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NURSE ANESTHESIOLOGY

PATIENT SELECTION CRITERIA: Clinical Considerations for Elevated HbA1c

Hemoglobin A1C (HbA1c) is a blood test that is used to diagnose or monitor type 1 and type 2 diabetes.[1] The HbA1c test provides a more accurate image of the patient's recent blood glucose (BG) history compared to the patient's self-reported history, fasting blood glucose levels, and random blood glucose levels.[2] Patients with higher HbA1c levels (generally above 7 percent) are at a greater risk for surgical complications.[1,3-5] As the diagnosis of diabetes is not a contraindication to ambulatory surgery, the patient's HbA1c level, together with other comorbidities, can help determine if elective surgery in an outpatient setting is the safest option for the patient.[4,6,7]

Preoperative Evaluation

All patients undergoing surgery should receive a preanesthesia evaluation. For patients with a known diabetes diagnosis, the anesthesia professional documents or verifies documentation of the patient's disease type, current treatment, treatment compliance, history of hypoglycemic episodes (noting the occurrence, frequency, and symptoms of hypoglycemia, and blood glucose level at which they occur), and any end-organ damage.[2,4,7,8] While it is not recommended to postpone surgery for poorly controlled diabetes (HbA1c ≥ 8%), knowledge of the patient's current fasting blood glucose level and most recent HbA1c is important to have.[4,7] Additionally, if the patient is taking a Glucagon-like peptide-1 (GLP-1) agonist, take appropriate measures to minimize the risk of regurgitation and aspiration.[4,8,9] See the AANA Anesthesia Care of the Patient on a GLP-1 Receptor Agonist document for more information.

Preoperative management may include:

- Point-of-care BG measurement on the day of surgery when they arrive in the preoperative area.[7]
- Supplemental insulin to correct hyperglycemia back to normal values.[7]
- The morning of surgery:

Stop oral hypoglycemic agents unless the patient is on Metformin (and has normal renal function), thiazolidinediones, or DPP-4 inhibitors.[4,7]

If insulin-dependent on long-acting insulin, take 75%-80% of usual morning dose if twice daily dosing.[4,7,8]

If insulin-dependent on intermediate-acting insulin, take 50% if BG ≥160 mg/dL or hold if BG ≤160 mg/dL.[4,7,8]

Do not take short-acting insulin while fasting, unless the patient has a continuous subcutaneous insulin infusion pump.[2,7]

POTENTIALLY DELAY SURGERY IF: [5,10]

HbA1c ≥ 9%
The patient's HbA1c is over 9 percent.

or

≥ 250
The preoperative BG is greater than 250.

Consider recommending the patient postpone surgery until the their diabetes is adequately managed, as the risk of complications increase.

Delay, or consider delaying surgery if:

Patient is exhibiting significant complications of hyperglycemia, such as severe dehydration, ketoacidosis, and hyperosmolar nonketotic states.[4,7]

Patient is in a compromised metabolic state, such as diabetic ketoacidosis, hyperglycemic hyperosmolar syndrome, etc.[4,7]

Preoperative blood glucose reading is above 300 mg/dL.[4,7]

Patient did not follow GLP-1 withholding requirements and/or gastric point-of-care ultrasound visualizes gastric contents, or patient did not follow required institutional policy.

Specific Considerations

+ Schedule diabetic patients first for surgery to lessen the disruption of their usual glycemic control regimen.[2]
+ Determine if the patient is highly likely to self-manage their diabetes once discharged.[4]
+ Suggested testing includes an electrocardiogram, HbA1c, and complete metabolic panel (specifically to include glucose, creatinine, and eGFR).[2,5]

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