementation associated with a specific treatment of this germ.

Keywords

Iron Deficiency Anemia, *Helicobacter pylori*, Pangastritis

1. Introduction

The association between chronic fundic atrophic gastritis and iron deficiency anemia has been established for many years, particularly during Biermer's disease. The association pangastritis with *H. pylori* and unexplained iron deficiency anemia has recently been proposed although still discussed [1].

Among the possible causes, the role of *H. pylori* infection remains controversial [2] [3]. In Congo, the prevalence of *H. pylori* infection is estimated at 47.8% in children [4] and 89% in 2014 in the general population [5]. The main causes of iron deficiency anemia are dominated by parasitosis and malnutrition [4]. We report a clinical case of recurrent anemia secondary to chronic *H. pylori* gastritis.

2. Observation

This patient was 21 years old, hospitalized in June 2015 for epigastric and syndrome anemic pain. The interrogation did not find any notion of externalized digestive hemorrhage or gastrointestinal transit disorder. She had no pathological digestive history, neither hematological nor gynecological.

The clinical examination revealed signs of intolerance of anemia and sensitivity to palpation of the epigastric region, with no noticeable mass. The pelvic touches were normal.

The hemogram showed normochromic microcytic anemia with hemoglobin at 4 g/dl. Ferritinemia was decreased to 19.5 mg/L (N = 22 - 321 mg/L) and serum iron to 0.27 mg/L (N = 0.6 - 1.6 mg/L).

In the emergency the patient was transfused with 4 units of erythrocyte concentrate. Upper gastrointestinal endoscopy showed squamous corporo-fundic mucosa and nodular andropathy without recent bleeding stigma. Multiple antro-fundic biopsies were performed for anatomo-pathological examination.

While awaiting the histological results of the biopsies, the patient was treated with iron. One month after treatment, the hemoglobin count had normalized. Four months after stopping the martial treatment, there was a recurrence of anemia. Colonoscopy was macroscopically normal. Biological and morphological investigations for portal hypertension and hepatocellular insufficiency were normal.

Assay for immunoglobulin A (IgA) anti-transglutaminase antibodies was negative. The parietal cell antibodies as well as the intrinsic anti-factor antibodies were negative. *H. pylori* serology was positive.

Biopsies from the antrum and fundus showed a large inflammatory infiltrate with many *H. pylori.*

The patient was put on a sequential treatment for eradication of *H. pylori* made of esomeprazol 40 mg twice a day and amoxicillin 1g twice a day for 5 days, followed by esomeprazol 40 mg twice a day, associated with metronidazole 500 mg twice daily and clarithromycin 500 mg twice daily for 5 days. A new iron supplementation for 2 months was prescribed. The evolution under treatment was marked by a normalization of the hemoglobin figure to 14 g/dl. The patient no longer had anemia with a two-year follow-up.

3. Discussion

Iron depletion is one of the major causes of anemia worldwide. It is estimated that iron depletion affects 15% of the world's population [6]. Endoscopy of the gastrointestinal tract remains essential in the investigation of iron deficiency anemia. However, after a well-conducted exploration, about 35% of anemias remain unexplained [1] [7].

This observation reminds us that chronic gastritis with *H. pylori* is a classic and sometimes unknown cause of iron deficiency anemia. Several sero-epidemiological studies carried out, particularly in Africa and South Korea, have also shown that ferritinemia was reduced in patients (children and adults) with posi-

tive *H. pylori* serology [1] [8] [9].

Several mechanisms have been proposed to explain the relationship between iron deficiency anemia and *H. pylori*; this is occult digestive haemorrhage, reduction of iron absorption and iron sequestration by a receptor located at the level of the *H. pylori* membrane [10].

Occult bleeding secondary to erosive gastritis has been suggested as one of the mechanisms that may explain iron deficiency in patients with *H. pylori* infection. However, most published series did not mention endoscopic lesions that may explain occult bleeding [9]. Decreased absorption of secondary iron in the chronic gastric and hypo or achlorhydria is the most likely mechanism [11] [12]. Although discussed, iron sequestration and *H. pylori* use have also been suggested in patients with *H. pylori*-associated iron deficiency anemia. Indeed, *H. pylori* needs iron for its growth and has a ferritin-like iron transporter protein [11].

Chronic *H. pylori* infection has no clinical expression in 90% of cases [13]. In our observation, epigastric pain and anemic syndrome were the reason for consultation.

Indeed, the eradication of *H. pylori* was associated with a considerable improvement in symptoms. This suggests that there is a pathophysiological link between *H. pylori* and abdominal pain. But it should be noted that the presence of isolated abdominal pain does not justify the systematic search for *H. pylori* infection. It has been reported that the majority of people, particularly children without *H. pylori* infection who presented with abdominal pain had gastritis [13] [14]. It could therefore be hypothesised that the pain would be related to gastritis and that *H. pylori* would be only one of the etiologies, which would explain why knowledge of the status of *H. pylori* is not sufficient to justify a symptomatology.

The recurrence of anemia in our patient forced us to perform a high digestive endoscopy.

The diagnosis of iron deficiency anemia related to *H. pylori* gastritis was evoked in light of the recurrent nature of anemia and confirmed by the positivity of *H. pylori* serology and especially in the case of antro-fundic biopsies (pangastritis *H. pylori*).

No recurrence of anemia was observed after treatment combining the eradication of *H. pylori* and iron supplementation in our patient. In general, three months after martial treatment and *H. pylori* eradication, there is a statistically significant increase in hemoglobin and iron [15] [16].

4. Conclusion

This observation shows that it is important to look for *H. pylori* gastritis in patients with recurrent iron deficiency anemia. Digestive endoscopy with biopsies is the first-line examination for the search for etiology.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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