

The impact of continuous positive airway pressure on blood pressure in patients with ischemic stroke and obstructive sleep apnea

Keelung Chang Gung Memorial Hospital

Chung-Hao Chao*, Chung-Chieh Yu

Background: Continuous positive airway pressure (CPAP) therapy may reduce blood pressure (BP) in patients with obstructive sleep apnea (OSA). However, the benefits of CPAP therapy for the reduction in BP in patients with OSA and ischemic stroke have not previously been proved.

Objective: The BP lowering effects of treatment with CPAP in subacute ischemic stroke patients with OSA.

Methods: This was a prospective and non-randomized observational study in which ischemic stroke patients with OSA being treated in a rehabilitation ward were enrolled from 2015 to 2018. The participants who tolerated CPAP were classified as the CPAP group, while those who refused or could not tolerate CPAP were classified as the control group. A comparison was made between the measurements of BP in three consecutive days before and after two weeks of CPAP therapy with the control group by Mann-Whitney U test.

Results: A total of 44 participants were enrolled and completed the study (control group: 19; CPAP group: 25; mean age= 59.8 years old; mean apnea hypopnea index= 42.9). The average AHI of the CPAP group was decreased from 43.0 ± 17.3 /hr to 6.5 ± 4.9 /hr after CPAP therapy. The average time of CPAP usage was 7.3 ± 1.0 hours per night, and all of participants used it for more than 70% of the days during the study period. Morning and evening blood pressure comparison showed no obvious diurnal change. In the CPAP treatment and control groups, statistical significance was achieved for the differences in systolic/diastolic BP in the morning (-4.9 ± 14.8 / -2.9 ± 8.9 mmHg, respectively) and differences in systolic/diastolic BP at the night time (-11 ± 8.5 / -4 ± 8.6 , respectively).

Conclusion: CPAP treatment is associated with the BP lowering effects among the ischemic stroke patients with OSA.

中文題目：持續正壓呼吸器對於阻塞性睡眠呼吸中止症併有腦中風病患的血壓影響

作者：趙中豪*¹ 于鍾傑² (報告者*)

服務單位：基隆長庚醫院 ¹神經內科 ²胸腔科睡眠中心