Letters to the Editor

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Effects of Bariatric Surgeries on Obesity and Comorbidities

Original Article: Treatment of Adult Obesity with Bariatric Surgery

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TO THE EDITOR: I was pleased to see the article on bariatric surgery. This is a very important and pertinent subject for primary care physicians. The article was excellent, and relatively comprehensive. However, some important issues were omitted.

Different bariatric procedures do not affect obesity and comorbidities similarly. Roux-en-Y gastric bypass (RYGB) and vertical sleeve gastrectomy (VSG) produce a metabolic effect and are the most powerful interventions for the treatment of diabetes mellitus. This contrasts with laparoscopic adjustable gastric banding (LAGB), which does not have a significant metabolic effect.

Because various bariatric procedures have different effects on obesity and comorbidities, there are significant differences in patient outcomes. Numerous large studies clearly demonstrate that RYGB produces superior results (especially in terms of resolution of diabetes) and greater weight loss compared with LAGB.[1-3] In a meta-analysis of 135,246 patients, 80 percent of those who underwent RYGB or VSG had resolution of diabetes, compared with 57 percent of those who underwent LAGB.[1] Resolution of comorbid conditions, such as hypertension, sleep apnea, dyslipidemia, and gastroesophageal reflux disease, is significantly higher after RYGB than after LAGB.[3] Patients undergoing LAGB lose an average of 46 percent of excess body weight compared with 60 percent[1,2] and up to 80 percent after RYGB.[3]

Data in *Table 8* of the original article were taken from numerous sources (some from as long ago as 2004) and did not include long-term complication rates. Moreover, there was an extremely wide range of excess body weight lost after LAGB, and these amounts were not in agreement with more recent sources based on large numbers of patients.[1-3]

LAGB is associated with a high rate of long-term complications. In a recent study of 151 consecutive patients who underwent the procedure from 1994 to 1997, the reoperation rate was 60 percent, one-third of patients experienced band erosions, and approximately 50 percent required band removal.[4]

Because of heavy direct-to-consumer advertising, many patients are led to believe that LAGB is an easy and effective treatment. However, it is associated with inferior long-term outcomes compared with RYGB and VSG. Most patients who undergo RYGB have greater weight loss, increased resolution of diabetes, improved quality of life, short-term complication rates similar to LAGB, and a lower rate of late complications (reoperations). Overall, RYGB has a better risk-benefit profile than LAGB.[5] Patients should be aware of the high failure rate of LAGB.

Physicians must be actively involved in obesity management, and should identify the most appropriate weight management options for each patient.[6] Various surgical procedures have unique physiologic effects, resolution rates of comorbidities, and weight loss. Providing this information is a critical element of discussing, counseling, and preparing patients for bariatric surgery.

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EDITOR'S NOTE: This letter was sent to the authors of "Treatment of Adult Obesity with Bariatric Surgery," who declined to reply.

Case Report: Bupivacaine Toxicity with Dorsal Penile Block for Circumcision

TO THE EDITOR: Approximately 50 percent of males in the United States undergo neonatal circumcision. The most common complication of circumcision is poor cosmesis, but local anesthetic toxicity does rarely occur. Systemic toxicity from local anesthetics manifests as depression of the central nervous system, seizures, and dysrhythmias. We report a case of central nervous system toxicity associated with bupivacaine (Marcaine) dorsal penile block used to facilitate a circumcision.

A 21-day-old male weighing 2,715 g (6.0 lb) presented to the pediatrician's office for elective circumcision. He had a history of intrauterine growth restriction caused by twin gestation and was born at 37 weeks and two days' gestation. A dorsal penile block was performed using bupivacaine. He received two 1-mL doses of 0.5% bupivacaine, spaced apart by two to three minutes. The estimated total dose was 3.7 mg per kg. Within minutes of the injections, he became lethargic. On arrival to the emergency department, the infant was noted to have disconjugate gaze, intermittent exotropia, and altered consciousness with hypotonia. A serum bupivacaine concentration, obtained 2.5 hours after injection, was 0.76 mcg per mL, which is consistent with previous reports of bupivacaine toxicity[1] and higher than bupivacaine concentrations reported in older boys after circumcision.[2] He was admitted to the pediatric intensive care unit and observed overnight. Five hours after the bupivacaine exposure, he was responsive to painful stimuli, but was excessively somnolent and not latching on to breastfeed. He did not experience seizures, dysrhythmias, or cardiovascular instability, nor did he require specific antidotes, including intravenous lipid emulsion therapy. At 22 hours, he was awake and back to baseline.

Several factors may have contributed to the observed toxicity in this case: the small size of the neonate; the concentration and volume of anesthetic used; and the choice of bupivacaine for regional anesthesia.

Physicians who perform dorsal penile blocks for circumcision may decrease the risk of toxicity by using smaller doses of local anesthetic for low-weight neonates. This may be facilitated by using lower concentrations of bupivacaine, for example the 0.25% or 0.125% solutions that have been recommended for other neonatal regional anesthesia procedures,[3] or by limiting 0.5% bupivacaine to 0.25 mL per kg[2] or 1.5 to 2 mg per kg.[4] In addition, lidocaine (Xylocaine) may offer a wider margin of safety than bupivacaine and may be the preferred agent in these cases. Dosing of 0.4 to 0.8 mL of 1% lidocaine for dorsal penile block is discussed in the American Academy of Pediatrics Policy Statement on Circumcision.[5]

Because of immature hepatic enzymes and decreased levels of α1-acid glycoprotein, bupivacaine has a longer half-life and a higher percentage of biologically-active drug in the neonate compared with adults.[6] This case exemplifies the principle that relatively small volumes of bupivacaine may result in local anesthetic toxicity.

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Correction

The article "Prevention of Malaria in Travelers" (May 15, 2012, page 973) contained an error in the dosage for primaquine in *Table 2* (page 974). The dosage was incorrectly listed as 26.3 mg per day of primaquine for one to two days before travel through seven days after return. It should have been "30 mg per day of primaquine (52.6 mg of primaquine phosphate) for one to two days before travel through seven days after return. Note: 15 mg of primaquine = 26.3 mg of primaquine phosphate." The online version of the article has been corrected. ■