Obstructive sleep apnea (OSA) presents unique challenges in the ambulatory surgical setting because as many as 80% of patients with OSA are undiagnosed and it is known to be associated with a number of postoperative complications (1). One unintended consequence of this practice is that patients with OSA are at increased risk of severe early postoperative pain requiring treatment upon recovery from anesthesia in the post-anesthesia care unit (PACU). One unintended consequence of this practice is that patients with OSA are at increased risk of moderate to severe early postoperative pain requiring treatment upon recovery from anesthesia in the post-anesthesia care unit (PACU).

To determine whether children with preoperative OSA diagnosis (exposure variable) were at increased risk of PACU pain requiring analgesic (any, opioid and non-opioid) administration (outcome variable). We tested the hypothesis that PACU analgesic administration does not differ by preoperative OSA history.

Using prospectively collected data, 771 children aged 4-17yr who underwent elective ambulatory operations were grouped into two categories based on positive preoperative OSA history. Among children undergoing elective outpatient operations, OSA diagnosis is a significant predictor of clinically important pain in the PACU (indicated by IV opioid requirement). Given the potential for opioid-induced respiratory depression in children with OSA, these findings represent an important clinical dilemma. Mechanisms underlying this enhanced pain experience deserve further elucidation.

Among 771 children 60 (7.8%) had a preoperative diagnosis of OSA, All the patients received at least one or more intraoperative opioid (Fentanyl 71.1% and morphine 31.9%). Intraoperative multimodal analgesia was used in 61.6% of patients. Children with OSA were more likely to have received intraoperative multimodal analgesia than their peers without OSA (71.7% vs. 69.9%; OR 1.25, 95%CI, 1.4-4.45 p<0.001).

Moderately severe pain occurred in 205 (26.6%) of patients. A total of 108 (14.0%) children were given intravenous morphine in the PACU.

Among children with OSA were more likely to receive IV opioids in the PACU than their non-OSA peers although there was no difference among those with documented severe PACU pain score (Fig 1)

Logistic regression model (to predict the odds of requiring PACU IV opioid) adjusted for age, gender, race, ASA status (1&2 vs. 3) OSA diagnosis, and increasing intraoperative morphine equivalents revealed that factors in Table 1 were independent predictors of PACU IV opioid requirement.

Among children undergoing elective outpatient operations, OSA diagnosis is a significant predictor of clinically important pain in the PACU (indicated by IV opioid requirement). Given the potential for opioid-induced respiratory depression in children with OSA, these findings represent an important clinical dilemma. Mechanisms underlying this enhanced pain experience deserve further elucidation.

Conclusion

Among children undergoing elective outpatient operations, OSA diagnosis is a significant predictor of clinically important pain in the PACU (indicated by IV opioid requirement). Given the potential for opioid-induced respiratory depression in children with OSA, these findings represent an important clinical dilemma. Mechanisms underlying this enhanced pain experience deserve further elucidation.

References