

ANALYSIS OF METABOLIC PROFILE AND EXCESS WEIGHT LOSS IN OBESE HYPOTHYROID PATIENTS SUBMITTED TO ROUX-EN-Y GASTRIC BYPASS

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Background: Hypothyroidism is prevalent in about 10-15% in obese patients. The pathophysiologic relationship between morbid obesity and thyroid hormones is not well understood. The purpose of this study is to analyse the metabolic profile and excess weight loss in hypothyroid patients before bariatric surgery.

Methods: 505 patients were divided into two groups: hypothyroid (**H**) and euthyroid (**E**). They were compared in regard to BMI, percentage of excess weight loss (%EWL), metabolic profile (metabolic syndrome and HOMA IR), free T4 and TSH.

Results: From all patients, 423 were women (83.7%). The mean age was 37.2 ± 10 years, mean BMI was 42.1 ± 4.7 kg/m². 54 subjects (10.7%) had hypothyroidism (**H**), from which 51 (94.4%) were females. The percentage of females and males affected by hypothyroidism was 12.1% vs 3.7% respectively [$p = 0.04$]. The mean BMI of **H** was 41.5 ± 5.1 kg/m², while in **E** was 42.2 ± 4.7 kg/m² [$p = 0.22$]. The mean age of the **H** was 39.9 ± 10 years and **E** was 36.8 ± 10.3 years [$p = 0.03$]. Metabolic syndrome was present in 294 (58.2%) patients. Of these, 57% were in **H** and 59% in **E** [$p = 0.92$]. The %EWL after 1 year was, in **H**, $61.4 \pm 10.2\%$ and, in **E**, $71.3 \pm 15.1\%$ [$p = 0.0001$]. After 2 years, the **H** had %EWL $68.9 \pm 13.7\%$ and **E**, $71.2 \pm 16.4\%$ [$p = 0.18$]. In **H**, the preoperative TSH in was 2.82 ± 2.85 and after 1 year of follow up, was 3.38 ± 2.26 [$p = 0.35$]. The average free T4 before surgery was 5.2 ± 5.2 and after a year of follow-up was 1.1 ± 0.2 [$p = 0.024$].

Conclusions: Women showed a higher percentage of hypothyroidism (12.5%). Patients with hypothyroidism were older than euthyroid patients. The %EWL and free T4 of **H** was lower in the first year of follow-up. There was no difference with statistical significance between groups as far as BMI, HOMA IR, number of affected by the metabolic syndrome and alteration in TSH (**H**) pre and postoperatively.