Teaching NeuroImages:
A broadly distributed ictal rhythm easily
missed on bipolar montage

“Now you see it…”

A 23-year-old woman was admitted for brief, recur-
rent spells of intense fear and visual hallucinations.
During video-EEG study, one of the spells showed
no definite ictal EEG changes on longitudinal bipolar
montage for 26 seconds while evolving rhythmic
discharges were readily visible on Cz reference.
Because the pattern was evenly distributed in the
temporal region at onset (figure), it “canceled out”
in the bipolar montage.1 It is conceivable that a
shorter seizure would have been missed if reviewed
only in bipolar montage. Hence, this case is a
reminder of why EEG should be reviewed in bipolar
and referential montages before concluding that a
spell has no EEG correlate.

AUTHOR CONTRIBUTIONS
Rup K. Sainju: collection of data, interpretation of data, and drafting
manuscript. Jeremy Moeller: interpretation of data and revision of the
manuscript. Lawrence J. Hirsch: conceptualization of the study, interpre-
tation of data, and revision of the manuscript.

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REFERENCE
digital EEG review: virtual source montages, whole-head
mapping, correlation and phase analysis, J Clin Neurophys-
Onset of evolving rhythmic discharges (red arrows) in Cz reference (A) and in anteroposterior bipolar (B) montages.
Teaching NeuroImages: A broadly distributed ictal rhythm easily missed on bipolar montage: "'Now you see it ...'"
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