Weight Loss Medication Guidelines Prior to Orthopedic Surgery

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Background

- A common surgical cancellation reason is use of weight loss drugs
- Patients are often unaware of distinct precautions based on drug class, including GLP-1 inhibitors and SGLT-2 medications
- Current studies indicate that GLP-1 agonist medications for diabetes or weight loss are widely used to manage type 2 diabetes and curb morbid obesity.
- GLP-1 agonists mimic the actions of the GLP-1 hormone, which is secreted in the gut and sends a satiety signal to the brain after eating. GLP-1 medications aren't new; Ozempic® (generic name: semaglutide) received FDA approval for the treatment of type 2 diabetes in 2017. After its weight-loss effects were studied, semaglutide and a higher dose version, Wegovy, were approved as anti-obesity medications in 2021, and others have since followed.
- Orthopedic surgeons have also fully recognized the increased risks associated with elevated BMI (>40) and A1C (>8). As a result, these medications have become popular for reducing these numbers and thereby lowering the risk of orthopedic complications.
- The FDA has approved these medications for cardiovascular disease, as they can also reduce the risk of heart attack, stroke, or cardiovascular-related death.
- A recent study in The New England Journal of Medicine found that tirzepatide (a GLP-1 drug) might also help with obstructive sleep apnea, another surgical risk factor for postoperative orthopedic mortality. When these drugs are used, there are several things the surgical team should know.

Methods

To create a unified approach, we reviewed current recommendations from the Food and Drug Administration, three clinical facilities looking at best anesthesia practices, and the American Society of Anesthesiologists (ASA) guidelines.

We also discuss the medical concerns as well as the uncommon and poorly understood side effects of these medications.

Results

- New data has resulted in a guideline change as of November 2024 where the ASA, AGA, and AMBS recommend continuing GLP-1s in conjunction with a clear liquid diet for 24 hours before surgery to minimize risk of aspiration.
- The clear liquids must be stopped 4 hours prior to arriving. This change is because, pharmokinetically, it would require several half-lives of stopping the medication for the drug to be completely cleared, which could be harmful for patients.
- If taken for diabetes, additional steps may be necessary to prevent hyperglycemia (high blood sugar), which is a risk factor during surgery.
- If patients are not adherent with the 24 hour liquid diet or have GI symptoms, it could be useful to consider delaying the procedure
- SGLT2 inhibitor medications for diabetes also increase risks. The most popular SGLT2 inhibitors are used to treat conditions such as type 2 diabetes, chronic kidney disease, and heart failure. These patients are most at risk of developing euglycemic diabetic ketoacidosis (eDKA), especially after recent surgery, acute medical illness, or relative insulin deficiency.
- As a result, the American Diabetes Association Standards of Care recommends that most SGLT2 inhibitors be stopped at least three to four days before scheduled surgery. (MMC requires 4 days. This risk has prompted the FDA to issue a revised black box warning . In emergency trauma cases, the NIH recommends monitoring of ketones as well.

Conclusion

There is a need to solidify this information in a usable form to best council patients even before referral to a surgeon to minimize the rates of surgical complications and case cancellations.
GLP-1 receptor agonists can be continued but require a 24 hour liquid diet in conjunction to lower the surgical risk of aspiration. SGLT2 inhibitors should be stopped at least 3-4 days before surgery.

No disclosures to make