"The Spectrum of Parasomnias Other Than RBD – Classification and Video"

Carlos H. Schenck, M.D.

Minnesota Regional Sleep Disorders Center
Hennepin County Medical Center
University of Minnesota Medical School
Minneapolis, MN, USA

<schen010@umn.edu>

Disclosure

Consultant, Axovant Sciences (not relevant to this presentation)

Learning Objectives

- 1) Discuss how all our instinctual behaviors can be abnormally released during sleep with the parasomnias, with major clinical consequences.
- 2) Present the differential diagnosis of sleep-related injury and violence, including sleep-related biting.
- 3) Present the cardinal features and management of Somnambulism, Night Terrors, and Sleep Related Eating Disorder arising from Non-REM sleep.
- 4) Discuss Sexsomnia (abnormal sleep-related sexual behaviors) and its management.

Key Message

A broad range of Non-REM sleep parasomnias exists, and can usually be effectively managed.

"The Spectrum of Disorders Causing Violence During Sleep"

Carlos H. Schenck, M.D.

Sleep Science and Practice 2019;

3:2; doi: 10.1186/s41606-019-0034-6.

(Sleep and Epilepsy Issue)

Differential Diagnosis: Sleep-Related Injury & Violence

- NREM Sleep Parasomnias (SW, Sleep Terrors, Confusional Arousals)
- 2. REM Sleep Behavior Disorder (RBD)
- 3. Parasomnia Overlap Disorder (RBD + NREM Paras)
- 4. Obstructive Sleep Apnea
- 5. Sexsomnia (Sleepsex)
- 6. Sleep Related Dissociative Disorder (Psychiatric)
- 7. Trauma-Associated Sleep Disorder/PTSD

Differential Diagnosis: Sleep-Related Injury & Violence

- 8. Periodic Limb Movement Disorder
- 9. Rhythmic Movement Disorder (jactatio capitis nocturna)
- 10. Nocturnal Scratching Disorder
- 11. Sleep Related Eating Disorder
- 12. Nocturnal Seizures
- 13. Miscellaneous/Mixed Disorders

Case Report

"Violent Parasomnia With Recurrent Biting and Surgical Interventions: Case Report and Differential Diagnosis"

J Clin Sleep Med 2018;14(5): May 15, 2018

Danish N, Khawaja IS, Schenck CH

Table 1 <u>Differential Diagnosis of Sleep-Related Biting</u>

- 1. NREM sleep parasomnia
- 2. Obstructive sleep apnea
- 3. NREM sleep parasomnia + OSA
- 4. REM sleep behavior disorder
- 5. Parasomnia overlap disorder (RBD + NREM parasomnia)

Table 1 Differential Diagnosis of Sleep-Related Biting

- 6. Sleep-related dissociative disorder
- 7. Sleep-related rhythmic movement disorder
- 8. Sleep-related seizures
- 9. Sleep-related eating disorder

Sleepwalking

Sleepwalking consists of a series of complex behaviors that are usually initiated during sudden arousals from slow-wave sleep and culminate in walking around with an altered state of consciousness and impaired judgment.

Sleepwalking-Demographics

- Usually benign in childhood, but could become progressively hazardous with increasing age.
- May persist and intensify into adulthood.
- Up to 4% of adults have sleepwalking, including de novo sleepwalking.

Sleepwalking (in predisposed people)

Precipitating Factors

- Sleep deprivation: the most post potent factor (including irregular sleep-wake schedule)
- Sleep disordered breathing: newly recognized
- Stress (physical and emotional)
- Premenstural period
- Febrile states (children)
- Travel, sleeping in unfamiliar places

Sleepwalking Episodes

Precipitating Factors (continued)

- Alcohol use or abuse
- Medications: zolpidem (#1), most sedativehypnotics. FDA "Black Box" warning 30 April 2019: dangerous parasomnia behaviors: zolpidem, zaleplon, eszopiclone: "Z drugs"
- Medical disorders: hyperthyroidism, migraines, head injury, etc.
- Psychiatric disorders: depression, anxiety,

Sleep Terrors (Pavor Nocturnus)

- Sudden arousals from slow-wave sleep with a cry or loud scream, intense fear, and autonomic nervous system hyperactivation: tachycardia, tachypnea, diaphoresis, increased muscle tone.
- Unresponsive to external stimuli, and if awakened, is confused and disoriented.

Sleep-Related Eating Disorder (SRED)

Classified as a <u>Parasomnia</u> in the International Classification of Sleep

Disorders, 3rd Edition, 2014

- Circadian misalignment in eating.
- Sleep & Eating: Instinctual behaviors that become pathologically intertwined in SRED.

- Female-predominant disorder:
 - 60%-83% of patients in reported series.
- Mean age of onset: 22-40 years.
- Nightly frequency of nocturnal eating:
 very common (>50% of reported cases).
- Overweight/obese (BMI criteria): 50%
- Hunger is virtually never reported

SRED—Diagnostic Criteria (ICSD-3)

A. Recurrent episodes of dysfunctional eating that occur after an arousal from sleep, during the main sleep period.

B. One or more of the following must be present with the recurrent episodes of involuntary eating:

Adverse Health Consequences From SRED

- 1) Excessive weight gain/obesity.
- 2) Destabilization (or precipitation) of diabetes mellitus (type I or II).
- 3) Hypertriglyceridemia/Hypercholesterolemia.
- 4) Dental problems: tooth decay & chipped teeth.
- 5) Allergic reaction from carelessly eating foods to which one is allergic.
- 6) Secondary depression from loss of control.

