The Impact of Obesity and ASA Classification in Pediatric Tonsillectomy

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ABSTRACT

To identify the impact of body mass index and ASA classification on complications, PICU admission and length of stay following tonsillectomy. We created a logistic regression model to predict the likelihood of hospitalization for adenotonsillectomy for selective ASA classifications (Table 4). Whereas 265 of the 418 non-obese patients (63%) were discharged home on the day of surgery, only 7 non-obese patients (2%) required PICU admission, in contrast to 17 obese patients (9%). Of all patients admitted to the intensive care unit (PICU), 17 of 27 obese patients were classified ASA II (5%); for length of stay and PICU admission, however, a significant difference was found both among BMI categories and across ASA classifications. Obesity was an independent predictor of hospitalization, with an odds ratio of 1.58 (95% CI 1.06-2.34) relative to normal weight. Our finding that obesity in pediatric patients with obstructive sleep apnea may explain these findings. We found that obese patients were more likely to require PICU admission and longer length of stay following tonsillectomy.

RESULTS

The rate of obesity within our pediatric tonsillectomy population, 30%, is significantly higher than that in the general pediatric population, which is 9.6%, 12. A retrospective chart review of 567 patients aged 4 to 18 undergoing tonsillectomy at a tertiary care children’s hospital was conducted. Data collected included age at surgery, gender, significant medical comorbidities, weight, height, and preoperative body mass index (BMI) (data not shown). Over 85% of our study population were normal weight (BMI <85th), 10% were overweight (BMI ≥85th and <95th), and 5% were obese (BMI ≥95th). Obesity was significantly more common among patients undergoing tonsillectomy for adenotonsillectomy (71%) compared to patients undergoing tonsillectomy only (29%). Obesity is strongly associated with respiratory obstructive sleep apnea and is linked to the development of sleep apnea. Obesity as a predictor of length of stay and PICU admission (p<0.001) is significant difference among BMI categories and across ASA classifications (Table 4). Whereas 265 of the 418 non-obese patients (63%) were discharged home on the day of surgery, only 7 non-obese patients (2%) required PICU admission, in contrast to 17 obese patients (9%). Of all patients admitted to the intensive care unit (PICU), 17 of 27 obese patients were classified ASA II (5%); for length of stay and PICU admission, however, a significant difference was found both among BMI categories and across ASA classifications. Obesity was an independent predictor of hospitalization, with an odds ratio of 1.58 (95% CI 1.06-2.34) relative to normal weight.

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