Sleep Board Review Question: Epilepsy or Parasomnia?

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Which of the following is the most helpful in differentiating nocturnal frontal lobe epilepsy (NFLE) from non-rapid eye movement (NREM) arousal parasomnias?

1. Onset during rapid eye movement (REM) sleep.
2. Arousal preceding the event.
3. Stereotypy.
4. Concomitant presence of sleep apnea.

Correct!
3. Stereotypy

Nocturnal frontal lobe epilepsy (NFLE) during sleep can be mistaken for NREM arousal parasomnias such as sleepwalking, sleep terror or confusional arousals (1). Notably, a personal or family history of arousal parasomnias may be obtained in around 40% of persons with NFLE (2). NFLE is characterized by abrupt onset, usually initiating in N1 or N2 stage of sleep (Option 1). Parasomnias arise from N3 sleep and can have an abrupt onset in approximately 20% of the episodes (1). REM sleep appears to be somewhat protective against seizures. While many parasomnias begin with arousals, brief arousals may be noted in half the cases of NFLE (Option 2) (1). OSA is a relatively common condition which can coexist with either NFLE or parasomnias (Option 4) (2).

A high degree of stereotypy, or repetitive movements, is usually seen within individual patients with NFLE (Option 3) (3). Parasomnias, meanwhile, may be associated with variable presentation during different episodes. Behaviors favoring a diagnosis of NFLE include dystonic posturing, limited (if any) interaction with the environment, thrashing, grimacing and cycling movements (1). In contrast, interaction with environment and with persons in vicinity, coherent speech, yawning or sobbing favors parasomnias. Behaviors including speech and interaction with environment may become more complex and developed as the event progresses in parasomnia, with a tapering off (rather than an abrupt offset) in most cases. Such waxing or waning is uncharacteristic of seizure episodes (1).

References

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2. Manni R, Terzaghi M. Comorbidity between epilepsy and sleep disorders Epilepsy Res. 2010;90(3):171-7.
3. Derry CP, Davey M, Johns M. Distinguishing sleep disorders from seizures: diagnosing bumps in the night. Arch Neurol 2006; 63(5): 705-9.