Australian Society of Anaesthetists®

Perioperative Management of Patients on GLP-1 Receptor Agonists (GLP-1 RAs)

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Objective

To provide guidance to clinicians, based on the available literature, for the perioperative management of patients on glucagon-like peptide-1 receptor agonists (GLP-1 RA).

Background

- GLP-1 RAs are widely used in Australia for diabetes management and are increasingly utilised for managing cardiovascular risks and obesity.[1–6]
- Commonly prescribed GLP-1 RAs include Semaglutide, Dulaglutide, Liraglutide, and Exenatide.[7,8]
- These agents can significantly delay gastric emptying and have the potential to increase the risk of pulmonary aspiration under anaesthesia and sedation.[9–14]

Risk Stratification

- Risk stratification is challenging and should be tailored to the patient based on indication for use, pharmacokinetic properties of the specific agent, the associated risk of interrupting therapy, patient factors, as well as surgical factors.
- Common side effects include nausea, vomiting. More serious gastrointestinal complications like pancreatitis and bowel obstruction may also occur. [15–18]

Pharmacological Insights

- GLP-1 RAs enhance glucose-dependent insulin release and reduce glucagon secretion.
- They have extended half-lives compared to native GLP-1 due to resistance to enzymatic degradation.[19,20]

Table 1 GLP-1 agonists currently available in Australia: approved use and elimination half-life.

Generic name	Brand name	Approved use in Australia	Elimination half-life[21]
Semaglutide once weekly	Ozempic	Diabetes	5.7 – 6.7 days
Dulaglutide once weekly	Trulicity	Diabetes	4.7 – 5.5 days
Liraglutide* daily	Saxenda	Diabetes, weight loss	12.6 – 14.3 hours

*Liraglutide is not available on the Pharmaceutical Benefits Scheme

Preoperative Considerations

- For diabetic patients undergoing elective surgery consider continuing treatment to avoid glycaemic exacerbation.[14,21–24]
- In non-diabetics consider a cessation period appropriate to the half-life of the agent. Other authors have suggested discontinuation for at least three half-lives prior to a planned procedure in this population.[25,26]
- Switching to shorter-acting GLP-1 RAs can reduce the cessation period but may increase gastrointestinal side effects.[14,18,27–29]
- In cases of considerable gastrointestinal symptoms, consider delaying elective surgery. Otherwise, manage as unfasted, noting that the decision to perform rapid sequence induction or to avoid the use of a supraglottic airway device should be carefully considered, as it carries risks such as the requirement for neuromuscular blockade, which may increase the incidence of postoperative complications.[30]
- If significant gastrointestinal symptoms are present, pathologies associated with GLP-1 receptor agonists—such as pancreatitis, gastroparesis, and bowel obstruction—should be included in the differential diagnosis.[16]
- Consider the use of gastric ultrasound for risk stratification.[31–33]
- Consider an extended fasting period (e.g. 24 hours), a clear fluid regimen or a residue free diet in the period before surgery particularly for patients unable to cease GLP-1 RA treatment timely.[34–36]
- Consider the preoperative use of prokinetics such as erythromycin. However, prokinetics may reduce the glucose-lowering effects of GLP-1 RAs by counteracting the slowing of gastric emptying.[37]

Conclusion

- The perioperative management of patients on GLP-1 RAs requires a tailored approach that balances the benefits and risks of continued therapy against the procedural risks. The approach should be based on patient-specific factors and adaptable.

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