



PIC QUESTION OF THE WEEK: 1/23/06

Q: What medication adjustments should be made for gastric bypass (bariatric) surgery patients?

A: Obesity is an increasing epidemic and estimated to affect about 30 percent of the American population. Many obese patients elect to undergo surgery after failed attempts at other alternatives for weight loss. There are three types of bariatric or gastric bypass surgery. They are described as restrictive, malabsorptive, or a combination of both. Restrictive procedures reduce the size of the stomach and generally require stapling or suturing techniques. The malabsorptive type of surgery alters the flow of food from the stomach to the intestine, thus reducing absorption. Combination procedures incorporate characteristics of both restrictive and malabsorptive surgery. The Roux-en-Y procedure is the most popular type of gastric bypass surgery. It requires the creation of a pouch from a small portion of the stomach and subsequent attachment of the pouch directly to the small intestine. The procedure bypasses a large portion of the stomach and duodenum. Obese patients are considered surgical candidates if their body mass index (BMI) is above 40 or if their BMI is 35 and they have a life-threatening illness that can improve with weight loss (for example, type 2 diabetes and heart disease). Most patients lose an average of 10 pounds per month to reach a stable weight between 18 and 24 months after surgery. Despite the rising popularity of bariatric surgery, there is minimal data to guide the use of medication in the postoperative period. All patients require multivitamin (especially vitamins A, D, B₁, B₁₂, and folate) and electrolyte (Fe, Ca, K, and Mg) supplementation to prevent diseases such as osteoporosis, anemia, muscle wasting, dental decay, etc. Co-morbid conditions such as hypertension, diabetes, and hyperlipidemia often improve after gastric bypass surgery. In many instances, medications used to treat these diseases can be discontinued or their dosage reduced. Absorption of drugs primarily occurs in the small intestine and is influenced by the amount of time required for gastric emptying. Delayed or accelerated gastric emptying could affect drug absorption. If a drug's absorption is dependent upon acid hydrolysis, serum levels could be altered due to the decrease in gastric acid resulting from surgery. Medications affected by decreased gastric acid or altered gastric emptying include film coated and extended-release preparations. Drugs known to be corrosive to the gastric epithelium should also be avoided (e.g. aspirin, NSAIDs, and potassium supplements). To minimize drug toxicity due to rapid weight loss, medication *dosages based on weight* should be routinely evaluated. Patients on warfarin therapy should have their INRs monitored frequently because of dietary changes and the effect of surgery on drug absorption. Medication and nutritional needs for gastric bypass patients will become better understood as this type of surgery becomes more common.

References:

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