

# The Medical Letter<sup>®</sup>

## on Drugs and Therapeutics

Volume 66

December 23, 2024

ISSUE No.  
**1718**

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### IN BRIEF

## New FDA Warning of Pulmonary Aspiration with GLP-1 Receptor Agonists

The package inserts of the GLP-1 receptor agonists dulaglutide (*Trulicity*), exenatide (*Byetta*, *Bydureon BCise*), liraglutide (*Saxenda*, *Victoza*), and semaglutide (*Ozempic*, *Rybelsus*, *Wegovy*) and the dual glucose-dependent insulinotropic polypeptide (GIP)/GLP-1 receptor agonist tirzepatide (*Mounjaro*, *Zepbound*) have been updated to include rare postmarketing reports of pulmonary aspiration associated with their use in patients undergoing elective procedures requiring general anesthesia or deep sedation who had residual gastric contents despite preoperative fasting.

**MECHANISM** — GLP-1 receptor agonists and tirzepatide delay gastric emptying and commonly cause nausea, vomiting, and abdominal distension, but these adverse effects generally decrease with long-term use. Delayed gastric emptying can increase the risk of regurgitation and aspiration of gastric contents during general anesthesia or deep sedation.

**PULMONARY ASPIRATION** — Several case reports of pulmonary aspiration of gastric contents in patients on GLP-1 receptor agonists undergoing general anesthesia or procedural sedation despite preoperative fasting have been published.<sup>1</sup> Randomized, controlled trials evaluating the risk of pulmonary aspiration with these drugs are lacking.

**SOCIETY RECOMMENDATIONS** — In 2023, due to concerns about the risk of regurgitation and aspiration of stomach contents during general anesthesia, the American Society of Anesthesiologists recommended withholding GLP-1 receptor agonists on the day of elective surgery for those that are administered daily, or for one week prior to the procedure for those administered once weekly.<sup>2</sup> Some endocrinologists

were concerned that stopping treatment could result in hyperglycemia and an increased risk of postsurgical complications, including infection.

New 2024 joint guidance from the American Society of Anesthesiologists, American Gastroenterological Association, American Society for Metabolic and Bariatric Surgery, International Society of Perioperative Care of Patients with Obesity, and Society of American Gastrointestinal and Endoscopic Surgeons states that most patients can continue taking their GLP-1 receptor agonist or tirzepatide prior to elective procedures.

When there is a concern about delayed gastric emptying, patients should consume a liquid-only diet for at least 24 hours before the procedure. Point-of-care gastric ultrasound can be used on the day of the procedure for confirmation. If concern about retained gastric contents remains, rapid sequence induction of general anesthesia for tracheal intubation may be considered.<sup>3</sup>

**CONCLUSION** — GLP-1 receptor agonists and tirzepatide can delay gastric emptying and may increase the risk of regurgitation and pulmonary aspiration of gastric contents in patients receiving general anesthesia or procedural sedation. New joint society recommendations state that most patients can continue taking these drugs during the perioperative period. ■

1. W Alkabbani et al. Glucagon-like peptide-1 receptor agonists before upper gastrointestinal endoscopy and risk of pulmonary aspiration or discontinuation of procedure: cohort study. *BMJ* 2024; 387:e080340.
2. GP Joshi et al. American Society of Anesthesiologists consensus-based guidance on preoperative management of patients (adults and children) on glucagon-like peptide-1 (GLP-1) receptor agonists. June 29, 2023. Available at: <https://bit.ly/4fqnid3>. Accessed December 5, 2024.
3. TL Kindel et al. Multisociety clinical practice guidance for the safe use of glucagon-like peptide-1 receptor agonists in the perioperative period. *Surg Obes Relat Dis* 2024; 20:1183.

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