

The effect of bariatric surgery on hypothyroidism: Sleeve gastrectomy versus gastric bypass.

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Abstract

BACKGROUND: Hypothyroidism is prevalent in morbidly obese patients and may improve after a weight reduction surgery.

OBJECTIVES: Laboratory and clinical changes in hypothyroid patients undergoing laparoscopic sleeve gastrectomy (LSG) or laparoscopic Roux-en-Y gastric bypass (LRYGB) were compared and evaluated.

SETTINGS: Data were retrieved from a prospectively collected database of 2 public bariatric units.

METHODS: Patients with hypothyroidism prior to bariatric procedure were evaluated for changes in thyroid stimulating hormone (TSH) and changes or cessation of hormone replacement therapy after surgery. Correlation between changes in TSH levels and percentage of excess weight loss and comparison between effects of LSG and LRYGB were evaluated.

RESULTS: Ninety patients were included. Mean follow-up was 11 ± 9.73 months. Mean body mass index decreased from 43.8 to 33.2 kg/m². Forty patients had deranged elevated TSH levels prior to surgery that decreased significantly after surgery (mean 6.6 ± 1.9 to 2.9 ± 1.5 mU/L, $P < .01$). Of patients receiving hormone replacement therapy prior to surgery, 42% required lower doses, with a 61% mean decrease in doses, while 10% stopped hormone replacement therapy completely. No correlation was found between the improvement in TSH and percentage of excess weight loss. A significant advantage to one of the bariatric procedures (LSG [61] and LRYGB [29]) could not be established.

CONCLUSIONS: LSG and LRYGB both proved to improve thyroid function in hypothyroid obese patients. No procedure was found to be superior. No correlation was found between percentage of excess weight loss and TSH reduction. This implies that the effect of bariatric surgery on the improvement of thyroid functions is mediated by mechanisms other than weight loss, probably hormonal.

KEYWORDS: Bariatric surgery; Hypothyroidism; Roux-en-Y gastric bypass; Sleeve gastrectomy; Thyroid hormone levels; thyroid replacement therapy

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