

Preoperative management of patients receiving treatment with GLP-1 analogues: Withhold or individualize?



Manejo preoperatorio de pacientes en tratamiento con análogos GLP-1: ¿suspender o individualizar?

Dear Editors,

We have read with great interest the excellent review by Barrientos-Ávalos et al.,¹ published in your journal, that emphasizes how different treatments for diabetes mellitus (DM) can cause significant gastrointestinal adverse effects. One of the effects described in more detail is the delay in gastric emptying related to glucagon-like peptide-1 receptor agonists (GLP-1RAs). Those drugs, whose prescription worldwide has exceeded all expectations, have revolutionized the treatment of DM and obesity. We would like to make a contribution to the review, regarding the risk associated with the delayed gastric emptying that poses important challenges in perioperative and endoscopic contexts.

By delaying gastric emptying, GLP-1RAs increase the likelihood of retained gastric contents, even after the standard fasting period, which could increase the risk of pulmonary aspiration in procedures that use deep sedation or general anesthesia. In this regard, a recent study analyzed more than 900,000 endoscopic procedures, finding a significant increase in the risk of aspiration pneumonia in patients being treated with GLP-1RAs, compared with patients not treated with them (HR 1.33; 95% CI 1.02–1.74; $p = 0.036$).² As a consequence of that analysis and other preliminary studies, the American Society of Anesthesiologists (ASA) recently published guideline recommendations that suggest suspending GLP-1RAs before an endoscopic or surgical procedure, to reduce the risk of aspiration (7 days for the weekly dose and 24 h for the daily oral dose).³ From our conservative point of view, this approach aims to respond to the potential risk of aspiration and its possible catastrophic consequences. However, those recommendations have not been supported among gastroenterologists. GLP-1RA suspension makes the control of diabetes and obesity difficult, may affect treatment adherence, and increases the risk of metabolic decompensation. In fact, the American Gastroenterological Association (AGA) published multisociety-endorsed recommendations that avoid making generalizations that may delay procedures without a clear rationale.⁴ In addition, several recent publications found no significant increase in the risk of aspiration in subjects in whom GLP-1RAs were not suspended, as long as a period of exclusive liquid intake longer than the conventional one was observed.⁵

The apparent lack of agreement on how to manage patients on GLP-1RAs, who require endoscopic procedures, underlines the need for prospective studies that evaluate, not only the risk of aspiration, but also the effectiveness of different management strategies. Current evidence supports a personalized approach that balances the risks associated with residual gastric content and the

consequences of withholding treatment. Until such studies become available, a position paper from the 5 most important North American societies involved in the care of patients taking GLP-1RAs is at our disposal. Its recommendations support prolonged fasting, liquid diet, gastric ultrasound, and especially, the individualization of risk, to prevent massive procedure cancellation.⁶

Ethical considerations

Because this is a Letter to the Editor that contains no patient data or research results on humans or animals, we consider no ethics committee approval or informed consent are required.

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Declaration of competing interest

The authors declare that there is no conflict of interest.

Reference

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Response to Crespo et al., regarding ‘Preoperative management of patients receiving treatment with GLP-1 analogues: Withhold or individualize?’



Respuesta a Crespo et al., «Manejo preoperatorio de pacientes en tratamiento con análogos GLP-1: ¿suspender o individualizar?»

Dear Editors,

We sincerely appreciate the valuable commentary sent by Dr. Crespo et al., regarding our article on the gastrointestinal adverse effects of antidiabetics, in particular the glucagon-like peptide-1 receptor agonists (GLP-1RAs). There is growing interest in those drugs because of their multiple mechanisms of action, including the incretin effect with increased insulin secretion by beta cells, improvement in insulin sensitivity, reduced glucagon secretion, and the decrease in food intake through induced satiety.¹ Their observations on the perioperative and endoscopic consequences of delayed gastric emptying induced by GLP-1RAs stand out for their clinical relevance, constituting an aspect that deserves particular attention in medical practice and future research.

GLP-1RAs have revolutionized the treatment of diabetes mellitus (DM) and obesity, positioning themselves as one of the most effective and utilized therapies worldwide. However, their capacity for delaying gastric emptying poses significant clinical risks, especially in procedures that require deep sedation or general anesthesia. As Crespo et al. correctly pointed out, recent studies have associated GLP-1RA use with a higher risk of aspiration pneumonia during endoscopic procedures,² with evidence on this aspect gradually increasing. In addition, a recent retrospective cohort study reaffirmed the association of GLP-1RA use with a small but significant risk of aspiration pneumonitis in diabetic patients that underwent elective upper gastrointestinal endoscopy.³

There is also contradictory evidence, such as that reported in the published study by Barlowe et al., who retrospectively analyzed 6,806,046 procedures in adult patients with DM who underwent ambulatory upper gastrointestinal endoscopy between 2005 and 2021. The main findings of their study showed that adverse pulmonary events after upper gastrointestinal endoscopy are rare, with an incidence that varied from 6 to 25 events per 10,000 procedures. Upon comparing GLP-1RAs with dipeptidyl peptidase 4 (DPP4) inhibitors, the crude relative risks were the following: aspi-

ration (0.67; 95% CI 0.25-1.75), aspiration pneumonia (0.95; 95% CI 0.40-2.29), pneumonia (1.07; 95% CI 0.62-1.86), and respiratory failure (0.75; 95% CI 0.38-1.48).⁴ Those data are similar to the results of another comparative cohort study that described no increased risk of pulmonary aspiration during upper gastrointestinal endoscopy in adults with DM who used GLP-1RAs, compared with other medications.⁵

A meta-analysis of 13 studies that included 84,065 patients found that GLP-1RA use was associated with greater retained gastric content and a higher frequency of aborted procedures during upper gastrointestinal endoscopy. However, there were no significant differences in the aspiration rates between GLP-1RA users and nonusers.⁶

The recommendation of the American Society of Anesthesiologists (ASA) to suspend GLP-1RAs before endoscopic or surgical procedures is a prudent approach, based on the available preliminary evidence.⁷ Nevertheless, as stated by Crespo et al., that recommendation has been controversial in gastroenterologic clinical practice. The American Gastroenterological Association (AGA) has emphasized the need to avoid making generalizations that may compromise patient care, based on the current evidence.⁸

We agree with the comments by Crespo et al. and we consider it especially relevant to highlight the fact that recent studies have proposed alternative strategies, such as carrying out prolonged fasting and liquid diet before the procedure to minimize residual gastric content, without the need to suspend GLP-1RAs.⁹ On the other hand, in the case of a GLP-1RA treatment suspension strategy, according to current recommendations, perioperative glucose management involves the evaluation of glucose control before surgery, adequate preoperative management of glucose-lowering therapies, and repeated blood glucose monitoring on the day of surgery. In such a scenario, novel technologies for the management of diabetes that include continuous glucose monitoring, insulin pumps, and closed-loop glucose control systems are being considered for addressing the needs not covered in the perioperative care of diabetes.¹⁰ All those approaches require additional validation, but they are a promising alternative for balancing metabolic control and perioperative risk.

Based on the above, we put forward the following possible future lines of research:

- 1 *Multicenter prospective studies*: To evaluate the true risk of aspiration and respiratory complications in patients treated with GLP-1RAs who undergo endoscopic procedures indicated in different preoperative management strategies.
- 2 *Evaluation through gastric ultrasound*: To explore the role of gastric ultrasound as a predictive tool for the risk of aspiration in this group of patients.
- 3 *Risk prediction models*: To develop risk stratification algorithms for guiding the individualized decisions on sus-