Timolol and Postoperative Apnea in Neonates and Young Infants

To the Editor:—Postoperative apnea is a common problem in neonates and young infants. We recently provided anesthesia for a three-year-old patient undergoing cyclocryotherapy. At the end of surgery and 3 h later the patient had multiple episodes of apnea (no respiratory effort for more than 20 s). Timolol maleate (Timoptic®), a beta-adrenergic blocker, had been administered in the form of eye drops at the end of surgery.

Timolol may be associated with impairment of respiratory control in the neonate. Immaturity of the blood brain barrier and organic acid and base transport systems are possible mechanisms.1 Common causes of postoperative apnea in infants are residual anesthesia, respiratory system immaturity, hypothermia, hypoglycemia, dehydration, laryngospasm, and airway obstruction. When applied topically to the eye, beta-adrenergic blocking drugs as timolol are absorbed rapidly from the nasolacrimo...