

# Embolization procedure lowers levels of 'hunger hormone,' leads to weight loss

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Suppressing a hunger-stimulating hormone with a minimally invasive procedure was safe in humans and led to significant weight loss for at least six months in a small preliminary study being presented at the American College of Cardiology's 62nd Annual Scientific Session.

More than two-thirds of American adults are overweight or obese, conditions that total more than \$147 billion in medical costs each year. Excess weight also increases the risk for other conditions, such as [high blood pressure](#), [high cholesterol](#) and type 2 diabetes.

"[Weight loss](#) is a major problem," said Nicholas Kipshidze, MD, PhD, who is with New York Cardiovascular Research, general director and physician in chief at Republican Hospital, Tbilisi, Georgia, and the study's lead investigator. "There are medications, but they have side effects. Bariatric surgery is well established, but it's a major surgery. This procedure may develop into a new, simple method for the treatment of obesity."

The procedure, called gastric artery chemical embolization (GACE), uses a catheter to introduce [tiny beads](#) into the left gastric artery. The beads cut off part of the blood supply to the upper part of the stomach, called the gastric fundus. This area of the stomach produces most of the body's supply of ghrelin, the hormone known to stimulate appetite.

This small study is the first in humans to use GACE for weight loss. Gastric [artery embolization](#) has been used for decades for other

purposes, including treating hemorrhage in the upper gastrointestinal tract and reducing the side effects of chemotherapy for advanced [liver cancer](#). Animal studies of GACE for [obesity treatment](#) have found that it leads to weight loss and decreased ghrelin levels in the blood.

"It's a one day surgery," Dr. Kipshidze said. "You can do the procedure on patients in the morning and send them home in the evening."

The study included just five people. All were obese; the average [body mass index](#) (BMI) was 42.3 kg/m<sup>2</sup>, with a range of 33.9 kg/m<sup>2</sup> to 52.8 kg/m<sup>2</sup>. Researchers used an endoscope to examine each person's esophagus and stomach before and after the procedure, as well as one week later. No ulcers or other complications occurred. Three people had discomfort during the first few hours after the procedure, but the endoscopy did not show blockages or other complications.

One month after GACE, the average BMI dropped to 37.9 kg/m<sup>2</sup>, with an average weight loss of 29.2 pounds. After three months, the average BMI was 36.7 kg/m<sup>2</sup> and the average total weight loss was 37 pounds. At six months, the average BMI was 35.3 kg/m<sup>2</sup> and average total weight loss was 45.1 pounds.

Blood ghrelin levels also dropped. At one month, levels had fallen 29 percent from baseline (p

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