

Sleep architecture in children with adenoidal hypertrophy.

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AIM: Adenoidal hypertrophy (AH) in children is associated with obstructive manifestations like mouth breathing, snoring. Unfortunately, little is known regarding sleep architecture of AH in children. The purpose of this study was therefore undertaken to investigate the polysomnographic variables in children with AH. **METHOD:** 47 children with AH and 11 controls underwent nocturnal polysomnography. Sleep was scored manually according to the standard set by Rechtschaffen. **RESULTS:** In AH, stage 1 sleep percentage and rapid eye movement (REM) latency were increased significantly, while the sleep percentage of stage 2 and REM was decreased remarkably compared with that of controls. Arousal index in AH was much more higher than that in controls. Arousal index in REM sleep was higher than that in non-rapid eye movement (NREM) sleep in AH, but the number of arousals in REM sleep was lower than that in NREM sleep. Hypopnea events were the most common type of respiratory events, followed by obstructive events in AH and controls. Apnea/hypopnea index in AH was higher in comparison to controls. No significant difference was found between the children with AH and controls in SaO₂ nadir (%) and base mean SaO₂ (%). Apnea/hypopnea index was related to hypopnea arousal in REM sleep and hypoxemia arousal in NREM sleep. **CONCLUSION:** AH is predominantly characterised by a hypopnea with little obstruction in children. Our results clearly and for the first time demonstrated that sleep architecture was abnormal in children with AH. We therefore speculate that hypopnea arousal in REM sleep and hypoxemia arousal in NREM sleep may play an important role in the course of respiratory disturbance.

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