Teaching NeuroImages: Epileptiform K-complexes in genetic generalized epilepsy

Common but underappreciated

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Figure Epileptiform K-complex

EEG: Bipolar (A) and referential (B) montages show a generalized spike-and-wave discharge overlapping with a K-complex consistent with an epileptiform K-complex.

We report a 15-year-old boy with a history of attention-deficit/hyperactivity disorder and new-onset generalized seizures, referred to our center for further evaluation. Examination was unremarkable, and EEG showed epileptiform K-complexes (figure) along with normal background activity. He was diagnosed with genetic generalized epilepsy (GGE) and managed with medication.

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Epileptiform K-complexes are characterized by the overlap of epileptiform discharges and K-complexes. Microarousals, represented by K-complexes, are believed to increase the potential for seizure activity, and hence may generate concurrent epileptiform discharges. Epileptiform K-complexes, a form of dyshormia (i.e., abnormal arousal), are typically seen in GGEs, and should be recognized as distinct EEG abnormalities.^{1,2} Nonetheless, we recommend caution against overreading normal K-complexes as epileptiform discharges.

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Disclosure

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Appendix Authors

Name	Location	Contribution
Fábio A. Nascimento, MD	Baylor College of Medicine, Houston, TX	Conceptualized and designed the study, analyzed and interpreted the data, drafted the manuscript
Audrey R. Nath, MD, PhD	Baylor College of Medicine, Houston, TX	Conceptualized and designed the study, analyzed and interpreted the data, revised the manuscript

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