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The new era of aspiration risk: The dilemma of GLP-1 receptor agonists

There is a new wave of aspiration risk heading towards our operating theatres in the coming years. The popular weight loss drugs, glucagon-like peptide (GLP-1) receptor agonists, are providing us with new dilemmas in fasting guidelines and airway management. What does the anaesthetic team need to know?

What are GLP-1 receptor agonists?

The GLP-1 receptor is expressed in the brain, pancreas, heart, liver and gastrointestinal tract. Stimulation of this receptor results in improved glycaemic control, improved cardiovascular risk and weight loss¹. One component of this mechanism of action is delayed gastric emptying, reduced hunger and, therefore, reduced food intake. As of November 2023, Ozempic (semaglutide) is only approved in Australia for glycaemic control in adults with type 2 diabetes mellitus. The Therapeutic Goods Administration (TGA) understands that it is widely prescribed off-label for weight loss².

The newer, oral semaglutide formulation, Wegovy, is not yet available in Australia². The drug has been flagged as a 'breakthrough' in obesity management³, and the semaglutide era is only just beginning. In the next five years, as the Ozempic shortage resolves and newer agents gain approval, we are looking at an increased proportion of our patients arriving on the day of surgery at high risk of aspiration.

How does this affect the anaesthetic team?

Of the airway-related deaths reported in Fourth National Audit Project⁴, 50 per cent were a result

of aspiration – more deaths than were caused by 'can't intubate, can't oxygenate' scenarios⁵. Intra-operative aspiration remains an exceptionally dangerous but well-managed risk in modern anaesthesia⁶. That said, we cannot take this excellent track record for granted.

The current fasting guidelines for adults from the Australian and New Zealand College of Anaesthetists (ANZCA)⁷ recommend that 'limited solid food may be taken up to six hours prior to anaesthesia and clear fluids may be taken up to two hours prior'. Numerous case reports are revealing that patients taking GLP-1 receptor agonists are arriving for elective surgery with a full stomach, sometimes after fasting as long as 18 hours^{1,8}. In elective cases where a laryngeal mask or unprotected airway (such as colonoscopy) would normally be selected, a hidden risk with a potentially fatal outcome exists.

What do the guidelines say?

The 2022 Perioperative Diabetes and Hyperglycaemia Guidelines (Adults), jointly produced by the Australian Diabetes Society (ADS) and ANZCA, suggest withholding GLP-1 receptor agonists on the day of surgery⁹. These guidelines are primarily focused on glycaemic control, and do not make a distinction between

daily and weekly dosed regimens. It remains a low-evidence zone with a wide range of opinions.

The American Society of Anaesthesiologists (ASA) released a consensus-based guideline¹⁰ in June 2023, which states the following for elective surgery.

- For patients on weekly dosing, withhold drug for one week prior to surgery.
- For patients on daily dosing, withhold drug for one day prior to surgery.
- This guidance is regardless of the indication for GLP-1 receptor agonists.
- If patients have not withheld, consider delaying treatment, treating as “full stomach” or performing gastric ultrasound.
- If patient presents with nausea, bloating or vomiting, consider delaying surgery and discuss the risk of aspiration with the patient and surgeon.

The guidelines acknowledge that there is limited evidence for gastric ultrasound, and there is insufficient evidence to depart from the current ASA fasting guidelines¹⁰. There is some evidence demonstrating that the highest risk period for delayed gastric emptying is during the first four weeks of treatment or in patients using the drug intermittently¹¹.

Where to from here?

Here lies the challenge. It only takes one undetected full stomach to cause a perioperative death, and our tolerance of aspiration risk must remain near-zero. The rapid adoption of GLP-1 receptor agonists is only in its infancy, and the anaesthetic team must remain vigilant. Planning for safe airway management is a team responsibility that includes

pre-operative assessment staff, the surgeon, the anaesthetic nurse, the anaesthetist and the patient.

Until we have clear, evidence-based guidelines, the approach should remain conservative. It is important that we provide education to all perioperative staff about the names and implications of GLP-1 receptor agonists. Ideally, education should start with the patient at the time of prescribing. Where feasible, patients should be screened at least one week prior to surgery to allow sufficient time for cessation. For now, we should have a very low threshold for intubation and rapid sequence induction in patients taking GLP-1 receptor agonists.

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