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## **Deficits of cognitive executive functions in patients with sleep apnea syndrome.**

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Impairment of cognitive executive functions previously has been suspected to occur in association with sleep apnea syndrome (SAS), as suggested by some neuropsychological studies. However, such functions have not been assessed directly. In the present study, 17 patients with SAS were evaluated with various focused frontal lobe-related tests in comparison with 17 normal controls. Such tasks explored attention, short-term memory spans, learning abilities, planning and programming capacities, categorizing activities and verbal fluency. Patients were found to have a significantly decreased ability to initiate new mental processes and to inhibit automatic ones, in conjunction with a tendency for preservative errors. They were also affected with deficits of verbal and visual learning abilities and had reduced memory spans. Such defects were further evaluated via logistic regression against two criteria of the severity of the disease: the number of apneas and hypopneas per hour of sleep and the level of nocturnal hypoxemia. Memory deficits were rather related to the former, whereas typical frontal lobe-related abnormalities seemed rather consistent with the latter. These findings are discussed in light of data from the literature concerning cognitive impairments described for patients with isolated daytime sleepiness versus hypoxemia, as illustrated in other pathological or physiological circumstances.

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