

Teaching NeuroImage: Ictal Pouting Associated With Focal Cortical Dysplasia and Frontal Seizures on Stereotactic Depth Electrode EEG

Paula Marques, MD,* Richard Wennberg, MD,* and Danielle M. Andrade, MD, MSc*

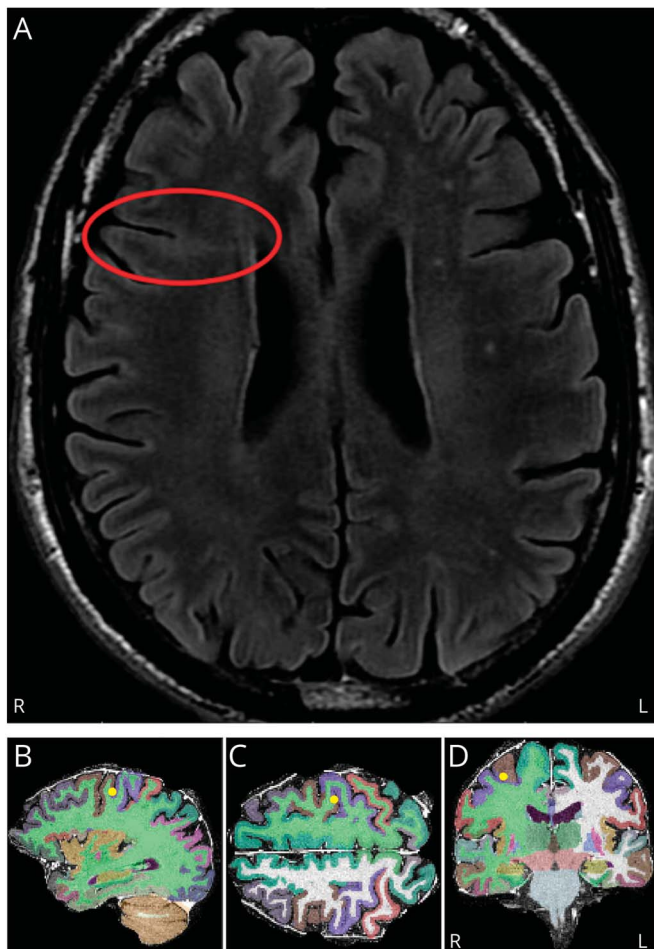
Neurology® 2023;100:683-684. doi:10.1212/WNL.0000000000206760

Correspondence

Dr. Andrade

danielle.andrade@uhn.ca

Figure 1 Linear Hyperintensity in Right Frontal Lobe Extending From Cortical Surface to Frontal Horn of Right Lateral Ventricle



Postsurgical pathology confirmed area of focal cortical dysplasia type II (A). Right caudal middle frontal gyrus localization of depth electrode contact RPINS8, marking seizure onset zone in sagittal (B), axial (C), and coronal (D) planes.

A 65-year-old man presented with chronic drug-resistant epilepsy. EEG video monitoring showed seizures manifesting with ictal pouting or the “chapeau de gendarme” sign. MRI demonstrated focal cortical dysplasia in the right frontal lobe (Figure 1A). Stereotactic depth electrode EEG (stereo-EEG) showed seizures originating within a cortical sulcus of the right caudal middle frontal gyrus (Figures 1, B–D, and 2). The patient became seizure-free after resection of the seizure onset zone and surrounding area of cortical dysplasia and

