



## Original article

# Outcome of bariatric surgery on hypothyroidism: experience from a tertiary care center in India

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Received 15 January 2020; accepted 30 March 2020

**Abstract**

**Background:** Hypothyroidism is frequently found to be associated with morbid obesity. Effect of bariatric surgery on type 2 diabetes, hypertension, and sleep apnea has been studied extensively but there is a dearth of literature on its impact on thyroid function. We had published our experience of laparoscopic sleeve gastrectomy and its effect on hypothyroidism in morbidly obese patients previously. In this study, we have tried to evaluate the impact of bariatric surgery on the whole cohort of hypothyroid patients and compare the effect of various bariatric procedures on thyroid hormone replacement dose.

**Objective:** To assess outcome of bariatric surgery on the hypothyroid patients and to compare the outcomes of laparoscopic sleeve gastrectomy, Roux-en-Y gastric bypass, and one-anastomosis gastric bypass in terms of reduction of thyroid hormone replacement dosage.

**Setting:** Tertiary care University Hospital, India; Government Practice.

**Methods:** This is a retrospective analysis of a database of all bariatric procedures done in a single unit at a tertiary care teaching hospital in India. Morbidly obese patients with hypothyroidism on thyroxine replacement were identified and their preoperative and postoperative thyroid hormone replacement dosage (THR) and thyroid stimulating hormone levels were compared.

**Results:** Of 883 patients undergoing bariatric surgery, 180 patients were hypothyroid (on thyroxine replacement). Ninety-three patients were included in the final analysis. The mean age of the study population was  $42.2 \pm 10.4$  years and the mean preoperative body mass index was  $47.8 \pm 8.3$  kg/m<sup>2</sup>. Mean follow-up duration was  $29.8 \pm 19.6$  months. The excess weight loss was 58.9%. Fifty-two (55.8%) patients had a decrease in the in THR dosage, 37 (39.8%) had no change in THR dosage, and 4 patients required an increase in THR dosage. Decrease of THR dose was observed in 61.7% patients in laparoscopic sleeve gastrectomy in comparison to 45.4% in bypass group.

**Conclusion:** Bariatric surgery might cause reduction of thyroid replacement dosage in hypothyroid, morbidly obese patients. (Surg Obes Relat Dis 2020; ■:1–5.) © 2020 Published by Elsevier Inc. on behalf of American Society for Bariatric Surgery.

**Key words:**

Bariatric surgery; Hypothyroidism; Laparoscopic sleeve gastrectomy; Laparoscopic Roux-en-Y gastric bypass; One-anastomosis gastric bypass

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