



CANADIAN ANESTHESIOLOGISTS' SOCIETY
Société canadienne des anesthésiologistes

CAS Medication Safety Bulletin
June 2023

Dear CAS Members,

Semaglutide, a glucagon-like peptide-1 (GLP-1) agonist, has been used for several years as an adjunct for the management of Type 2 diabetes mellitus. In April 2023, semaglutide was approved in Canada for use as a weight management strategy in adults with obesity. For this new indication, the dosing tends to be higher and can result in delayed gastric emptying.¹ In the perioperative setting, this has led to concerns that the typical recommended *nil per os* (NPO) periods may be insufficient to ensure gastric emptying.

In March 2023, the *Canadian Journal of Anesthesia* published a case report describing an intraoperative pulmonary aspiration event during an elective surgical procedure in a patient taking semaglutide for weight loss.² There have been similar reports in surgery and endoscopy that have been shared anecdotally in both Canada and the U.S., finding that patients are presenting for elective procedures with full stomachs despite lengthy (> 12 hrs) periods of fasting. Most recently, a Brazilian/Canadian retrospective study in endoscopy confirmed that semaglutide resulted in increased fasting residual gastric volumes.³

At this point, there are more questions than answers with regards to how anesthesiologists can best reduce the aspiration risk in individuals taking semaglutide. Its seven-day half-life would likely necessitate a prolonged period (i.e., weeks) of medication cessation to clear its effects. For patients who have not stopped the medication for an extended period of time, the required safe fasting period is also not known. This issue will need to be studied in order to generate evidence-based guidelines on the perioperative management of semaglutide.

In the meantime, we urge anesthesiologists to specifically inquire about semaglutide and other GLP-1 agonists when conducting a preoperative assessment. It would be prudent to consider patients taking this medication (particularly at higher weight-loss doses) as potentially having a full stomach despite typical fasting periods. If a prolonged holding of the medication is not feasible, a variety of aspiration risk reduction strategies should be considered, depending on the individual circumstances, such as:

- case postponement/cancellation
- an extended NPO period
- a clear fluid diet for some period of time prior to the NPO period
- avoidance of deep sedation/GA, if possible

- use of a rapid sequence induction if GA is required

The use of ultrasound for inspection of residual gastric contents/volume may potentially be helpful to guide decision-making in these circumstances. The CAS will continue to monitor this situation and provide updates as they become available. In the meantime, we strongly encourage you to share this concern with colleagues in anesthesiology, surgery, and any other proceduralists who may be impacted. We would also request that any incidents of aspiration, or visualization of full stomach despite an adequate fasting period (as seen on endoscopy or ultrasound) be reported through standard incident reporting systems (e.g. [ISMP Canada](#) or hospital-based systems, which will be forwarded to Health Canada as a result of [Vanessa's Law](#)), in order to gather data for better understanding of the risks, and for future discussion.

References

1. <https://www.novonordisk.ca/content/dam/Canada/AFFILIATE/www-novonordisk-ca/OurProducts/PDF/ozempic-product-monograph.pdf>
2. Klein, S.R., Hobai, I.A. Semaglutide, delayed gastric emptying, and intraoperative pulmonary aspiration: a case report. *Can J Anesth/J Can Anesth* (2023). <https://doi.org/10.1007/s12630-023-02440-3>
3. Silveira, S.Q., Da Silva, L.M. et al. Relationship between perioperative semaglutide use and residual gastric content: A retrospective analysis of patients undergoing elective upper endoscopy. *Journal of clinical anesthesia* (2023). <https://doi.org/10.1016/j.jclinane.2023.111091>