Modified bariatric surgery provides remission of Type 2 diabetes

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(Medical Xpress) -- Type 2 diabetes often reverses after modified weight loss surgery, especially when the duration of diabetes is less than 10 years, a new study finds. The results will be presented Tuesday at The Endocrine Society's 94th Annual Meeting in Houston.

"Modified bariatric surgery such as sleeve gastrectomy should be considered at an earlier stage of Type 2 diabetes, rather than as a last resort," said the senior investigator, Kirtikumar Modi, MD, an endocrinologist at Medwin Hospital, Hyderabad, India.

Sleeve gastrectomy is a less radical form of restrictive weight loss surgery than gastric bypass, the most common type of bariatric surgery. It reduces the size of the stomach using laparoscopic ("keyhole") surgery and stomach stapling. Recent research shows that the procedure can resolve or greatly improve Type 2 diabetes in obese patients and even in some diabetic patients who are not obese.

Initially, Modi and co-workers studied 43 patients with Type 2 diabetes who had sleeve gastrectomy with ileal interposition, in which the ileum, a part of the small intestine, is moved closer to the stomach. All patients had poorly controlled diabetes, with an average disease duration of 10 years. On average, their body mass index (BMI) was 33 kg/m2.

After sleeve gastrectomy, 20 (47 percent) of the patients no longer had diabetes, at an average follow-up of 20 months, the authors reported. Remission of diabetes was defined as having a hemoglobin A1c level (a

measure of blood sugar control over the past three months) below 6.5 percent and no longer needing insulin or oral hypoglycemic agents (blood sugar-lowering medications). The other 23 patients in this group all needed fewer or smaller doses of oral diabetes medications, Modi said. Of the 30 patients who had high blood pressure before surgery, 27 (90 percent) no longer had hypertension after the operation, according to the study abstract.

Patients who had better improvement in diabetes remission and other metabolic abnormalities were those who had diabetes less than 10 years and a BMI above 27, the researchers found. When they excluded nonobese patients from analysis, the diabetes remission rate increased to 85 percent, similar to that reported with gastric bypass surgery, Modi said.

Based on these predictors of good outcomes, the researchers assigned 17 additional patients with Type 2 diabetes to undergo a different modification of bariatric surgery, called diverted sleeve gastrectomy. This laparoscopic procedure diverts food away from parts of the small intestine, including the duodenum, where absorption of nutrients begins. The patients received this procedure because, compared with the original group, they had a longer duration of diabetes—15 years on average—and a lower BMI (29 kg/m2), which predicted worse outcomes with sleeve gastrectomy, Modi explained.

An average of nine months after diverted sleeve gastrectomy, 12 patients, or more than 70 percent, had remission of diabetes. The investigators reported that the remaining five patients had decreased requirements for oral hypoglycemic medications. Seven of the eight patients (nearly 88 percent) who had high blood pressure before surgery no longer did postoperatively.

"Modified bariatric surgery promises to be an effective treatment for

achieving a cure of Type 2 diabetes and other metabolic abnormalities like high blood pressure," Modi said.

Provided by The Endocrine Society