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■ Clinical commentary

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Epileptic Disorders

Television-induced electronegative photoparoxysmal response: an extratemporal seizure mimic?

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Epileptic Disorders

Summary of Case

- A 27-year-old right-handed female with migraine and drug-resistant focal epilepsy was admitted for video-EEG monitoring as part of a comprehensive presurgical evaluation.
- Overnight, on Day 3 of EEG during VEM, “possible subclinical” seizures were identified by the technologist. During this time, the patient appeared to sleep with her head turned to the right after falling asleep while watching the news on a 42-inch liquid crystal television, positioned 15 feet in front of her bed.
- During drowsiness and light sleep, brief generalized attenuations with persistent low-voltage fast activity were found to be time-synched with fluctuating intensity of higher luminance generated by the nearby television screen playing the news.

Epileptic Disorders

Conclusions

- We describe a pseudo-ictal EEG pattern observed during VEM in a patient with frontal lobe epilepsy. An atypical electronegative PPR due to fluctuating levels of illumination was generated by television and mimicked brief nocturnal extratemporal focal seizures.
- We suggest that abrupt changes in unexpected lighting contrast from electronic sources may precipitate photic-induced responses on EEG. Review of the video during VEM remains essential, especially when no apparent motor source is readily identifiable in patients with frontal lobe seizures.

Key points

1. Television may produce fluctuating luminosity and serve as an intermittent form of photic stimulation.

2. A photic response may be diffuse, electronegative, and manifest as voltage attenuation.

3. A “pseudo-photoparoxysmal response” can mimic extratemporal subclinical seizures from an unexpected source.

4. Normal but atypical physiologic responses may challenge diagnosis during video-EEG monitoring.

