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Use of Atracurium in a Patient Susceptible to Malignant Hyperthermia

To the Editor:—Malignant hyperthermia (MH) frequently is triggered in unknown susceptible patients by administration of a halogenated agent, often halothane, and the depolarizing muscle relaxant, succinylcholine.¹ Pancuronium has been considered the muscle relaxant of choice for this patient.² We successfully used atracurium in a MH-susceptible patient.

REPORT OF A CASE

A healthy 8-year-old, 25.5-kg girl presented for correction of esotropia. Her preoperative assessment was negative, as was her anesthetic history and her family's anesthetic history. An inhalation induction of anesthesia with halothane, nitrous oxide, and oxygen ensued uneventfully. Administration of succinylcholine 25 mg iv resulted in jaw muscle rigidity that prevented intubation of the trachea. Effective mask ventilation was maintained easily during this period. The initial arterial blood gas analysis revealed a metabolic acidosis, and appropriate measures and medications were administered per MH protocol. Her tachycardia, a creatine phosphokinase (CPK) that increased to 93,800 μ /l, and complaints of total body muscle soreness indicated MH crisis. Surgery was cancelled, and she was observed in the intensive care unit (ICU) overnight. Further hospitalization continued uneventfully.

She returned 4 months later for surgery. The preoperative assessment and blood chemistries to include CPK were normal. She was pretreated orally with dantrolene 65 mg and hydroxyzine 25 mg twice, with hydroxyzine 25 mg immediately prior to surgery. Upon arrival in the operating room, the patient was calm with no nausea. She received dantrolene 60 mg iv, followed by administration of fentanyl 0.05 mg iv, droperidol 2.5 mg iv, nitrous oxide, and oxygen.

Atracurium 15 mg iv facilitated easy tracheal intubation. Intraoperative arterial blood gases were within normal limits. Vital signs remained stable. Prior to emergence, specimens were sent to the laboratory for blood chemistry studies to include CPK. Operative course and emergence were uneventful. Reversal of the atracurium was deemed unnecessary because of patient display of adequate movement, strength, and tidal volume. She was transferred to the ICU, where she continued an uneventful postoperative course, receiving dantrolene 25 mg iv every 6 h, preceded by droperidol 1.25 mg iv to prevent nausea. Serial arterial blood gas and chemistry values remained within normal limits.

Atracurium, an intermediate acting muscle relaxant, appears to be an excellent choice for the MH patient population with this demonstration of safe and advantageous use.

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Tracheal Intubation in an Infant with Treacher-Collins Syndrome— Pulling out the Tongue by a Forceps

To the Editor:—Endotracheal intubation is often difficult in children with Treacher-Collins syndrome.^{1,2} For difficult intubations in pediatric patients, several approaches, including fiberoptic bronchoscopic technique,^{3,4} retrograde technique,⁵ or tracheostomy, have been considered. Recently, by pulling out the tongue by a forceps, we were able to intubate the trachea of an infant with this syndrome.

REPORT OF A CASE

A 35-month-old, 11-kg male infant with Treacher-Collins syndrome was scheduled for repair of cleft palate, a previous schedule of which

was cancelled because of unsuccessful tracheal intubation. One hour after atropine (0.2 mg) and secobarbital (40 mg) im, anesthesia was induced with oxygen and halothane via a mask using a Jackson Rees circuit. Spontaneous respiration was maintained, but it soon became difficult to ventilate without an oropharyngeal airway in right lateral position. After insertion of an iv line, diazepam (3 mg) and fentanyl (100 μ g) were given to obtain sufficient depth of anesthesia during intubation procedure.

Direct laryngoscopy was performed with the use of a straight blade or a curved blade with or without external cricoid pressure several times, but the epiglottis and the vocal cords could not be visualized. Then we attempted to use a lung lymph node forceps to retract his tongue. One person retracted the tongue and the other performed the laryngoscopy. With this, his epiglottis came into our vision with the aid of external cricoid pressure. A tracheal tube was