

Respiratory Arousal Threshold in Patients with Epilepsy and Obstructive Sleep Apnea

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(1) Objective:

Patients with epilepsy (PWE) have a higher likelihood of developing obstructive sleep apnea (OSA). However, there are still limited literature investigating the phenotypes of OSA in this population. This study aimed to evaluate the respiratory arousal threshold (rAT) in PWE with concurrent OSA.

(2) Methods:

We enrolled 48 PWE who underwent in-laboratory polysomnography (PSG). Among them, 37 had a diagnosis of OSA, while 11 did not. We used established criteria from previous studies to predict the presence of a low rAT. We compared demographic, clinical, and PSG variables between PWE with or without OSA, as well as OSA patients with or without a low rAT.

(3) Results:

PWE with OSA were significantly older upon PSG examination ($P = 0.004$), had a later onset of epilepsy ($P < 0.001$) and had higher number of concomitant antiseizure medications ($P = 0.026$) compared to PWE without OSA. Among the 37 PWE with OSA, 20 patients (54.1%) were predicted to have a low rAT. Notably, individuals with a predicted low rAT exhibited numerically lower continuous positive airway pressure (CPAP) compliance, a lower percentage of days of CPAP usage and fewer average hours of CPAP usage per day, in comparison to those without a predicted low rAT.

(4) Conclusion:

Our study provides insights into the presence of a low rAT in PWE and OSA. Further investigation is necessary to explore the potential association between rAT and treatment responses to CPAP in this specific patient population.

中文題目：癲癇和阻塞型睡眠呼吸中止症患者的呼吸覺醒閾值

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