

# Study shows drug slows stomach emptying, may individualize obesity treatment

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Credit: Mayo Clinic

Liraglutide injection, a prescription medication used to treat type-2 diabetes and obesity is associated with marked slowing of stomach emptying and is an effective weight loss therapy. These are the findings

of a randomized, double-blind, placebo-controlled study by Mayo Clinic researchers published today in *The Lancet Gastroenterology & Hepatology*.

"Our paper shows that Liraglutide, administered for three months at the approved dose of three milligrams per day was associated with an average [weight loss](#) of 12 lbs. compared to an average 6.6 lbs.-[weight loss](#) for patients receiving a placebo," says senior author Michael Camilleri, M.D., a gastroenterologist at Mayo Clinic. Importantly, Dr. Camilleri says the drug was added to standardized diet and behavioral health support which was also provided to the placebo-treated group.

"Liraglutide appears to be very effective in inducing weight loss over three months of treatment," says Dr. Camilleri. "We also found that Liraglutide dramatically slowed stomach emptying and the degree of stomach emptying delay in study participants was significantly associated with the degree of weight loss." Stomach emptying is the process by which the stomach empties its contents into the small intestine for further digestion and nutrient absorption.

Dr. Camilleri says measurement of stomach emptying after one to two months of treatment with Liraglutide treatment is likely to be a useful predictor of weight loss. "In clinical practice, measurement of stomach emptying at five weeks may serve as a biomarker to determine which patients should continue on the treatment and which patients might be better candidates for other weight loss treatments," Dr. Camilleri says.

"Our findings are one example of the opportunity to individualize treatment based on the unique response of the patient," says Dr. Camilleri. "Medications are often prescribed in patients with obesity for at least six months. Making this determination after the first one to two months has the potential to determine whether to continue the treatment or to stop relatively expensive treatment and move on to alternative

approved therapy in accordance with guidelines. These alternatives could include prescription of other medications, endoscopic devices or bariatric surgery."

Dr. Camilleri notes that in an accompanying editorial in the journal entitled, "The stomach and obesity: the missing link, at last?," professor Vincenzo Stanghellini from University of Bologna School of Medicine discusses the strengths of this study, including the rigorous measurement of gastric emptying which, in contrast to prior research, was able to document the slowing of stomach emptying.

Professor Stanghellini goes on to explain the clinical relevance of this finding since measurement of gastric function after approximately one month of treatment could help to identify patients who would likely respond in the long term to Liraglutide with significant weight loss, thus avoiding ineffective and expensive treatments in non-responders". Finally, Professor Stanghellini comments that there are effective medical alternatives to surgery that physicians can offer to patients with obesity.

For this study researchers randomized 40 otherwise healthy adults with a body mass index greater or equal to than 30kg/m<sup>2</sup> between December 2015 and September 2016. Researchers administered to equal numbers of [patients](#) either placebo or Liraglutide by 0.6mg per day each week for five weeks and continued until week 16. At baseline, and after 16 weeks' [treatment](#), researchers measured body weight, [stomach](#) emptying of solids, gastric volumes, satiation [the maximum tolerated volume of a liquid nutrient drink], and satiety. Stomach emptying was also measured at five weeks.

Provided by Mayo Clinic

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