Seasonal Allergies: An Important Player in Pediatric Sedation?

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ABSTRACT:

Background: Studies demonstrate the association between upper respiratory tract infections and adverse events (AE) in pediatric procedural sedation. This study examines the association between AE and seasonal allergies during pediatric deep sedation from a single institution.

Methods: Data was obtained from the Pediatric Sedation Research Consortium for patients sedated for MRI using propofol from a single institution (n=1831). Primary outcomes were incidence of major and minor AE and interventions. Major events were defined as emergency anesthesia, emergency airway, laryngospasm, apnea, desaturation, inability to complete procedure, inability to achieve adequate sedation, unanticipated change in BP or heart rate, or unanticipated admission. Minor events were defined as cough, secretions, snoring, stridor, wheezing, airway obstruction, reversal agent use, or aspiration. Major interventions were defined as the use of an ET tube, a supraglottic airway or bag mask ventilation. Minor interventions were defined as oral airway use or suction. A logistic regression model was performed to evaluate independent risk factors, and confounding variables were evaluated using Fisher’s exact test.

Results: Seasonal allergies (SA) are an independent risk factor for requiring at least one major intervention or experiencing one major AE with an odds ratio of 2.51 & 2.54 (C.I. 1.33, 4.75 and 1.50, 2.49), respectively. Pediatric patients with SA also receiving glycopyrrolate have an increased risk of requiring a minor intervention with an odds ratio of (C.I. 3.64 1.56, 8.46), when compared to those with SA not receiving glycopyrrolate.

Conclusions: This study suggests that SA increase the risk of major events and interventions in pediatric procedural sedation with propofol for MRI. Based on these results, a history of SA should be included in the pre-procedural evaluation of such patients. Further studies will be required to test generalizability of the findings.