Teaching Video *NeuroImages*: Preserved awareness in a frontal seizure with bilateral motor involvement

A psychogenic mimic

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An 8-year-old boy with suspected psychogenic seizures was admitted for video-EEG monitoring. A stereotypical spell manifested as bilateral swinging extremity movements, and the patient proclaimed, “I’m doing the disco!” (video on the *Neurology*® Web site at www.neurology.org). Right frontal-central rhythmic, sharp, fast activity (figure, A and B) was observed. MRI revealed seizure-related right frontal primary motor cortex hyperintense signal (figure, C) near the supplementary motor area (SMA). Bilateral motor involvement rarely allows patients to smile and joke, but seizures involving the SMA¹ are an exception. Although bilateral tonic contraction in abduction of the upper extremities is reported to be

specific for SMA seizures,² video-EEG monitoring is needed for confirmation.

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REFERENCES

1. Fried I, Katz A, McCarthy G, et al. Functional organization of human supplementary motor cortex studied by electrical stimulation. *J Neurosci* 1991;11:3656–3666.
2. Kanner AM, Morris HH, Luders H, et al. Supplementary motor seizures mimicking pseudoseizures: some clinical differences. *Neurology* 1990;40:1404–1407.

Figure EEGs with still frame from video and MRI

(A) At the onset, tonic contractions of the upper extremities in abduction is seen clinically, and EEG revealed subtle sharp fast activity from the right frontal-central region, but movement artifact predominates. (B) Later ictal EEG while the patient is proclaiming that he is “doing the disco” revealed a more pronounced electrographic correlate of rhythmic, sharp, fast activity from the right frontal-central region. (C) Fluid-attenuated inversion recovery sequence axial MRI revealed abnormal hyperintense signal of the right frontal primary motor cortex, interpreted as seizure related, and noted on subsequent repeat MRI to have resolved.

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