Experience With Propofol For Pediatric Procedural Sedation In Infants Under 6 Months of Age


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Abstract

Objective: There is increased risk associated with pediatric procedural sedation (PPS) using propofol in infants < 6 months of age. We hypothesized that propofol can be successfully used to sedate infants < 6 months of age with minimal adverse events (AE).

Methods: Retrospective chart review of 304 infants < 6 months who received propofol for PPS at Children’s Healthcare of Atlanta. Patient demographics, propofol dosing, sedation related minor AE (reversible, expected events during PPS) and interventions were collected. Serious AE (SAE) include laryngospasm, airway obstruction, aspiration, need for admission, cardiac arrest, or death.

Results: PPS was successful in 301/304 (99%) of infants using propofol. 130/304 (42.8%) infants were female, and 240/304 (79%) were between 3-6 months of age. Most patients were ASA-PS class II 172/304 (56.6%); 39/304 (12.8%) had a history of prematurity, and 68/304 (22.4%) had a recent upper respiratory tract infection. Mean induction propofol dose in mg/kg in infants < 3mths was 5.6± 2.3 vs. 4.9± 1.7 in infants > 3mths (p = 0.016). There were a total of 57 sedation related minor AE in 39/304 (12.8%) infants of which apnea (4.6%) was most common. 13/304 (4.3%) infants had a SAE, of which airway obstruction (4.3%). A total of 80 (18.4%) interventions were required: Suctioning (2.6%), CPAP (8.2%), Jaw thrust (4.9%), and increase in propofol infusion rate (3.3%). Minor AE were similar in children < 90 days compared to those > 90 days (21% vs. 13%; p = NS). No significant predictors of sedation-related AE were detected.

Discussion: Propofol can be used for PPS of infants < 6 months of age with a high success rate and manageable SAE. A higher mean induction dose should be anticipated in infants less than 3 months of age. A prospective multicenter trial would be beneficial to further delineate a dose response effect of propofol in infants.