MORE ONLINE

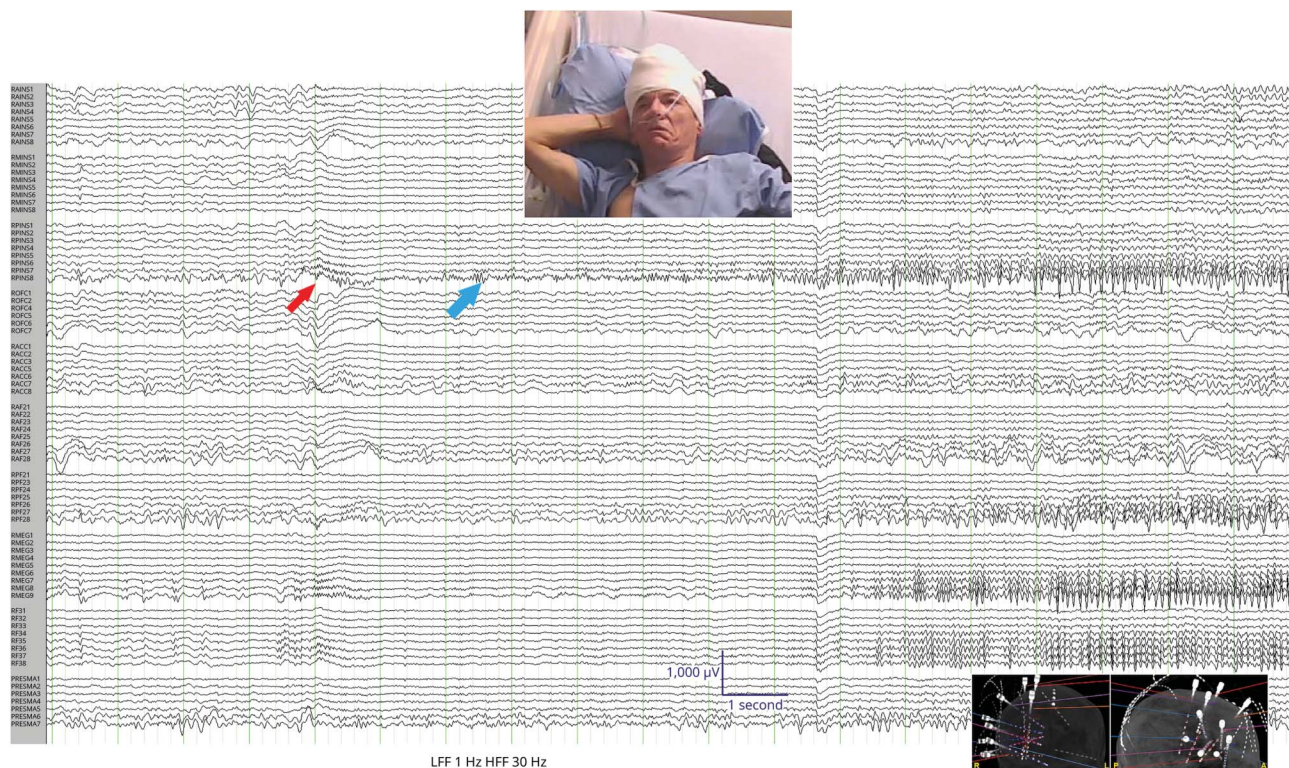
Teaching slides

links.lww.com/WNL/C553

*All authors contributed equally to this work.

From the Adult Genetics Epilepsy Program (P.M., D.M.A.), Toronto Western Hospital, ON, Canada; Division of Neurology (P.M., R.W., D.M.A.), Department of Medicine, University of Toronto, ON, Canada; and Krembil Brain Institute (R.W., D.M.A.), University Health Network, Toronto Western Hospital, ON, Canada.

Go to Neurology.org/N for full disclosures. Funding information and disclosures deemed relevant by the authors, if any, are provided at the end of the article.



Stereo-EEG showing ictal onset (red arrow) as rhythmic low amplitude beta frequency activity maximal at contact RPIN8 in right caudal middle frontal gyrus (cf. Figure 1B–D), evolving in amplitude and frequency during seizure progression. Clinically, the patient showed ictal pouting or “chapeau de gendarme” (top inset) 2 seconds after seizure onset (blue arrow).

remains so 9 months after surgery. Ictal pouting has been described as a sign of seizures originating in the frontal lobe, especially in the anterior cingulate¹ or anterior insular cortices,² areas uninvolved in our patient’s seizures. Awareness that other frontal lobe areas are part of a common network underlying ictal pouting may be important for interpretation of neuroimaging modalities such as ictal single-photon emission computerized tomography, PET, and magnetoencephalography and for stereo-EEG planning, especially in MRI-negative cases.

Acknowledgment

The authors acknowledge the contribution of Dr. Taufik Valiante to this work.

Author Contributions

Paula Marques, MD: Drafting/revision of the manuscript for content, including medical writing for content; major role in the acquisition of data; study concept or design. Richard Wennberg, MD: Drafting/revision of the manuscript for content, including medical writing for content; analysis or

interpretation of data. Danielle M. Andrade, MD, MSc: Drafting/revision of the manuscript for content, including medical writing for content; analysis or interpretation of data.

Study Funding

The authors report no targeted funding.

Disclosure

The authors report no disclosures related to this article. Go to Neurology.org/N for full disclosures.

Publication History

Received by *Neurology* June 28, 2022. Accepted in final form November 16, 2022. Submitted and externally peer reviewed. The handling editor was Associate Editor Roy Stowd III, MD, Med, MS.

References

1. Souirti Z, Landré E, Mellerio C, Devaux B, Chassoux F. *Epilepsy & Behavior Neural network underlying ictal pouting (“chapeau de gendarme”) in frontal lobe epilepsy.* *Epilepsy Behav.* 2014;37:249-257. doi: 10.1016/j.yebeh.2014.07.009
2. Wiwchar LD, Hader W, Pauranik A, Joseph JT, Appendino JP. *Epilepsy & Behavior Reports Focal seizures associated with the chapeau de gendarme sign or ictal pouting of insular origin.* *Epilepsy Behav Reports.* 2019;12:100347. doi: 10.1016/j.ebr.2019.100347.

Neurology[®]

Teaching NeuroImage: Ictal Pouting Associated With Focal Cortical Dysplasia and Frontal Seizures on Stereotactic Depth Electrode EEG

Paula Marques, Richard Wennberg and Danielle M. Andrade

Neurology 2023;100:683-684 Published Online before print December 20, 2022

DOI 10.1212/WNL.0000000000206760

This information is current as of December 20, 2022

Updated Information & Services	including high resolution figures, can be found at: http://n.neurology.org/content/100/14/683.full
References	This article cites 2 articles, 0 of which you can access for free at: http://n.neurology.org/content/100/14/683.full#ref-list-1
Subspecialty Collections	This article, along with others on similar topics, appears in the following collection(s): All Epilepsy/Seizures http://n.neurology.org/cgi/collection/all_epilepsy_seizures EEG http://n.neurology.org/cgi/collection/eeg_ Epilepsy monitoring http://n.neurology.org/cgi/collection/epilepsy_monitoring_ Epileptogenic zone http://n.neurology.org/cgi/collection/epileptogenic_zone Intracranial electrodes http://n.neurology.org/cgi/collection/intracranial_electrodes
Permissions & Licensing	Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at: http://www.neurology.org/about/about_the_journal#permissions
Reprints	Information about ordering reprints can be found online: http://n.neurology.org/subscribers/advertise

Neurology® is the official journal of the American Academy of Neurology. Published continuously since 1951, it is now a weekly with 48 issues per year. Copyright © 2022 American Academy of Neurology. All rights reserved. Print ISSN: 0028-3878. Online ISSN: 1526-632X.

