A 67-Year Old Man who Repeatedly Jabs his Wife during Sleep

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Abstract

We present a 67 year-old male veteran with untreated obstructive sleep apnea (OSA) with early morning episodes of jabbing his wife’s arm during sleep for approximately one year. He underwent video EEG monitoring and polysomnography (PSG) with optimal treatment of OSA. Video during both procedures captured stereotyped movements with subtle ictal scalp EEG findings consistent with nocturnal frontal lobe seizures (NFLE) during REM and NREM sleep. As incident epilepsy in not rare in older individuals, this case highlights the need of including epilepsy in the differential diagnosis of nocturnal paroxysmal movements, particularly in patients whose clinical history may be confounded by untreated OSA.

INTRODUCTION

Diagnosing paroxysmal motor events during sleep can be challenging [1,2]. In individuals with obstructive sleep apnea, semiological similarities make it even more difficult to distinguish between sleep-related seizures and parasomnias. We present a case highlighting the necessity of comprehensive evaluations to determine the etiology of paroxysmal motor events, particularly in older patients with OSA.

CASE PRESENTATION

A 67 year-old Cuban-American veteran with moderate OSA, non-adherent with continuous positive airway pressure (CPAP), presented to neurology clinic with 1-year history of nightly episodes of jabbing his wife’s arm. The events were stereotyped and occurred throughout the night, beginning approximately an hour after falling asleep. His wife reported 5 or more events nightly, each lasting < 1 minute, without associated vocalizations. Most episodes occurred in the early morning hours. He was amnestic of these events and denied acting out vivid/violent dreams, tongue biting, incontinence, or sleep-related injuries. Objective CPAP download showed use on only 5% of nights over the previous year. He denied history of alcohol use, smoking, or illicit drugs. There was no history of traumatic brain injury, CNS infections, febrile seizures, NREM parasomnias, or family history of parasomnias/epilepsy. His comorbid conditions included hypertension and coronary artery disease treated with metoprolol, lisinopril, rosuvastatin, and clopidogrel.

He was admitted to the epilepsy unit for video-EEG monitoring. He had an unremarkable neurological examination and enhanced brain magnetic resonance imaging. Throughout the 5-day admission, the patient slept with CPAP (10cm of H2O), which had been prescribed 1 year prior. On the first night, video-EEG captured 7 episodes of stereotyped events (duration 18-45 secs) consisting of asymmetric tonic posturing of the extremities, abduction and elevation of the right arm, simple oral and leg automatisms. Ictal EEG onset did not show any pattern of cortical irritability (Figure 1); however, high amplitude mixed theta and delta rhythm in the frontal leads occurred in the late seizure phase.

The patient completed a baseline overnight PSG (Apnea-hypopnea index of 28 events/hour) followed by a titration PSG confirming optimal CPAP treatment with 10 cm H2O (>75 minutes supine REM sleep). Nine more seizures (5 in REM sleep, 4 in N2 sleep) were captured unrelated to obstructive respiratory events. Atonia was preserved during REM sleep. Valproic acid treatment resulted in seizure cessation for the remainder of the admission.

DISCUSSION

Our case represents a rare presentation of nocturnal frontal lobe epilepsy with nocturnal paroxysmal dystonias (NPD) in REM and NREM sleep [1]. The seizures semiology and EEG pattern localize to the supplementary sensory motor area [3]. In this case, the stereotopic behaviors, EEG findings, and response to antiepileptic treatment confirmed the diagnosis; however,
often, nocturnal motor events provide diagnostic challenges as descriptive details may be lacking, and scalp EEG findings may be normal, subtle or nonspecific [1,2].

This veteran’s gender, age, non-adherence to CPAP, and predominance of early morning events initially made us favor the diagnoses of idiopathic REM sleep behavior (RBD) disorder or pseudo RBD, complex behaviors triggered by obstructive respiratory events during REM sleep [4]. However, PSGs did not show REM sleep without atonia or residual obstructive events at the patient’s therapeutic pressure. Although this veteran did not have known epilepsy risk factors, 2% of new-onset epilepsy arises in older individuals [5].

Our patient’s occurrence of NFLE during REM sleep is unusual [6]. In a case series of 100 individuals with NFLE recording 149 episodes of NPD, most seizures occurred during NREM sleep (N1 11%, N2 62%, N3 23%) while only 4% were captured during REM sleep [1]. In a review which examined 9 studies with 542 patients and 1990 focal seizures, only 1% of seizures occurred during REM sleep [6]. A higher prevalence of seizures during NREM occurs as a result of greater synchronization of cortical neurons [6]. This differs from REM sleep and wakefulness, which represent states of maximal desynchronization of cortical neurons. For this reason, REM sleep has been noted to be the most protective stage of sleep against all seizure types [6].

In conclusion, this case underscores the importance of including epilepsy in the differential of not only NREM but also REM sleep motor phenomena in older patients, particularly in those where sleep-related movements may be confounded by untreated OSA.

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**REFERENCES**


