Managing Diabetes Before Surgery: Essential Guidelines

Glycemic control is crucial for diabetic patients undergoing surgery due to the unique challenges posed by surgical stress and anesthesia. The physiological response to surgery often disrupts normal glucose homeostasis, leading to hyperglycemia, which heightens the risk for complications. Here are essential guidelines to follow to manage diabetes effectively before surgery, helping to minimize risks and enhance recovery.

Challenges of Glycemic Management in Surgical Patients

Surgery-induced metabolic changes often lead to hyperglycemia, impairing immune function, increasing the risk of infection, and delaying wound healing. Moreover, diabetic patients face additional risks, such as heightened morbidity and mortality, during surgical procedures. Hypoglycemia, though less common, is also a concern due to its potential for severe neurological complications, particularly under general anesthesia. Unfortunately, diabetic patients often go unrecognized or untreated preoperatively, further complicating management. Thus, careful identification and proactive glycemic monitoring are essential.

Steps to Take Before Scheduling Surgery

1. **Consult Your Diabetes Doctor**: Meet with the doctor managing your diabetes to review your self-management plan and discuss optimal diabetes management for the surgical period.
2. **Scheduling**: When scheduling, inform the staff that you have diabetes and request an early morning time slot, as this minimizes the disruption to your insulin dosing schedule.

For those using an insulin pump, be prepared for the pump to be disconnected if under general anesthesia or for surgeries exceeding one hour. Ensure you bring adequate pump supplies and insulin for your hospital stay.

One Week Before Surgery

- **Strict Glucose Monitoring**: Test your blood glucose before meals and at bedtime, recording the results to share with medical staff on the day of surgery.
- **Target Glucose Levels**: Aim for a pre-meal blood glucose of 100-130 mg/dL and a bedtime level of 100-140 mg/dL.

The Day Before Surgery

- **Oral Diabetes Medications**: Continue taking your oral diabetes medication at the usual times unless your doctor advises otherwise.
    - Chlopropramide should be stopped 2 days before surgery
    - Stop Metformin

- **Insulin**: Follow your regular insulin schedule unless given specific instructions by your doctor.
    - Patients treated with long-acting insulin (e.g., ultralente, glargine, protamine zinc insulin) should be switched to intermediate-acting forms 1–2 days before elective surgery.
- **Dietary Restriction**: Do not eat or drink anything after midnight before surgery. This includes avoiding gum, mints, and smoking.

The Morning of Surgery

- **Oral Diabetes Medications**: Do not take oral diabetes medications or other injectable drugs.
- **Insulin**: Follow specific instructions provided by your doctor. If no instructions are given, only take half of your long-acting insulin dose (e.g., Lantus, Toujeo, or Tresiba) in the morning.
- **Clear Liquids**: Patients without delayed stomach emptying may drink clear liquids up to two hours before hospital arrival. Clear liquids include water, tea, black coffee WITHOUT cream, and electrolyte drinks (but not milk).

Special Considerations for Insulin Pump Users

If using an insulin pump, continue the usual basal rates on the morning of surgery and inform the admission nurse of your basal rate and total daily insulin dose. If the pump must be disconnected, it will be removed before surgery and given to a family member for safekeeping. It will be reconnected post-surgery once you can manage it.

Managing Low or High Blood Glucose on Surgery Day

- **Low Blood Glucose (under 70 mg/dL)**:
    - Use oral glucose gel, consuming an entire tube.
    - Wait 15 minutes and recheck blood glucose.
    - If still low, repeat the gel dose.
    - If unresolved after two treatments, proceed to the hospital.
- **High Blood Glucose (over 150 mg/dL)**:
    - Head to the hospital if your blood glucose remains elevated on surgery day.

When to Delay Surgery for Hyperglycemia

Elective surgeries are typically postponed if the patient's glucose levels indicate a high complication risk. While no universal threshold exists for delaying surgery, glucose levels greater than 400 mg/dL may cause the case to be canceled.

Careful glucose management for diabetic patients undergoing surgery can minimize complications and improve recovery outcomes. Although a standardized perioperative glycemic management protocol is yet to be established, individualized approaches focusing on proactive monitoring, appropriate medication adjustments, and patient-specific risk factors are essential for optimal care.