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GASTROILEOSTOMY FOR WEIGHT REDUCTION AND LIPID PROFILE CONTROL: AN EXPERIMENTAL RAT MODEL

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Objective: Although the exact mechanism of obesity remains a matter of debate, there is a direct correlation between development of obesity and elevated lipid profile. Malabsorptive procedures decrease the effectiveness of nutrient absorption by shortening the length of the functional small intestine. Profound weight loss can be achieved by a malabsorptive operation. Investigational procedures such as gastroileostomy also work by malabsorption. In this study we aim to investigate the early effects of gastroileostomy on weight reduction and lipid profiles.

Materials & Methods: Gastroileostomies were performed in 15 male New Zealand rats. Blood samples were obtained at base line and one week after gastroileostomy. Blood samples were analyzed for lipid profiles including TC, LDL, HDL, and TG. The body weight of each rat was evaluated before and after surgery.

Results: The data show that gastroileostomy surgery leads to a significant decrease of weight (330 ± 15 gr vs. 240 ± 25 gr before and after surgery, respectively) in operated rats ($P<0.05$). The levels of TG decreased in plasma (99.21 ± 29.012 mg/dl vs. 95.64 ± 48.668 mg/dl respectively; $P=0.807$). TC (71.14 ± 13.416 mg/dl vs. 72.64 ± 22.455 mg/dl; $P=0.813$), and LDL (12.96 ± 4.853 mg/dl vs. 15.36 ± 5.665 mg/dl $P=0.121$) had no significant changes after the operation.

Conclusion: Based on the results of this study, gastroileostomy could be effective in weight reduction but has no statistically significant change on lipid profiles in a short time. Therefore, this surgery could be a promising surgery for weight reduction.

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