SRED—Diagnostic Criteria (ICSD-3)

C. There should be at least partial loss of conscious awareness during the eating episode with subsequent impaired recall. "Sleep and Sex: What Can Go Wrong?

A Review Of The Literature On Sleep

Disorders and Abnormal Sexual Behaviors

and Experiences"

Sleep 2007; 30: 683-702.

Schenck CH, Arnulf I, Mahowald MW

Sexsomnia: Two Most Common Causes

 Non-REM Parasomnia: Confusional Arousals, Sleepwalking

Typical history: multiple parasomnias, often with childhood-onset: Sleepwalking, Sleep Terrors, Confusional Arousals, Sleep Related Eating Disorder, Sleeptalking, RMD, etc.

Sexsomnia: Two Most Common Causes

2. Obstructive Sleep Apnea (inducing Confusional

Arousals)

reported by the bed partner.

"Snorgasm" "Sexapnea"

Typical history: onset or increase of snoring with the onset of the sexsomnia, as

22

References

- Schenck CH. The Spectrum of Disorders Causing Violence During Sleep. Sleep and Epilepsy Issue. Sleep Science and Practice 2019; 3:2; doi: 10.1186/s41606-019-0034-6.
- Danish N, Khawaja IS, Schenck CH. Violent Parasomnia with Recurrent Biting and Surgical Interventions: Case Report and Differential Diagnosis. J Clinical Sleep Medicine 2018;14 (5): 889–891.
- Irfan M, Schenck CH, Howell MJ. Non-REM and Overlap Parasomnias. CONTINUUM: Sleep Neurology (American Academy of Neurology) 2017; 23 (4): 1035-1050.
- Lopez R, Shen Y, Chenini S, Rassu AL, et al. Diagnostic criteria for disorders of arousal: A video-polysomnography assessment. Ann Neurol 2018 Jan 23. doi: 10.1002/ana.25153.
- Baldini T, Loddo G, Sessagesimi E, et al. Clinical Features and Pathophysiology of Disorders of Arousal in Adults: A Window into the Sleeping Brain. Front Neurol 2019 May 17;10:526. doi: 10.3389/fneur.2019.00526.
- Drakatos P, Marples L, Muza R, et al. Video polysomnographic findings in non-rapid eye movement parasomnia. J Sleep Res 2018 Oct 8:e12772. doi: 10.1111/jsr.12772. 23

- Bargiotas P, Arnet I, Frei M, Baumann CR, Schindler K, Bassetti CL. Demographic, Clinical and Polysomnographic Characteristics of Childhood- and Adult-Onset Sleepwalking in Adults. Eur Neurol 2017 Oct 26;78(5-6):307-311. doi: 10.1159/000481685.
- Stallman HM, Kohler M, White J. Medication induced sleepwalking: A systematic review. Sleep Med Rev 2017 Jan 29. doi: 10.1016/j.smrv.2017.01.005.
- Drakatos P, Marples L, Muza R, et al. NREM parasomnias: a treatment approach based upon a retrospective case series of 512 patients. Sleep Med 2018 Apr 10. doi: 10.1016/j.sleep.2018.03.021.
- Manni R, Toscano G, Terzaghi M. Therapeutic Symptomatic Strategies in the Parasomnias. Curr Treat Options Neurol 2018 Jun 5;20(7):26. doi: 10.1007/s11940-018-0508-3.
- Schenck CH, Hurwitz TD, Bundlie SR, Mahowald MW. Sleep-related eating disorders: polysomnographic correlates of a heterogeneous syndrome distinct from daytime eating disorders. Sleep 1991; 14: 419-431.
- Schenck CH, Hurwitz, TD O'Connor, KA, Mahowald MW. Additional categories of sleep-related eating disorders and the current status of treatment. Sleep 1993; 16: 457-426.

- Brion A, Flamand M, Oudiette D, Voillery D, Golmard J-L, Arnulf I. Sleep-related eating disorder versus sleepwalking: A controlled study. Sleep Medicine 2012; 13: 1094-1101.
- Howell MJ, Schenck CH. Restless Nocturnal Eating: A Common Feature of Willis-Ekbom Syndrome. J Clin Sleep Medicine 2012; 8 (4): 413-419.
- Varghese R, Rey de Castro J, Liendo C, Schenck CH. Two Cases of Sleep Related Eating Disorder Responding Promptly to Low-Dose Sertraline Therapy. Journal of Clinical Sleep Medicine 2018; 14 (10): 1805-1808.
- Neto MAS, Penna MAP, Sobreira EST, et al. Sleep-related eating disorder in two patients with early-onset Parkinson's disease. Eur Neurol 2011; 66: 106-109.
- Palaia V, Poli F, Pizza F, Antelmi E, et al. Narcolepsy with cataplexy associated with nocturnal compulsive behaviours: a case-control study. Sleep 2011; 34 (10): 1365-1371.
- Schenck CH, Arnulf I, Mahowald MW. Sleep and Sex: What Can Go Wrong? A Review Of The Literature On Sleep Related Disorders And Abnormal Sexual Behaviors And Experiences. Sleep 2007; 30: 683-702.
- Dubessy AL, Leu-Semenescu S, Attali V, Maranci JB, Arnulf I. Sexsomnia: A Specialized Non-REM Parasomnia? Sleep 2017 Feb 1;40(2). doi: 10.1093/sleep/zsw043.

Muza R, Lawrence M, Drakatos P. The Reality of Sexsomnia Current Opinion Pulm Med 2016; 22: 576-582.