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Anthropometric evaluation and micronutrients intake in patients submitted to laparoscopic Roux-en-Y gastric bypass with a postoperative period of ≥ 1 year

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Abstract

Background

Bariatric surgery is indicated as the most effective treatment for morbid obesity; the Roux-en-Y gastric bypass (RYGB) is considered the procedure of choice. However, nutritional deficiency may occur in the postoperative period as a result of reduced gastric capacity and change in nutrients absorption in the gastrointestinal tract. The prescription of vitamin and mineral supplementation is a common practice after RYGB; however, it may not be sufficient to prevent micronutrient deficiencies. The aim of this study was to quantify the micronutrient intake in patients undergoing RYGB and verify if the intake of supplementation would be enough to prevent nutritional deficiencies.

Methods

The study was conducted on 60 patients submitted to RYGB. Anthropometric, analytical, and nutritional intake data were assessed preoperatively and 1 and 2 years postoperatively. The dietary intake was assessed using 24-h food recall; the values of micronutrients evaluated (vitamin B12, folic acid, iron, and calcium) were compared to the dietary reference intakes (DRI).

Results

There were significant differences ($p < 0.05$) between excess weight loss at the first and second year (69.9 ± 15.3 vs 9.6 ± 62.9 %). In the first and second year after surgery, 93.3 and 94.1 % of the patients, respectively, took the supplements as prescribed.

Micronutrient deficiencies were detected in the three evaluation periods. At the first year, there was a significant reduction ($p < 0.05$) of B12, folic acid, and iron intake.

Conclusions

Despite taking vitamin and mineral supplementation, micronutrient deficiencies are common after RYGB. In the second year after surgery, micronutrient intake remains below the DRI.

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