Obstructive sleep apnoea and 5-year cognitive decline in the elderly

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Shareable abstract (@ERSpublications)
In a sample of elderly people from the general population, obstructive sleep apnoea parameters, particularly those of nocturnal hypoxaemia, predicted steeper cognitive decline over 5 years
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Abstract

Background The relationship between obstructive sleep apnoea (OSA) and cognitive decline remains controversial, especially in the elderly population. We used data from the HypnoLaus study to assess associations between OSA and longitudinal cognitive changes in a sample of community-dwelling elderly individuals.

Methods We studied associations between polysomnographic OSA parameters (of breathing/hypoxaemia and sleep fragmentation) and cognitive changes over a 5-year period, after adjustment for potential confounders. The primary outcome was the annual change in cognitive scores. The moderating effects of age, sex and apolipoprotein E4 (ApoE4) status were also examined.

Results 358 elderly individuals without dementia were included (mean±SD age 71.0±4.2 years; 42.5% males). A lower mean peripheral oxygen saturation (S_{pO_2}) during sleep was associated with a steeper decline in Mini-Mental State Examination (B= −0.12, p=0.004), Stroop test condition 1 (B=0.53, p=0.002) and Free and Cued Selective Reminding Test delayed free recall (B= −0.05, p=0.008). A longer time spent asleep with S_{pO_2} <90% was associated with a steeper decline in Stroop test condition 1 (B=0.47, p=0.006). Moderation analysis showed that apnoea–hypopnoea index and oxygen desaturation index were associated with a steeper decline in global cognitive function, processing speed and executive function only in older participants, men and ApoE4 carriers.

Conclusions Our results provide evidence of the contribution of OSA and nocturnal hypoxaemia to cognitive decline in the elderly population.