

Periodic Limb Movements During Deep Mimicking REM Sleep Behavior Disorder

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Objective

To describe a group of patients referred because of abnormal sleep behaviors that were suggestive of REM sleep behavior disorder (RBD) and in whom video-polysomnography ruled out RBD and showed that the reported behaviors were associated with vigorous periodic limb movements during sleep (PLMS).

Methods

Clinical history and video-polysomnography review of patients identified during routine visits in a sleep center.

Results

Patients were fifteen men and two women with a median age of 66 (range 48-77) years. Reported sleep behaviors were kicking (n=17), punching (n=16), gesticulating (n=8), falling out of bed (n=5), assaulting the bed partner (n=2), talking (n=15) and shouting (n=10). Behaviors resulted in injuries in three bed partners and one patient. Twelve (70.6%) patients were not aware of displaying abnormal sleep behaviors that were noticed by their bed partners. Eight (47%) patients recalled unpleasant dreams such as being attacked or chased. Video-polysomnography showed 1) frequent and vigorous stereotyped PLMS (median PLMS index 61.2; median PLMS index in NREM sleep 61.9; median PLMS index in REM sleep 20) involving the lower limbs, upper limbs and trunk, 2) abnormal behaviors (e.g., punching, groaning) during some of the arousals that immediately followed PLMS, and 3) ruled out RBD and other sleep disorders such as obstructive sleep apnea. Dopaminergic agents were prescribed in fourteen patients and resulted in improvement of abnormal sleep behaviors and unpleasant dreams in all of them. After dopaminergic treatment, follow-up video-polysomnography in seven patients showed a decrease in the median PLMS index from baseline (108.9 vs. 19.2, $p=0.002$) and absence of abnormal behaviors during the arousals.

Conclusions

Abnormal sleep behaviors and unpleasant dreams simulating RBD symptomatology may occur in patients with severe PLMS. In these cases, video-polysomnography rules out RBD and identifies prominent PLMS followed by arousals containing abnormal behaviors. Our cases represent an objectively documented subtype of periodic limb movement disorder causing abnormal sleep behaviors.