Sleep Evaluation Helps Identify Complications After Kids Tonsil Surgery

Performing polysomnography (a sleep study) prior to pediatric adenotonsillectomy may help identify children at a higher risk of developing post-operative respiratory complications, according to a report in the January issue of *Archives of Otolaryngology - Head Neck Surgery*, one of the JAMA/Archives journals.

"Pediatric adenotonsillectomy is a safe outpatient procedure; however, there is a subset of patients who do not meet the criteria for outpatient surgery," according to background information in the article. Guidelines for adenotonsillectomy, established by the American Academy of Otolaryngology—Head and Neck Surgery, recommend that children should be healthy, have no evidence of obstructive sleep apnea-hypopnea syndrome (recurring episodes of obstruction or collapse of the upper airway during sleep) and be older than three years.

To determine if polysomnography may potentially predict adverse outcomes following a pediatric adenotonsillectomy, Eric M. Jaryszak, M.D., of the George Washington University School of Medicine in Washington, D.C., and colleagues, examined the records of 1,131 children who underwent an adenotonsillectomy by two attending surgeons at an academic pediatric hospital. Preoperative polysomnography was performed on 13.4 percent of all those undergoing adenotonsillectomy. Of these, 15.2 percent experienced adverse respiratory events after surgery.

Results of the polysomnography showed that patients who experienced respiratory complications had significantly higher apnea-hypopnea index (provides an overall severity of sleep apnea including sleep disruptions or low levels of oxygen in the blood), higher hypopnea index (episodes of overly shallow breathing or abnormally low respiratory rates) and lower nadir oxygen saturation (the lowest level of oxygen saturation). Additionally, those individuals who experienced complications had a higher body mass index (BMI) compared with those who did not have complications, with 47.8 percent defined as obese, versus 29.7 percent in the non-complication subgroup.

Overall, the patients who experienced adverse respiratory events spent an additional 22 days in the hospital beyond routine overnight observation for persons with obstructive sleep apnea-hypopnea syndrome.

"Polysomnographic data may potentially be used for predicting which patients are at higher risk for adverse respiratory events after adenotonsillectomy," the authors conclude. "Such knowledge is valuable in planning post-operative management and perhaps intra-operative anesthesia management."

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