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A comparison of the incidence of agitation scores and length of recovery room (RR) stay in pediatric patients with and without midazolam premedication for ear tube placement surgery (Preliminary data)

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Introduction: Midazolam is the most commonly used premedication to alleviate anxiety in patients undergoing surgery. Recently, increased reports of paradoxical reactions to midazolam are emerging.1,2 These reactions are characterized by agitation, worsening anxiety, restlessness and aggressive behavior. Pediatric patients experiencing emergence delirium (ED)/ emergence agitation (EA) may be disoriented, combative, and inconsolable and may exhibit non-purposeful movements. EA/ ED may require treatment and can subsequently prolong RR stay. Authors hypothesize that midazolam might be associated with increased risk for emergence delirium/agitation and therefore length of stay in pediatric patients undergoing ear tube placement under sevoflurane anesthesia.

Methods: After IRB approval was obtained, a prospective cohort study was conducted. Patients ages 2-8 years old who meet the inclusion criteria who were scheduled to undergo bilateral ear tube placement were included in the study. All subjects had sevoflurane mask only anesthesia. The authors intended to collect data on 500 subjects at the end of the study. Their Pediatric Anesthesia Emergence Delirium Scores (PAED) and length of stay (LOS) in the recovery room were collected. Subjects were divided into two groups: Midazolam (M) group are those patients that received PO midazolam as a premedication while the Control group (C) are those patients that did not receive PO midazolam. PAED scores and length of stay were compared between the two groups. Inclusion criteria: ear tube placement, 2-8 years old, ASA 1-2, no developmental delay and behavioral impairment.

Results: The study consisted of 90 subjects. There were 74 in the C group and 20 in the M group. Mean age and weight were 36.3 ± 33.2 months and 15.2 ± 9.2 kg in the C group, and 44.7 ± 31.5 months and 16.6 ± 9.3 in the M group (p=NS). ASA and gender were not different in both groups (p=0.99 and p=0.07 respectively). PAED scores were not different in both groups (p=0.6) while PACU LOS was significantly different (P<0.001) with M group staying longer in RR. A separate statistical analysis was conducted for those patients who received opioids (Group O) during the procedure and acetaminophen Group A) prior to the procedure. There was no difference with regards to PAED scores and LOS in both groups O and A.

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