MAYO CLINIC

Importance of Rapid Eye Movement Sleep Behavior Disorder to the Primary Care Physician

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CME Activity

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Learning Objectives: On completion of this article, you should be able to (1) recognize the clinical manifestations of rapid eye movement sleep behavior disorder, (2) describe the importance of early diagnosis and treatment of this disorder, and (3) identify which factors are associated with an increased rate of progression from rapid eye movement sleep behavior disorder to clinically overt neurodegenerative disease.

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Abstract

Sleep disorders and neurodegenerative diseases are commonly encountered in primary care. A common, but underdiagnosed sleep disorder, rapid eye movement sleep behavior disorder (RBD), is highly associated with Parkinson disease and related disorders. Rapid eye movement sleep behavior disorder is common. It is estimated to affect 0.5% of the general population and more than 7% of individuals older than 60 years; however, most cases go unrecognized. Rapid eye movement sleep behavior disorder presents as dream enactment, often with patients thrashing, punching, and kicking while they are sleeping. Physicians can quickly assess for the presence of RBD with high sensitivity and specificity by asking patients the question "Have you ever been told that you act out your dreams, for example by punching or flailing your arms in the air or screaming and shouting in your sleep?" Patients with RBD exhibit subtle signs of neurodegenerative disease, such as mild motor slowing, constipation, or changes in sense of smell. These signs and symptoms may predict development of a neurodegenerative disease within 3 years. Ultimately, most patients with RBD develop a neurodegenerative disease, highlighting the importance of serial neurological examinations to assess for the presence of parkinsonism and/or cognitive impairment and prognostic counseling for these patients. Rapid eye movement sleep behavior disorder is treatable with melatonin (3-6 mg before bed) or clonazepam (0.5-1 mg before bed) and may be the most common, reversible cause of sleep-related injury. Thus, it is important to identify patients at risk of RBD in a primary care setting so that bedroom safety can be addressed and treatment may be initiated.

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Sleep disorders are common in the general population and can lead to a marked impairment in daytime functioning and quality of life; however, they are often underdiagnosed.[1] Obstructive sleep apnea (OSA), insomnia, restless legs syndrome, and excessive daytime sleepiness are among the most commonly encountered sleep problems in the primary care setting.[2] Furthermore, primary care physicians are often tasked with the challenge of unraveling the complexities of abnormal motor behaviors during sleep, ranging from sleepwalking to nocturnal seizures and confusional arousals. However, an underdiagnosed sleep disorder, rapid eye movement (REM) sleep behavior disorder (RBD), is a potentially injurious parasomnia that should be considered in older patients presenting to the primary care physician complaining of abnormal activity during sleep.

Sleep is divided broadly into non—rapid eye movement (NREM) sleep and REM sleep, with unique nocturnal behaviors arising from NREM and REM sleep, respectively. Under normal physiological conditions, REM sleep is typified by active mentation (dreams) and skeletal muscle paralysis. Rapid eye movement sleep skeletal muscle atonia is critical to prevent dream enactment and promote a period of quiescence for REM sleep—related memory consolidation. Rapid eye movement sleep behavior disorder is characterized by dream enactment behavior (DEB) that emerges resulting from the loss of REM sleep without atonia. Although RBD was initially thought to be simply an intriguing nocturnal phenomenon, longitudinal studies of patients with RBD revealed high potential for injuries to patients with RBD and their bed partners as well as a concerning connection to parkinsonian neurodegenerative diseases that make this disorder important to be recognized by primary care physicians.

EPIDEMIOLOGY AND PHENOMENOLOGY OF RBD

Spontaneous RBD is traditionally considered to be a disorder of older adults, with large published case series reporting approximately an 80% male prevalence with the onset of disease most commonly in the fifth to sixth decade of life.[3-5] However, there is evidence to suggest that RBD in women is underrecognized, particularly in the young and in the setting of autoimmune conditions.[6,7] Furthermore, women have less violent and, therefore, less injurious DEB and thus are less likely to receive medical attention.[7] Another contributing factor to this discrepancy is likely due to the sex difference in life expectancy; elderly women are less likely to have bed partners than elderly men, leading to unwitnessed parasomnia behaviors. Rapid eye movement sleep behavior disorder typically presents in either the sixth or the seventh decade; however, when questioned specifically, many patients will report a long-standing history suggestive of DEB.[8] Population-based studies[9,10] estimate that 0.5% of the general population and 7.7% of individuals older than 60 years have probable RBD. However, most individuals with RBD go unrecognized or underreported. Patients and bed partners are often unsure how to broach the frequently taboo subject of out-of-control activities in the bedroom. Furthermore, physicians often interpret the behaviors as symptoms of an underlying mood disorder or conflict between spouses rather than a primary sleep disturbance.

Despite the seemingly disruptive nature of punching, flailing, and screaming during sleep, up to 44% of patients with RBD are unaware of their DEB. In addition, it is not uncommon to identify a history of RBD as a secondary symptom when evaluating a patient for other sleep problems such as OSA or insomnia.[3] Dream enactment behaviors can range from violent and complex behaviors, such as thrashing in bed, punching and kicking bed partners, and jumping out of windows, to simple activities of daily living such as playing the piano or washing dishes.[11] In fact, it is likely that the minority of patients with RBD involve impressive and obvious DEB whereas most DEB may be unobtrusive movements limited to the hands, otherwise known as *hand babbling*. The violent nature of RBD can often result in injury, with 55% to 96% of patients and/or bed partners reporting injury, highlighting the importance for timely recognition and treatment of this disorder.[12,13] Injuries range from bruises and scratches to the more severe: fractures of the cervical vertebrae and basilar skull, shoulder dislocations, or hematomas.[12]