Case 14. Snoring Vividly

14

Andrew J. Westwood

History

A 54-year-old man presents to the outpatient sleep clinic after injuring his wife on several occasions during his sleep. He has frequent nightmares and recalls disturbing dreams of being held down under water. He wakes up with his arms flailing and gasping for air. On several occasions he has struck his wife and these events occur often at the weekends in the early morning hours. In the last year he has gained 20 lb and began to snore loudly. His sleep pattern has remained consistent and he continues to obtain an estimated 7 h of sleep per night though recently he feels unrefreshed in the mornings. He yawns during the daytime but does not fall asleep. His father was diagnosed with Parkinson's disease at the age of 92. He takes amlodipine for hypertension and a daily multivitamin. He does not smoke. He drinks a bottle of wine on Saturday nights and is abstinent during the rest of the week.

Examination

Cranial nerve examination was normal with full visual fields, intact extraocular movements and sharp optic discs. Face was symmetric and tongue protruded in the midline. There were no craniofacial abnormalities and a class III airway on the modified Mallampati scale was observed. Tone, strength and reflexes were normal. Gait was normal and sensation was intact.

A. J. Westwood (✉)
Department of Neurology, Maidstone and Tunbridge Wells NHS Trust, Kent, UK
e-mail: andrew.westwood1@nhs.net

A. J. Rodriguez (ed.), *Sleepless and Sleepy*,
https://doi.org/10.1007/978-3-031-18374-4_14

Investigations

Complete blood count, basic metabolic panel, thyroid stimulating hormone, ferritin and liver function tests were normal. A home sleep apnea test revealed a respiratory event index of 4/h. In-lab polysomnography revealed an apnea hypopnea index (AHI) of 8/h with a REM-AHI of 40/h. Phasic bursts of muscle activity were preceded by apneic events throughout REM.

Differential Diagnosis

Dream enactment behaviour (DEB) can occur from a broad range of causes [1]. It oftentimes comes to the attention of the clinician due to injuries sustained either to the individual or to their bedpartner. Adults with NREM parasomnias may recall some vague dreams or partial recall of behaviours; other conditions such as dissociative disorder, parasomnia overlap disorder and trauma associated sleep disorder also need to be considered. Dream enactment behaviour is also a defining feature of REM behaviour disorder (RBD). Secondary causes of RBD need to be considered such as periodic limb movements or sleep-related breathing disorder that can fragment REM sleep. Idiopathic RBD has been associated with α-synucleopathies such as Parkinson's disease—sometimes as a precursor or as a concomitant feature of the disease and therefore examining the individual for evidence of Parkinsonism is important.

Discussion and Management

A polysomnogram can be helpful to confirm from which sleep stage the behaviours arise or if there is an underlying provoking factor such as medications, limb movements or obstructive sleep apnea. In a history of new onset snoring and weight gain a home sleep apnea test may be a quick and accessible screen to evaluate for sleep related breathing disorder. Many of these devices use simple algorithms for approximate sleep staging or may not provide any sleep architecture information. It is important therefore to ensure that not only the overall AHI is reviewed but the pattern of respiratory events through the night as they may appear more frequently in clusters—either due to an alteration in body position/body:head position or due to shift in sleep stage. If diagnostically this is equivocal or negative then in-lab polysomnography should be obtained.

Obstructive sleep apnea is often worse in REM sleep due to paralysis of the body and reliance upon the diaphragm for ventilation. Alcohol can exacerbate sleep related breathing disorders as well as acutely reduce REM sleep and cause subsequent REM rebound on cessation of alcohol. Fragmentation of REM sleep can trigger reports of nightmares, dreams of choking and drowning, and in some individuals provoke arousal responses sufficient to cause movements. In this individual with recent weight gain and snoring it is important to consider secondary causes of DEB. The

degree of obstructive sleep apnea may be negligible or mild based on the overall AHI. However with details from the in-lab polysomnogram the degree of sleep disordered breathing in REM specifically was severe and associated with myogenic activity. In this individual, treatment with positive airway pressure resolved both the snoring and the DEB allowing the individual to achieve restorative sleep. Another cause of secondary DEB is medication such as selective serotonin reuptake inhibitors [2]. There is some evidence that these are catalysts for the presentation of RBD: when they are removed the behaviours may resolve however the individual may present years later with DEB, at that time without a secondary cause. Clinicians should therefore be mindful that sleep-disordered breathing in these individuals may also be a precipitant in a similar way and should be monitored longitudinally.

Final Diagnosis

Dream enactment behaviour secondary to obstructive sleep apnea

References

1. Baltzan M, Yao C, Rizzo D, Postuma R. Dream enactment behavior: review for the clinician. J Clin Sleep Med. 2020;16(11):1949–69. https://doi.org/10.5664/jcsm.8734. PMID: 32741444; PMCID: PMC8034224.
2. Postuma RB, Gagnon JF, Tuineaig M, Bertrand JA, Latreille V, Desjardins C, et al. Antidepressants and REM sleep behavior disorder: isolated side effect or neurodegenerative signal? Sleep. 2013;36(11):1579–85. https://doi.org/10.5665/sleep.3102. PMID: 24179289; PMCID: PMC3792373.