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Obstructive Sleep Apnoea and Alzheimer's Disease: in Search of Shared Pathomechanisms

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Highlights

- Alzheimer's disease (AD) is a significant public health concern.
- The processes involved in the pathogenesis of AD have been shown to overlap with those found in cognitive decline in patients with Obstructive Sleep Apnoea (OSA).
- An excessive and prolonged neuronal activity might contribute to genesis and acceleration of both AD and OSA in the absence of appropriately structured sleep.
- External factors, such are systemic inflammation and obesity, are likely to interfere with immunological processes of the brain, and further promote disease progression.

Abstract

Alzheimer's disease (AD) is a significant public health concern. The incidence continues to rise, and it is set to be over one million in the UK by 2025. The processes involved in the pathogenesis of AD have been shown to overlap with those found in cognitive decline in patients with Obstructive Sleep Apnoea (OSA). Currently, the standard treatment for OSA is Continuous Positive Airway Pressure. Adherence to treatment can, however, be an issue, especially in patients with dementia. Also, not all patients respond adequately, necessitating the use of additional treatments. Based on the body of data, we here suggest that excessive