Streszczenie w języku angielskim

Introduction Obesity is a chronic, multifactorial disease and its extent is equal to pandemics. Obesity is associated with the occurrence of metabolic disorders and associated diseases such as hypertension, type 2 diabetes, dyslipidemias. Metabolic-bariatric surgery is an effective method of obesity treatment, and sleeve gastrectomy is the most commonly performed technique. Research is still being conducted on the factors affecting the results of bariatric and metabolic surgery. The study evaluated the effect of laparoscopic sleeve gastrectomy on metabolic disorders and the correlation between the volume of the stomach resected during LSG surgery and preoperative anthropometric measurements and its effect on postoperative outcomes.

Material and methods The study included 196 patients qualified and undergoing laparoscopic sleeve gastrectomy in our center. Surgery was performed by the same surgical team according to standard procedure. Body weight, BMI and parameters of lipid and carbohydrate metabolism were assessed before the procedure and during the 1-year follow-up. In addition, the volume of resected part of stomach was assessed by filling it with CO_2 at a pressure of 15 mmHg. The correlation of volume of stomach resected with anthropometric measurements before the operation and the effect of volume of stomach on the parameters of bariatric efficiency in the one-year follow-up as well as the parameters of the lipid profile and carbohydrate metabolism were analyzed.

Results The conducted studies showed the effectiveness of laparoscopic sleeve gastrectomy in the treatment of obesity and the improvement of obesity-related metabolic disorders. A significant decrease in body weight and BMI was observed, as well as a decrease in fasting glucose, HbA1C, total cholesterol, LDL, non-HDL and triglycerides, and an increase in HDL fraction. The second part of the study showed a statistically significant relationship between the volume of the resected part of the stomach and the preoperative body weight, height and body surface area. There was no relationship between BMI and stomach volume. Stomach volume had no effect on weight loss at 1 year follow-up. The effect of gastric volume on the percentage of glycated hemoglobin and HDL lipoprotein in one year of observation was observed.

Conclusions LSG is an effective method of treating obesity and also contributes to the improvement of obesity-related metabolic disorders. The volume of resected stomach correlates with measurements of preoperative weight, height, and body surface area, but not BMI. There is no relationship between resected gastric volume and the results of postoperative weight loss.