

066. Sleeve Gastrectomy Decrease of TNF- α and Increase TGF- β Gene Expression in the Abdominal Aorta of Rats with Obesity and Diabetes Mellitus

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ABSTRACT

Background: Sleeve gastrectomy (SG) is one option to significantly reduce body weight while also protecting the cardiovascular system by controlling hyperglycaemia and inflammatory markers. Secretion of tumour necrosis factor (TNF)- α could induce inflammation, meanwhile, the transforming growth factor- β (TGF- β) are anti-inflammatory cytokines, both of which play a role in the process of atherosclerosis. This study aimed to analyse the effect of SG procedure on TNF- α and TGF- β gene expression in the abdominal aorta of obese and DM rats. **Method:** Fifteen rats were divided into 3 groups: lean-non-DM rats model (C1 group), obese-DM rats model (C2 group), and obese-DM rats model underwent SG (T group). Before and 10 days after the SG procedure, rats' body weight and fasting blood glucose (FBG) were measured. Ten days after the procedure, TNF- α and TGF- β gene expression were also evaluated by PCR. **Results:** At the end of the study, mean body weight, FBG levels, and TNF- α gene expression in the C1 group (231.80 \pm 4.32 gram; 68.60 \pm 2.07 mg/dL; 1.01 \pm 0.01 rfu) and T group (232.00 \pm 5.33 gram; 114.40 \pm 3.20 mg/dL; 1.97 \pm 0.57 rfu) were significantly lower than in C2 group (264.60 \pm 3.28 gram; 271.00 \pm 6.89 mg/dL; 224.12 \pm 47.59 rfu). TGF- β gene expression was found to be considerably higher in T group (25.62 \pm 3.03 rfu) compared to C1 group (1.05 \pm 0.01 rfu) and C2 group (1.63 \pm 0.21 rfu). **Conclusion:** SG could decrease body weight and FBG, as well as TNF- α gene expression, and increase TGF- β gene expression in the abdominal aorta of rats with obesity and DM.

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