

Metabolic and Hormonal Changes after Sleeve Gastrectomy and Mini Gastric Bypass in a Rat Model of Induced Type 2 Diabetes Mellitus and Obesity

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Abstract

Introduction: Obesity is one of the leading causes of social, economic and health problems throughout the world and in the past years bariatric surgery has emerged as a method to alleviate this problem. We have conducted an experimental study aimed at comparing the metabolic and hormonal changes after sleeve gastrectomy and mini gastric by-pass, two bariatric procedures showing promising results.

Material and Methods: We have designed a study using a rat model with induced type 2 diabetes mellitus and obesity divided into three groups: a sleeve gastrectomy group, a mini gastric by-pass group and a sham operated group, all of which had their glycemia, lipid profile, ghrelin and insulin levels measured before and after the procedures.

Results: The results showed a significant decrease ($p < 0.05$) in fasting glucose levels, lipid profile and ghrelin levels in the mini gastric bypass compared to the sleeve gastrectomy group.

Conclusions: This study has demonstrated that both SG and MGB are effective treatments for morbid obesity and T2DM and both procedures can significantly resolve obesity-related metabolic changes.

Key words: obesity, diabetes mellitus, bariatric surgery, mini gastric bypass, sleeve gastrectomy