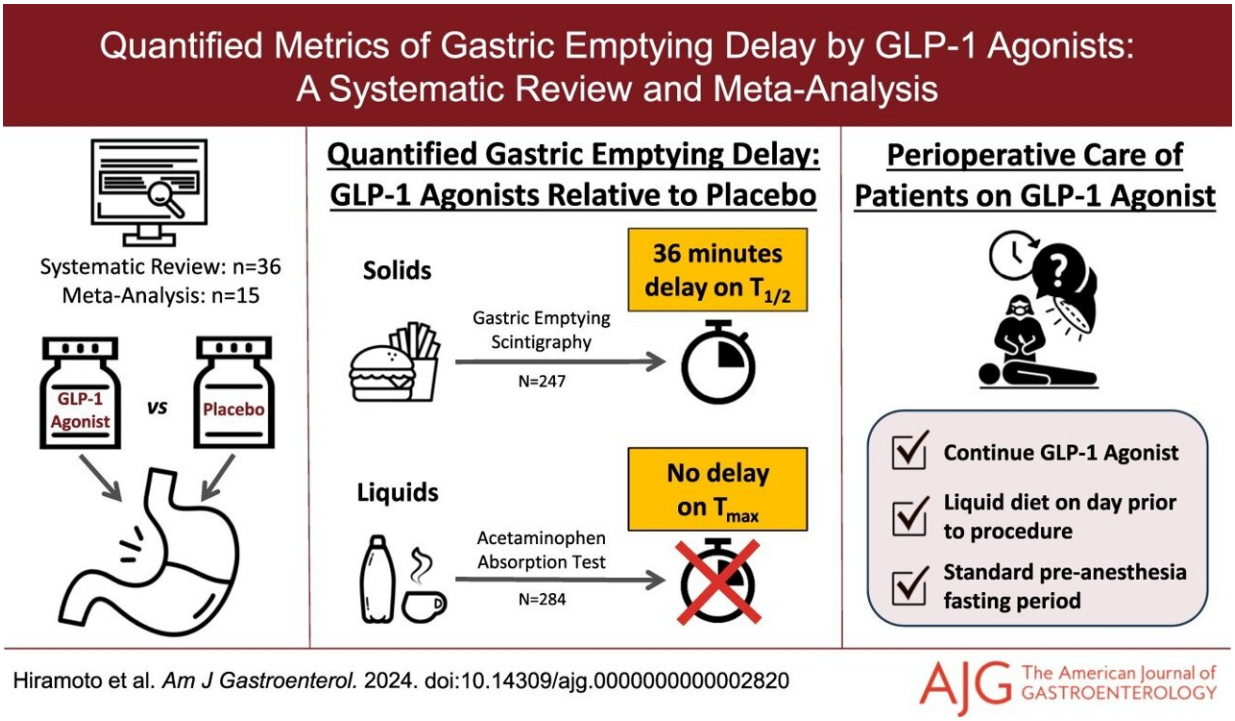
Researchers find GLP-1 medications safe to continue before surgery in patients with diabetes and obesity

June 4 2024



Credit: *American Journal of Gastroenterology* (2024). DOI: 10.14309/ajg.0000000000002820

In a meta-analysis and review of 15 randomized studies, Brigham researchers found only mild differences in gastric emptying among patients taking common medications for type 2 diabetes and weight loss.

As more patients begin taking medications to help manage blood sugar levels and weight loss, concerns about whether these medications are safe to take prior to anesthesia or sedation have emerged. Investigators from Brigham and Women's Hospital, a founding member of the Mass General Brigham health care system, looked at results from 15 randomized control trials of patients taking glucagon-like peptide-1 (GLP-1) receptor agonist medications to manage obesity and diabetes and found that the medications had a gastric emptying delay of only about 36 minutes for solid foods.

Their findings suggest that patients may be able to continue taking the medications prior to their surgeries without a high risk of aspiration. Their results are published in the *American Journal of Gastroenterology.*

"While GLP-1 medications affect gastrointestinal tract motility, their quantified impact may not be as significant as previously assumed. It appears safe to continue these medications before a procedure requiring anesthesia or sedation, with minor precautions like abstaining from solid food for a day to minimize any potential risk of aspiration," said corresponding author Walter Chan, MD, MPH, director of the Center of Gastrointestinal Motility and a physician in the Brigham's Division of Gastroenterology, Hepatology and Endoscopy.

Recent studies suggest that taking GLP-1 medications is associated with slower digestion with a larger amount of food remaining in the stomach. This raises concerns about the risk of patients taking GLP-1 medications choking while under anesthesia during surgery.

But current guidelines are conflicting. The American Society of Anesthesiologists (ASA) recommends that patients refrain from taking GLP-1 medications for up to a week before elective surgeries and procedures. They also advise considering procedure delay if gastrointestinal symptoms persist or medication use is ongoing.

Conversely, the American Gastroenterological Association (AGA) suggests proceeding with planned procedures for patients adhering to standard pre-procedure precautions. Given the conflicting guidelines and lack of conclusive data surrounding perioperative care for patients using GLP-1 medications, the research team conducted a systematic review and meta-analysis of placebo-controlled studies, quantitatively assessing gastric emptying in adults treated for diabetes or excess body weight with GLP-1 medications, with the objective of providing insights relevant for guiding periprocedural management decisions.

Their analysis encompassed 15 unique randomized controlled trials, involving a total of 652 patients. Various methods were employed to measure gastric emptying in studies that included patients taking different GLP-1 medications, including both long-acting and short-acting formulations.

Researchers found that the difference in the time it took for half of ingested food to move from the stomach to the small intestine was just 36 minutes longer for patients taking GLP-1 medications, a relatively small amount of time compared to the standard periprocedural fasting period of 8 hours.

Additionally, there were no substantial differences observed in the gastric emptying time of liquids, and no significant variation between the gastric emptying times associated with long-acting and short-acting GLP-1 medications. Notably, none of the participants in any of the studies analyzed by the team experienced pulmonary aspiration attributable to emptying delay during their procedures.

Due to the limited number of eligible studies, researchers were unable to stratify their analysis by indication of GLP-1 medications or to conduct further examination of studies utilizing certain diagnostic modalities such as breath testing. However, the results hold promise for informing

future research and guidelines concerning perioperative care for patients using GLP-1 medication.

"Based on our study, we recommend that guidelines be updated with the following precautions for GLP-1 RA users undergoing endoscopic procedures: continue therapy, follow a liquid-only diet the day prior, and adhere to standard pre-anesthesia fasting," said lead author Brent Hiramoto, MD, senior gastroenterology Fellow at Brigham and Women's Hospital.

"Until more data on solid diets is available, a conservative approach with a liquid diet while continuing therapy is advisable."

More information: Brent Hiramoto et al, Quantified Metrics of Gastric Emptying Delay by Glucagon-Like Peptide-1 Agonists: A Systematic Review and Meta-Analysis With Insights for Periprocedural Management, *American Journal of Gastroenterology* (2024). DOI: 10.14309/ajg.0000000000002820

Provided by Brigham and Women's Hospital