Association Between Dietary Intake after Roux-en-Y Gastric Bypass Surgery and Antioxidant/inflammatory Status: A 6-Month Prospective Cohort Study

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Background: Adipose tissue can increase levels of inflammation and oxidative stress, which explains the relationship between obesity and many chronic diseases. Weight loss, changes in adipose tissue metabolism, and dietary nutrient intake changes following bariatric surgery could affect a number of oxidative- and inflammation-related factors.

Objectives and Methods:

Objectives: This study aimed to assess the relationship between dietary intake and inflammatory/antioxidant markers in the 6 months following Roux-en-Y gastric bypass surgery.

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Methods: This prospective cohort study included 45 patients with morbid obesity who underwent Roux-en-Y gastric bypass surgery. The patients were assessed at three different time points: baseline, three months, and six months post-surgery. Throughout the study, dietary intake data, levels of total antioxidant capacity (TAC), NF-κB, and serum levels of certain nutrients were measured three times.

Results

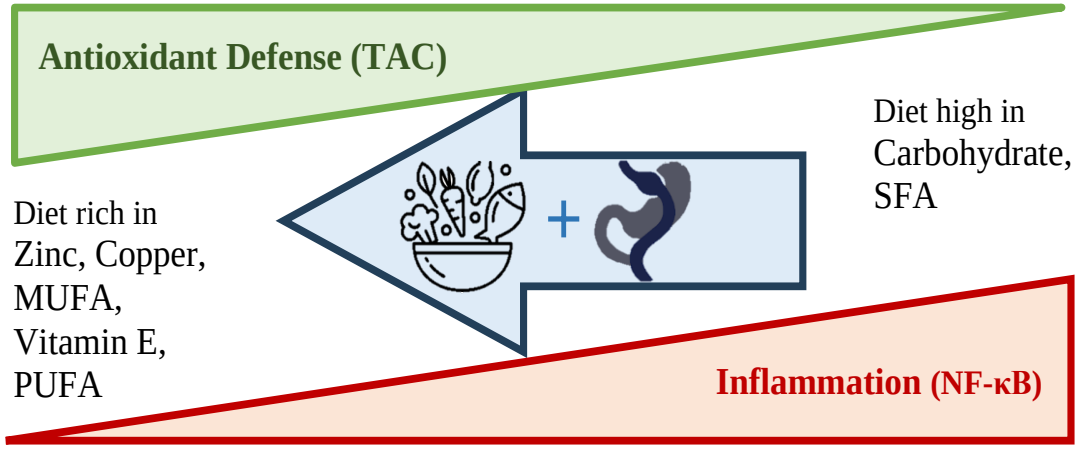
Results: The present study found that within 3 and 6 months after the surgery, the serum levels of TAC, ferritin, vitamin D3, vitamin B12, and folate increased in patients, while the serum levels of NF-κB, zinc, and copper decreased.

- Higher intakes of zinc, copper, and MUFA, as well as lower intakes of cholesterol, were associated with higher TAC levels
- Higher dietary vitamin E and PUFA, and lower carbohydrate and SFA intakes, were associated with lower NF-κB levels as a marker of inflammation.

Conclusion

Weight reduction and dietary management after bariatric surgery may potentially impact oxidative stress and inflammation levels within a 6-month period after RYGB.

Nutritional education for individuals who have undergone bariatric surgery to adhere to a healthy and nutritious diet can enhance the metabolic outcomes of the surgery by promoting antioxidant defense and relieving inflammatory status.



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Thank You For Your Attention !

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