Medical Xpress

Study shows metabolic surgery associated with lower risk of death and heart complications

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A large Cleveland Clinic study shows that weight-loss surgery performed in patients with type 2 diabetes and obesity is associated with a lower

risk of death and major adverse cardiovascular events than usual medical care. These patients also lost more weight, had better diabetes control, and used fewer medications for treatment of their diabetes and cardiovascular disease than those undergoing usual medical care.

The observational study looked at nearly 2,300 patients who underwent metabolic surgery and 11,500 matched patients with similar characteristics who received usual medical care. Patients underwent one of four types of weight-loss surgery (also known as metabolic surgery): gastric bypass, sleeve gastrectomy, adjustable gastric banding, or duodenal switch.

The results were presented as a late-breaking study today at the European Society of Cardiology Congress and simultaneously published in the *Journal of the American Medical Association* (*JAMA*).

The primary endpoint of the study was the occurrence of death or one of five major complications associated with obesity and diabetes: coronary artery events, cerebrovascular events, heart failure, atrial fibrillation, and kidney disease. Over an eight-year period, patients undergoing metabolic surgery were 40 percent less likely to experience one of these events than those receiving usual medical care. Patients in the surgical group were 41 percent less likely to die from any cause.

"The striking results that we saw after metabolic surgery may be related to the patients' substantial and sustained weight loss," said Ali Aminian, M.D., a bariatric surgeon at Cleveland Clinic and lead author of the study. "However, there is a growing body of evidence to suggest that there are beneficial metabolic and hormonal changes after these surgical procedures that are independent of weight loss."

Patients who had metabolic surgery had an average of 15 percent greater weight loss and lower blood sugar levels. They used less diabetes

medications, including insulin, and less heart medications such as blood pressure and cholesterol therapies compared with the non-surgery group.

"Cardiovascular complications from obesity and diabetes can be devastating. Now that we've seen these remarkable results, a well-designed randomized controlled trial is needed to definitively determine whether metabolic surgery can reduce the incidence of major heart problems in patients with type 2 diabetes and obesity," said Steven Nissen, M.D., Chief Academic Officer of the Heart & Vascular Institute at Cleveland Clinic and the study's senior author.

Nearly 40 percent of Americans have obesity which is linked to type 2 diabetes, heart disease, and stroke. Adults with diabetes are two to four times more likely to die from heart disease than those without diabetes.

More information: Ali Aminian et al, Association of Metabolic Surgery With Major Adverse Cardiovascular Outcomes in Patients With Type 2 Diabetes and Obesity, *JAMA* (2019). DOI: 10.1001/jama.2019.14231

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