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Optimizing Semaglutide Suspension Timing Pre-Surgery: Preliminary Results of a Systematic Review and Meta-Analysis

NAPPGSAÚDE - FAPERGS

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INTRODUCTION / OBJECTIVE

This systematic review analyzes the perioperative use of semaglutide in patients with type 2 diabetes, obesity, or overweight undergoing surgery. Despite its metabolic benefits, the drug's effects on residual gastric content, pulmonary aspiration, and airway management remain uncertain.

MATERIAL AND METHODS

Following PRISMA and the Cochrane Handbook, the protocol (PROSPERO CRD42024609601) included searches in seven databases up to Nov/2024. Studies of adults (≥18 years) receiving preoperative semaglutide were considered. Two reviewers extracted the data independently, and meta-analysis was performed using RStudio (v2024.12.1-563).

RESULTS

A total of 14,280 studies were identified. After removing duplicates and screening titles and abstracts, 55 full-text articles were assessed, and 11 cohort studies were included in the quantitative analysis (only one was prospective). The final sample included 60,978 patients, with 11,675 using semaglutide—primarily for weight loss (1,263) and diabetes (371). The mean age was similar between groups (56.78 vs. 55.9 years), and most patients were ASA I–II.

RESULTS

The average duration of semaglutide use was 149 days, with preoperative suspension reported in most cases as less than 21 days. Semaglutide use was associated with increased residual gastric content (OR = 1.33), digestive symptoms (OR = 5.62), and procedure discontinuation (OR = 2.45), but no significant increase in pulmonary aspiration risk (OR = 0.66).

FINAL CONSIDERATIONS

Semaglutide discontinuation before surgery must be carefully evaluated. Although it increases residual gastric content for several days, it does not significantly raise the risk of aspiration. Anesthetic strategies such as rapid sequence induction or awake intubation should be considered.

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