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Time to wake up to sleep disorders in dementia

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In the last few years, there has been an increase in the studies of sleep disorders and their role in the pathogenesis of dementia. Most notably, obstructive sleep apnoea (OSA) and rapid eye movement (REM) sleep behaviour disorder have been closely studied. We carried out a narrative review of OSA to study its association with Alzheimer's disease and mild cognitive impairment (MCI). OSA is a very common, yet undiagnosed sleep disorder, with high prevalence in older people. OSA is characterized by repetitive cessation or reduction of airflow due to upper airway obstruction. It is a well-known risk factor for vascular illnesses and has been implicated in the pathogenesis of stroke, hypertension and cardiac arrhythmias. The resultant chronic intermittent hypoxia and hypercapnia in undiagnosed OSA can result in cognitive impairment. Furthermore, OSA with cognitive impairment shares some features with Alzheimer's disease, such as involving genetic predisposition ApoE4, hippocampus and synaptic plasticity abnormalities. On balance, OSA has negative effects on cognition, most likely in the domain of attention, verbal and visual delayed long-term memory and executive functions. A still unanswered question is whether these deficits are primarily a consequence of sleep fragmentation and/or hypoxemia, or whether they co-exist independently from OSA. A thorough clinical examination with an emphasis on a comprehensive sleep history is cornerstone in the assessment of OSA. However, sleep study is required to make a definitive diagnosis. First line of treatment includes modification of lifestyle, for e.g., reduction of body weight, quitting smoking and alcohol use. The gold standard treatment is continuous positive airway pressure (CPAP); however, tolerability can be an issue, especially in older people diagnosed with dementia. Another important sleep problem important in neurodegenerative illnesses is REM sleep behaviour disorder (RBD), classed as a parasomnia. It has well established links with synucleinopathies, such as Parkinson's disease, Lewy body dementia (LBD) or multiple system atrophy. However, RBD can occur in patients with Alzheimer's disease, a non-synucleinopathy.

Recent Publications

1. Santosh Bangar, Abhishek Shastri, Hany El-Sayeh, and Andrea E Cavanna (2016) Women with epilepsy: clinically relevant issues. *Functional Neurology* 31(3):127-134.
2. Mehboob Yaqub, Yasir Akbar and Santosh Bangar (2016) Tourette's syndrome: Is there a causal link to violence? *International Journal of Endorsing Health Science Research* 4(1):7-14.
3. Abhishek Shastri, Santosh Bangar and John Holmes (2016) Obstructive sleep apnoea and dementia—is there a link? *International Journal of Geriatric Psychiatry* 31(4):400-5.

Biography

Santosh Bangar was trained in the UK to achieve a CCT in Geriatric Psychiatry with an Endorsement in Liaison Psychiatry of Older People. To pursue his interest in Neuropsychiatry, he studied at the University of Birmingham and achieved a merit. He practises as a Consultant Geriatric Neuropsychiatrist with special interest in Sleep Disorders. He has published articles in Obstructive Sleep Apnoea, Epilepsy, Tourette's syndrome and Delirium. He has been invited to international and national conferences and has served as a Peer Reviewer for prominent scientific journals.

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