

# ASA Consensus-based Guidance on Preoperative Management of Patients on Glucagon-like Peptide-1 Receptor Agonists

To the Editor:

Glucagon-like polypeptide-1 (GLP-1) agonists are being increasingly used for their effectiveness in enhancing glycemic control in type 2 diabetes mellitus as well as weight loss in obesity. Their potential for gastroparesis, retained gastric contents, perioperative regurgitation, and pulmonary aspiration syndrome is a very real concern for anesthesiologists.<sup>1</sup> The guidance recently published in the American Society of Anesthesiologists (ASA) *Newsroom*<sup>2</sup> provides timely recommendations for the preoperative management of patients taking GLP-1 agonists. However, we have concerns and questions about two of the recommendations.

The first states, “For patients on daily dosing consider holding GLP-1 agonists on the day of the procedure/surgery. For patients on weekly dosing consider holding GLP-1 agonists a week prior to the day of the procedure/surgery. If the patient has no GI symptoms, and the GLP-1 agonists have been held as advised, proceed as usual.”

Is there evidence that the risk of gastroparesis or residual gastric content is mitigated by holding daily dosage on the day of surgery or weekly dosage a week before surgery and that it is safe to “proceed as usual?”

A recent retrospective study on patients undergoing upper endoscopy demonstrated no predictability between the duration of withholding a long-acting GLP-1 agonist (semaglutide) and the incidence of finding retained gastric contents at endoscopy.<sup>3</sup> Although delayed gastric emptying appears to be most prominent in the first 12 weeks after inception and tends to subside after 20 weeks of therapy,<sup>3</sup> there is no certainty that, in any individual patient, the gastric emptying rate will normalize. It should also be noted that many patients taking these agents already have an increased risk of gastroparesis because of their diabetes and/or obesity, and may be taking other agents that promote gastroparesis, including alcohol, nicotine, marijuana, opioids, tricyclic antidepressants, etc.

It has been suggested that a return to baseline gastric function would require stopping medications for at least

five half-lives before surgery, *i.e.*, days to weeks depending on the particular medication’s half-life.<sup>4</sup>

Not only is this impractical, but continuing GLP-1 agonists until the day before or week before surgery has distinct benefits in perioperative glycemic control, and there is evidence that their use is associated with a significant decrease in postoperative major adverse cardiac events.<sup>1,5</sup>

We suggest that the ASA Guideline should emphasize that we currently do not have evidence that holding these agents a day or a week before surgery predictably ameliorates gastroparesis, and that all patients taking GLP-1 agonists should be managed with this risk in mind. Decision-making should be based on an algorithm that includes preoperative gastric ultrasound to assess for retained gastric content, and the anesthetic plan should include a procedure location appropriate to provide airway protection with rapid sequence induction and general anesthesia if indicated.

The second states “There is no evidence to suggest the optimal duration of fasting for patients on GLP-1 agonists. Therefore, until we have adequate evidence, we suggest following the current ASA fasting guidelines.” This statement cites the 2017 and updated 2023 ASA fasting guidelines.<sup>6,7</sup>

The question is, which fasting guidelines should be followed? Readers could interpret this to proceed with high-carbohydrate clear fluids until 2h before surgery in patients on the enhanced recovery after surgery pathway. However, as stated in the 2023 guideline,<sup>7</sup> the intended population is healthy individuals “[...] defined as those without coexisting diseases or conditions that may increase the risk for aspiration.” The authors go on to list numerous conditions, including reflux disease, gastroparesis, diabetes mellitus, opioid use and obesity, among others. They conclude, “Anesthesiologists should recognize that these conditions can increase the likelihood of regurgitation and pulmonary aspiration and should modify these guidelines based on their clinical judgment.”<sup>7</sup>

A number of recent case reports have described patients taking GLP-1 agonists who had substantial retained gastric contents despite several hours of fasting.<sup>3,4,8</sup> It has also been observed that patients undergoing upper endoscopy plus colonoscopy had a decreased risk of retained gastric contents, suggesting that the bowel preparation regimen, which includes a residual-free and liquid diet the day before the examination, may be protective.<sup>3</sup>

We suggest that the ASA Guideline specify that “We currently do not have evidence to suggest the optimal duration of fasting for patients on GLP-1 agonists. Anesthesiologists should recognize that these medications can increase the likelihood of retained gastric contents and the risk of regurgitation and pulmonary aspiration, and should modify the ASA fasting guidelines based on their clinical judgment.”<sup>7</sup>

Prospective observational and interventional studies are needed to fully evaluate the impact of perioperative

management on outcome in patients taking GLP-1 agonists. It would also be helpful to develop guidelines as to when to restart these medications after surgery. In the meantime, regardless of symptoms and the duration of medication holding, it would seem prudent to manage all patients who are taking GLP-1 agonists as having an increased risk of retained gastric contents and, if so, the potential for perioperative regurgitation and pulmonary aspiration syndrome.

### Competing Interests

Dr. Sladen is a consulting advisor to Scope Anesthesia of North Carolina (Charlotte, North Carolina), and a consultant to 3ive Labs (Roswell, Georgia). Dr. Ushakumari declares no competing interests.

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DOI: 10.1097/ALN.0000000000004776

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*(Accepted for publication September 12, 2023.)*