

Effects on neuropsychological performance and sleep quality in patients with obstructive sleep apnea syndrome

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ABSTRACT

Patients with obstructive sleep apnea syndrome (OSAS) may have impaired neuropsychological performance. The aim of the study is to assess neuropsychological function in OSAS patients before and on continuous positive airway pressure (CPAP) therapy to assess different neuropsychological tests – especially of sensomotor memory – in OSAS patients, and to relate neuropsychological test results to polysomnographic findings. Therefore, 36 normal controls and 18 OSAS patients performed tests of attention capacity and memory with retrieval in the evening and the following morning. Six weeks later, the tests were repeated (patients on CPAP). Controls performed significantly better than patients in the tests of attention and of memory of facts without and on CPAP therapy. Moreover, good compliance of CPAP therapy was not associated with better performance. However, there was no significant difference between controls and patients in the tests of sensomotor memory. The neuropsychological results depended on oxygen values, the arousal index, and sleep stages. There is no group difference in overnight improvement in the neuropsychological tests, which could indicate that sleep has an important function in homeostatic regulation rather than in consolidation.

Keywords: Obstructive sleep apnea syndrome (OSAS); Neuropsychological tests; Sleep functions; Sleep quality; Continuous positive airway pressure (CPAP)