

Snoring-related artifact: scalp EEG correlate of historical “limbic spindles”

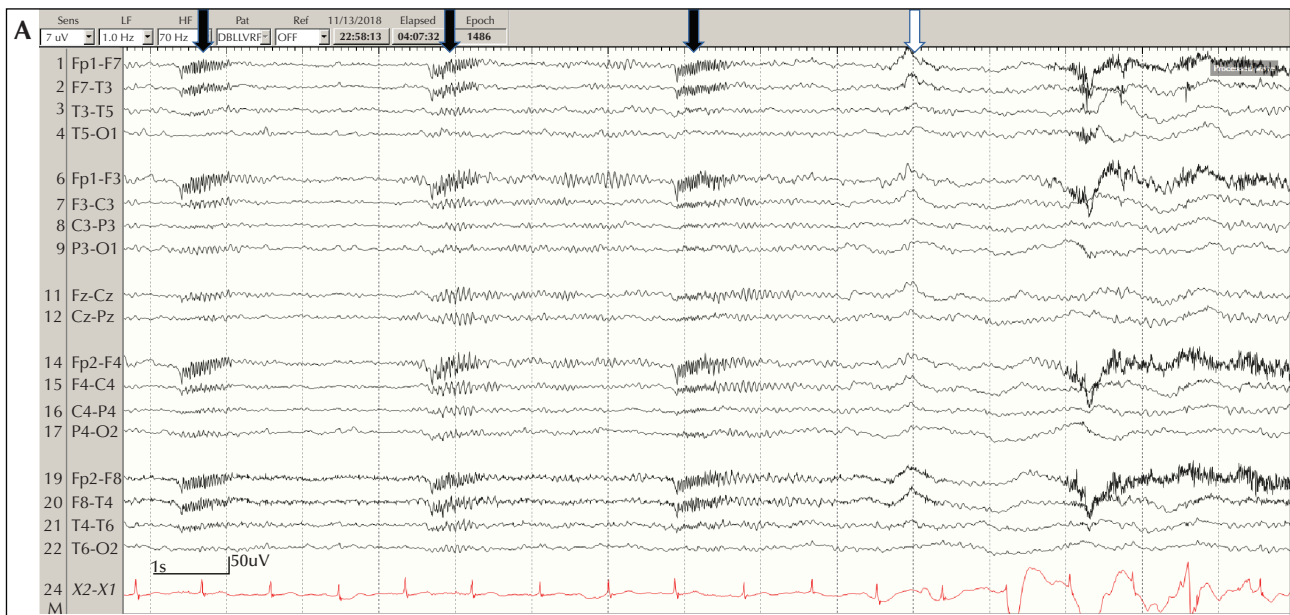
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Artifact identification on EEG is essential in avoiding overdiagnosis. The sleep EEG depicts ~30-Hz bursts, maximum over bilateral frontopolar contacts, lasting ~ 0.5 seconds (*Figure 1A, B*). Periodic occurrence at ~ 20/min raised suspicion for a respiration-related artifact. Audio-EEG (Audio-EEG1) confirmed the correlation with forced expirations. “Spindle bursts” at 20-28 Hz,

coinciding with the end of inspiration and beginning of expiration, recorded from nasopharyngeal electrodes, were historically thought to originate from the cortex overlying the medial amygdala and hence were called “limbic spindles” [1]. Subsequently, simultaneous nasopharyngeal and intracerebral recordings confirmed the artifactual nature of this finding [2, 3]. ■



■ **Figure 1.** (A) EEG in longitudinal bipolar montage showing periodic bursts of ~30-Hz activity (black arrows) occurring every three seconds, with maximum amplitude at bilateral frontopolar contacts, interrupted by arousal (white arrow).

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■ **Figure 1.** (B) EEG in common average referential montage showing periodic bursts of ~30-Hz activity (black arrows) occurring every three seconds, with maximum amplitude at bilateral frontopolar contacts, interrupted by arousal (white arrow).

Supplementary data.

Audio-EEG: EEG showing periodic bursts of ~30-Hz activity, occurring every three seconds, with maximum amplitude at bilateral frontopolar contacts, correlating with snoring and forceful expiration; interrupted by arousal towards the end.

Disclosures.

Dr. Sheikh has received travel reimbursement from Medtronic for meetings related to deep brain stimulation training.

References

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2. Fariello RG, Franzoso S. Limbic spindles: genuine cerebral activity or artifact? *Electroencephalogr Clin Neurophysiol* 1978; 44: 104-7.
3. Engel J, Jr. Respiration-linked «limbic spindles»: vibration artifact recorded from nasopharyngeal and intracerebral electrodes. *Electroencephalogr Clin Neurophysiol* 1980; 49: 366-72.