COMPARISON BETWEEN LIPOSOMIAL IRON AND FORROUS SULFATE IN PATIENTS WITH IRON ANEMIA DEFICIENCY AND INFLAMMATORY BOWEL DISEASE

Indriolo A, Ravelli P
Gastroenterology 2 and Digestive Endoscopy Unit
Papa Giovanni XXIII Hospital, Bergamo
amedeo.indriolo@gmail.com

Introduction

6-74% of patients with inflammatory bowel disease (IBD) have anemia. Iron deficiency is the most important cause of anemia in IBD patients. Ferrous sulfate is the oral iron supplement most used in iron deficiency anemia (IDA) therapy. About 20% of the IBD patients interrupt the therapy because of gastrointestinal side effects. Liposomal iron is a new oral supplement iron based on the liposome technology. Today, there are no studies on liposomal iron therapy in patients with IDA and IBD.

Aims of this study are to compare the efficacy and the safety between liposomal iron and ferrous sulfate in patients with IDA and IBD.

Methods

Twenty-seven patients with hemoglobin (Hb) above 9 g/dl have been treated with iron therapy. Group A (n=13): liposomal iron (iron pyrophosphate, pregelatinised rice starch, sucrose esters of fatty acid, sunflower lecithin, glucose syrup, milk proteins, tricalcium phosphate) (1 iron tablet of 30 mg per day for 12 weeks), Group B (n=14): ferrous sulfate (1 iron tablet of 105 mg per day for 12 weeks, and Group C (control) (n=11) who don’t received iron therapy. Three groups were matched with a similar clinical IBD condition, age, and sex (Table 1). The principal objective of the study was to evaluate the increase (Δ) of the Hb (g/dL) (median, range) at week 12. The secondary objective was to evaluate the percentage of patients with increased Hb of 1 and 2 g/dL at week 12.

Side effects of the therapy were recorded in both groups.

Results

A significant increase of Hb was observed in the liposomal iron group with respect to controls: ΔHb +2.0 g/dL vs ΔHb +0.5 g/dL (p=0.002). A non-significant increase of Hb was present in the ferrous sulfate group with respect to controls: ΔHb +1.4 g/dL vs ΔHb +0.5 g/dL (p=0.12). A significant percentage of patients presented an increase of 1 g/dL of Hb at week 12 in the group A with respect to controls: 76.9% vs 27.2% (p=0.036). A non-significant percentage of patients presented an increase of 1 g/dL of Hb at week 12 in the group B with respect to controls: 57.1% vs 27.2% (p=0.388). A significant percentage of patients presented an increase of 2 g/dL of Hb at week 12 in the group A with respect to controls: 30.7% vs 0.0% (p=0.046). A non-significant percentage of patients with an increase of 2 g/dL of Hb at week 12 was observed in the group B with respect to controls: 28.5% vs 0.0% (p=0.114). Gastrointestinal side effects with discontinuation of iron supplement therapy were observed in 7.1% (group A) and 12.5% (group B).

Conclusions

In our study liposomal iron was shown more effective and better tolerated than ferrous sulfate in patients with IDA and IBD. A greater absorption and a decreased dose of liposomal iron could explain the reduction of the toxic effect to the intestinal mucosa. Liposomal iron could be a useful therapeutic option for patients with IDA and IBD who cannot tolerate the traditional oral iron supplement. It is certainly desirable to confirm our findings in a study with a large number of patients.