Teaching NeuroImages: Medically intractable epilepsy and ictal asystole treated with cardiac pacing

Nicholas M. Gregg, MD, Kate W. Hocquard, MD, David B. Burkholder, MD, and Terrence D. Lagerlund, MD, PhD

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Correspondence

Dr. Gregg

Gregg.nicholas@mayo.edu

Figure 1 Right temporal onset seizure and ictal asystole

Right posterior temporal onset seizure with 24-second ictal asystole and associated generalized EEG attenuation with superimposed myogenic artifact. Longitudinal anatomic bipolar montage with subtemporal coverage.

A 43-year-old man with bihemispheric periventricular nodular heterotopia had medically intractable multifocal epilepsy and seizure-related falls. Video-EEG recorded a seizure with ictal asystole, EEG attenuation, and loss of postural tone, reflective of cerebral hypoperfusion (figure 1). After pacemaker implantation, EEG recorded a seizure with ictal cardiac pacing, without EEG attenuation (figure 2). His falls resolved. Antiseizure medications and epilepsy surgery can control seizures and ictal asystole.¹ For individuals with intractable epilepsy and ictal asystole who are poor surgical candidates, pacemaker implantation is indicated to prevent injury and any potential contribution of ictal asystole in sudden unexpected death in epilepsy.^{1,2}

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Disclosure

The authors report no disclosures relevant to the manuscript. Go to Neurology.org/N for full disclosures.

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Figure 2 Left temporal onset seizure and ictal cardiac pacing

Left posterior temporal onset seizure, with right temporal spread, loss of normal cardiac rhythm, and onset of paced cardiac rhythm lasting 17 seconds.

Appendix Authors

Name	Location	Role	Contribution
Nicholas Gregg, MD	Mayo Clinic, Rochester, MN	Author	Conceptualized the article, analyzed the data, drafted the manuscript for intellectual content
Kate Hocquard, MD	Mayo Clinic, Rochester, MN	Author	Data collection, drafting and revision of manuscript
David Burkholder, MD	Mayo Clinic, Rochester, MN	Author	Data collection, drafting and revision of manuscript
Terrence Lagerlund, MD	Mayo Clinic, Rochester, MN	Author	Data collection, drafting and revision of manuscript

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