

Respiratory arousal in patients with very severe obstructive sleep apnea and how it changes after a non-framework surgery

Abstract

Objective: Respiratory arousal in patients with obstructive sleep apnea (OSA) has a helpful role to activate upper airway muscles and the resumption of airflow and an opposing role to exacerbate OSA. Patients with very severe OSA (apnea-hypopnea index (AHI) ≥ 60 events/hour) may have specific chemical and mechanical stimuli to initiate a respiratory arousal. Little was reported about how respiratory arousal presents in this distinct subgroup and how a non-framework surgery may change it.

Methods: Retrospective cohort study at level-1 sleep laboratory of the authors' tertiary referral hospital

Results: Scatter plot with correlation and changes after the surgery were reported in 27 patients with very severe OSA.

Conclusion: Respiratory arousal index was correlated with each of AHI, mean oxyhemoglobin saturation of pulse oximetry (SpO₂), mean desaturation, and desaturation index. Its mean was higher than other reports with less severe OSAs. It can be reduced about half after the surgery.

Keywords: palatoplasty; one-stage; retropharynx; polysomnography (PSG); Continuous-Positive-Airway-Pressure (CPAP)