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Emerging Anesthesia Risks with Semaglutide

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Recently, drugs to treat diabetes, such as semaglutide (Ozempic and Wegovy), and tirzepatide (Mounjaro), have been making headlines as popular weight-loss drugs. These medications are glucagon-like peptide-1 (GLP-1) agonists and stimulate the excretion of insulin, resulting in potential delayed gastric emptying.[1] There is a growing body of evidence that these drugs delay gastric emptying despite preoperative fasting, which is supported by reports of residual gastric contents during elective esophagogastroduodenoscopy (EGD).[2] Retardation of gastric emptying can pose a health concern during surgery under anesthesia, because of the increased risk of gastric regurgitation. Current guidelines from the American Society of Anesthesiology suggest that patients should refrain from eating fried, fatty foods and meat 8 hours before surgery and clear liquids up to 2 hours before surgery to ensure an empty stomach.[3] However, patients who are taking semaglutide and tirzepatide may have residual food still in their stomach, posing significant risk of pulmonary aspiration.

Two reports of patients on semaglutide undergoing elective surgery highlight some potential dangers of these drugs in relation to general anesthesia.[4,5] Both patients claimed to have been NPO after midnight but experienced pulmonary aspiration during their surgery. The cause of both was felt to be delayed gastric emptying. The most recent recommendations from the American Society of Anesthesiology are targeted at mitigating the risk of gastric regurgitation during general anesthesia in patients on these diet drugs. Their guidelines suggest stopping GLP-1 receptor agonists 1 day prior in those patients on daily dosing and cessation 1 week prior in patients on weekly injection dosing.[6] Further safety measures include performing an ultrasound of the stomach to ascertain the status of gastric contents before surgery. Delayed gastric emptying might pose a more significant problem with surgery involving conscious sedation or deep sedation, as the airway is not protected with an endotracheal tube. One case report describes a 31-year-old woman on semaglutide for weight loss who underwent an EGD under propofol anesthesia, who was fasting for more than 10 hours. Oxygen was delivered with a procedural face mask, and when the endoscope reached the stomach, a large amount of food was encountered in the gastric chamber, and the procedure was aborted in the absence of a secure airway and the elevated risk of pulmonary aspiration.[7]

This raises several new questions when it comes to the management of these drugs in relation to surgery. One factor is certain: all patients should be questioned as to the use of these drugs in screening for anesthetic risk. Many patients may not volunteer for this information because they do not feel it is relevant to their surgery. If these medications cannot be stopped before surgery, then perhaps extending the recommended preoperative fasting period from 8 hours to 24 hours or longer before surgery would allow for a more complete emptying of gastric contents. These important questions will need to be studied to ensure patient safety.

During cessation of their medications, what other substitutes can be given to diabetic patients managing proper blood sugar levels? Although semaglutide and tirzepatide have similar mechanisms, do these types of drugs have different rates of gastric emptying? These issues may be particularly pertinent to patients seeking aesthetic surgery, as they are likely to explore these drugs to improve body image and appearance. In summary, a cautionary measure in screening patients for elective surgery is to inquire about semaglutide and tirzepatide to avoid complications related to pulmonary aspiration.

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DISCLOSURE

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