

COMMENTARY

Distinct Disorder? Or Mash Up of Several?

Commentary on Feemster et al. Trauma-associated sleep disorder: a posttraumatic stress/REM sleep behavior disorder mash-up? *J Clin Sleep Med*. 2019;15(2):345–349.

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Feemster et al.¹ present an outstanding case illustrating the complexities of parasomnias in combat veterans. The topic is timely given the high volume of veterans with sleep complaints as we approach two decades of war. Although public awareness and resources to diagnose and manage sleep disorders have improved, we often miss the big picture (insufficient sleep, substance use, poly pharmacy, insomnia, nightmares, mood disorders).

This case provides a more intimate look at the clinical controversy surrounding disruptive nocturnal behavior (DNB) in veterans. It is particularly compelling because the authors are leading experts in the field and still struggling with the challenges that all of us face in diagnosing and treating these patients. Response to therapy in trauma-associated sleep disorder (TSD) seems to be the exception, even in the best of hands. Several questions arise. Should the constellation of combat-related nightmares, dream enacting behavior (DEB) and DNB represent a formal single diagnosis (TSD)? Do these patients simply suffer from a subtype of REM sleep behavior disorder (RBD)? Or are we ineffective at managing multiple comorbid sleep and mood disorders?

There are several differences between TSD and RBD. RBD tends to present in older adult males with DEB emerging from violent, aggressive, or confrontational dream content. RBD can present several years prior to overt neurodegenerative disease.^{2,3} The patient presented by Feemster et al.¹ is over 50 years of age, which increases concern for RBD. However, some of the patient's behaviors were linked to combat-related dreams while others lacked dream recall (consistent with TSD).⁴⁻⁶ In general, patients with RBD do not have comorbid posttraumatic stress disorder (PTSD) confounding their presentation. They may have comorbid obstructive sleep apnea (like the case), however "pseudo-RBD" in the setting of sleep apnea,⁷ does not account for REM sleep without atonia (RWA). The authors comment that this patient meets the diagnosis of RBD based on the International Classification of Sleep Disorders, Third Edition.⁸ This is debatable, "the disturbance is not better explained by another sleep disorder, mental disorder, medication, or substance use."

TSD nightmares occur in both REM and NREM sleep, which contrasts with RBD. TSD polysomnography findings are notable for autonomic hyper-arousal (tachycardia, tachypnea

and diaphoresis),^{4,6} unrelated to sleep-disordered breathing events, and which are not found in RBD. Many veterans from recent conflicts have engaged in nighttime operations due to technologies (night-vision) not utilized in prior wars. This may explain the burden of insomnia and nighttime hypervigilance. Assessing TSD as a unique and distinct disorder in its own right is reasonable given that the concurrent disturbances (DNB, DEB, nightmares, insomnia) feed off and perpetuate one another. There may be underlying neurophysiologic mechanisms whereby insomnia propagates further nightmares and DNB/DEB.^{4,6} Although TSD appears to emerge from a traumatic past event (war-related combat), these patients may not have daytime symptoms of PTSD. Patients with PTSD often have nightmares; however, nightmare disorder alone does not include RWA and DEB.^{9,10}

A significant issue for improving knowledge on this topic is heterogeneity in scoring RWA. A number of electromyography (EMG) montages exist for the evaluation of RWA. The standard recommended EMG montage from The AASM Manual for the Scoring of Sleep and Associated Events: Rules, Terminology and Technical Specifications (AASM Scoring Manual) uses a three-electrode placement for chin tone and a single electrode on the anterior tibialis muscle in each lower limb. Four-limb EMG is considered optional and can utilize either flexor digitorum superficialis or extensor digitorum communis in upper limbs.¹¹ The Mayo group (Feemster et al.¹) use the same montage as described by the AASM Scoring Manual, submentalis and anterior tibialis, and do not require any upper limb EMG.¹²⁻¹⁴ In contrast, the SINBAR group's montage (Sleep Innsbruck Barcelona) does require upper limb leads (flexor digitorum superficialis) and also utilizes a limb lead different from that recommended by the AASM Scoring Manual: extensor digitorum brevis.¹⁵⁻¹⁷ The initial TSD case series used "any" EMG activity index on mentalis EMG alone and found a broad range from 13.7% to 37.6% of "any" EMG activity in mentalis muscle EMG per 3-second mini-epoch as a percentage of total REM sleep.⁵ The case published in this issue of the *Journal of Clinical Sleep Medicine* by Feemster et al.¹ uses the methods described by the Mayo group. Because they use the standard EMG montage recommended by the AASM Scoring Manual (mentalis and anterior tibialis) these criteria may be more applicable for evaluating current populations with TSD,

including observational cohorts that have already undergone polysomnography.

This report does have some gaps, that provide a more realistic perspective and add to the educational value. The lack of information about alcohol intake (and tobacco) is glaring. The patient has a pattern of RWA more consistent with antidepressant use, noted by the authors, and it is not clear how these therapies affected his condition. The patient tried prazosin up to 4 mg, without benefit; however, doses in excess of 10 mg may be needed, so it is not clear why the dose was not increased (ie, orthostatic symptoms).¹⁸ The patient also tried melatonin, presumably for RBD; however, the dose of 3 mg may also have been too low (doses exceeding 10 mg have been studied).^{2,3,19} The patient reportedly used continuous positive airway pressure, but objective data on efficacy and adherence are not listed. Sleep deprivation is common among service members with nearly two-thirds sleeping less than 6 hours per night.²⁰ Actigraphy may be valuable to assess the relationship between habitual sleep deprivation and RWA in TSD.

The impact of DNB and combative DEB on veterans can be devastating. Veterans with PTSD and poor sleep have an increased risk of suicide. Combative and disruptive behaviors that invade the bedroom risk alienating the patient from their support network (intimacy, spouse, bed partner, household). Sleep medicine as a specialty tends to focus more on sleep-disordered breathing, which can limit the depth of our care for these patients, who are refractory to management of each of their individual sleep problems. Recognition of TSD as a distinct diagnosis may help to provide more holistic care to veterans with sleep disorders.

CITATION

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The authors report no conflicts of interest.