

Health improvements after gastric-bypass surgery start well before dramatic weight loss begins

April 7 2016, by Stacy Brooks

The health benefits of Roux-en Y gastric bypass surgery—a surgical weight-loss procedure in which the stomach is made smaller—start soon after the procedure. New research presented today at the Experimental Biology 2016 meeting in San Diego found that patients who underwent the procedure already showed some reductions in weight, waist circumference and body mass index one week after the procedure. In addition, the patients had lower low-density lipoprotein (bad cholesterol) levels and showed indications that their blood pressure and oxygen demand by the heart—how hard the heart is working—were decreasing toward normal ranges. These data suggest that fat and blood sugar control and cardiovascular health start improving in the early stages of recovery before dramatic weight loss occurs.

Gastric bypass surgery can be an option for very obese individuals who have not been able to lose [weight](#) through diet and exercise. It can also be recommended for [obese individuals](#) with serious medical conditions that may improve with weight loss. Significant reductions in weight are the most visible result of the surgery, but the study findings suggest that patients also receive more immediate positive outcomes. "The data suggest that vascular changes are happening in the early stages of recovery, prior to dramatic weight loss, thus suggesting vascular modifications are a result of an alternate surgical benefit," the research team wrote.

Kristin Grogg, graduate student at West Virginia University's Center for Cardiovascular and Respiratory Sciences, will present "Early Improvements in Blood Lipid Profile and Vascular Alterations after Gastric Bypass Surgery Prior to Dramatic Weight Loss" as part of the poster session "Obesity and Satiety" Wednesday, April 6, from 12:30 to 2:15 p.m. PDT in Sails Pavilion of the San Diego Convention Center.

Full Abstract

With 6.6% of adults in the U.S. classified as morbidly obese, excess bodyweight is now the sixth most significant risk factor contributing to the overall burden of disease, emerging as one of the most serious public health concerns in the 21st century. Bariatric surgery has been shown to eliminate comorbid conditions associated with obesity. The aim of this study is to evaluate the effect of weight reduction following laparoscopic Rouxen Y gastric bypass (RYGB) on remodeling and improvements in arterial function, in addition to immediate reversal of metabolic deviations as weight is lost.

Patients that meet protocol inclusion criteria are invited to join the study during their one week preoperative clinical appointment. At this time, patients are consented and instructed to lie supine for 10 minutes of quiet relaxation. Patients then begin a sequence of noninvasive examinations, starting with a 12lead electrocardiogram, followed by an echocardiogram, carotid artery ultrasound, radial applanation tonometry and endothelial function analysis using EndoPAT technology. Upon completion of the noninvasive procedures a fasting blood sample is taken for analysis.

Preliminary findings show that RYGB results in significant body weight reduction (pre: 131.8 ± 5.6 to post: 125 ± 5.2 kg) in morbidly obese subjects, along with reductions in BMI (pre: 45.2 ± 2.3 to post: 42.9 ± 2.2) and waist circumference (pre: 122.1 ± 5.0 to post: 111.9 ± 3.2 cm) at the

oneweek time point. Decrease in body size and weight was aided by a reduction in lowdensity lipoprotein (pre: 127 ± 6.2 to post: 113 ± 4.5 mg/dL), as well as suggested decreases in glucose levels. Such changes can be associated with an improvement of the lipid and glucose metabolism. However, these results appear before subjects have lost a substantial amount of weight (one week postoperative), suggesting that noteworthy cardiovascular improvements postRYGB are achieved prior to the hypothesized weightrelated change. In addition, a number of improvements to the cardiovascular system were also marked at the oneweek time point. Estimated left ventricular end systolic pressure and direct measure of left ventricular end systolic volume (pre: 66 ± 4 to post: 55 ± 3 mmHg) declined postGBS with an array of additional markers supporting alterations in central systolic blood pressure and myocardial oxygen demand. The data suggest that vascular changes are happening in the early stages of recovery, prior to dramatic [weight loss](#), thus suggesting vascular modifications are a result of an alternate surgical benefit.

Provided by American Physiological Society

Citation: Health improvements after gastric-bypass surgery start well before dramatic weight loss begins (2016, April 7) retrieved 11 May 2024 from <https://medicalxpress.com/news/2016-04-health-gastric-bypass-surgery-weight-loss.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--