Bariatric Surgery Improves Insulin Sensitivity Better Than Diet

“Our study shows that in the short term, weight loss by diet alone does not achieve the same improvements in diabetes as gastric bypass surgery,” said the author, Judith Korner, MD, PhD, assistant professor of medicine at Columbia University College of Physicians and Surgeons. Korner and her colleagues found that gastric bypass surgery better improved insulin sensitivity – the body's ability to successfully clear glucose sugar from the bloodstream into the cells.

Insulin sensitivity is impaired in people with Type 2 diabetes, and obesity adds to this problem. The study compared the effects on diabetic adults of a low-calorie diet versus Roux-en-Y gastric bypass. After gastric bypass, many diabetic patients achieve normal blood glucose control or vastly improved control, and some may no longer require diabetes medications.

In the study, seven obese patients with Type 2 diabetes received a daily 800-calorie liquid diet and no surgery, while seven other obese diabetic adults underwent gastric bypass surgery. The study ended when both groups lost the same amount of weight – an average of eight percent of body weight. However, the surgery-treated patients lost the weight faster, in about 3.5 weeks compared with eight weeks for the dieters.

Surgical patients were able to discontinue all of their diabetes medications by the study's end, but the dieters reduced their medication use by 55 percent, Korner reported. The researchers found significant improvements in the surgery group in measures of insulin sensitivity and function of beta cells. Improvements in insulin sensitivity in the low-calorie diet group was not statistically significant and beta cell function improved to a lesser extent.

Korner speculated that hormonal changes may be responsible for the improvements resulting from Roux-en-Y surgery in individuals with Type 2 diabetes. “It will be important to understand how surgery works to produce these results so that we can develop medical therapies of equivalent efficacy,” she said.

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