Evaluation of Methohexital Use for Pediatric Procedural Sedation in a Propofol Driven Outpatient Pediatric Sedation Practice

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Introduction: Propofol is a preferred agent for high volume sedation programs like Children’s Healthcare of Atlanta (CHOA) because of rapid onset and short duration of action, allowing for rapid patient discharge and permitting efficient resource utilization. Occasionally, methohexital is used instead of propofol. This study describes the experience with methohexital in a primarily propofol driven outpatient sedation program.

Methods: At CHOA, the pediatric emergency and critical care medicine physicians provide outpatient sedation for approximately 13,000 patients/year. Retrospective chart review from 2011-2015 of patients receiving methohexital as their primary sedative. Data collected included demographics, reasons for methohexital selection, dosing, type of procedure, success rate, adverse events (AE), duration of procedure, and time to discharge.

Results: 105 patients received methohexital. Median age was 4 years [IQR 2-7], 69.8% were male, and 93.7% were ASA-PS I or II. Methohexital was most commonly used for MRI (77.1%) followed by CT (8.3%). Common indications for methohexital use: egg + soy/peanut allergy in 42 (43.1%), history of propofol allergy 3 (3.1%), and 7 (7.3%) received rectal methohexital due to inability to place an IV. Only 2 (2.1%) patients received methohexital for a documented mitochondrial disorder. Mean induction bolus (mg/kg) was 2.1 (IQR, 1.9-2.7), maintenance infusion (mg/kg/hr) was 4.1 (IQR, 2.9-6.5). Twenty-five patients (26.1%) required an additional bolus during sedation. Hiccups 7 (7.3%), secretions requiring intervention 7 (7.4%), and cough 5 (5.3%) were most common minor AE. Airway obstruction was seen in 5 (5.3%) and laryngospasm in 3 (3.2%) patients. 88 (91.7%) methohexital recipients were successfully sedated. Median sedation duration was 40 minutes [IQR 30-65]. Following sedation median time to discharge was 34 minutes [IQR 25-50].

Discussion: Methohexital can be used in situations that preclude the use of propofol albeit with a lower rate of success, and AE that can easily managed by a well-trained sedation team.