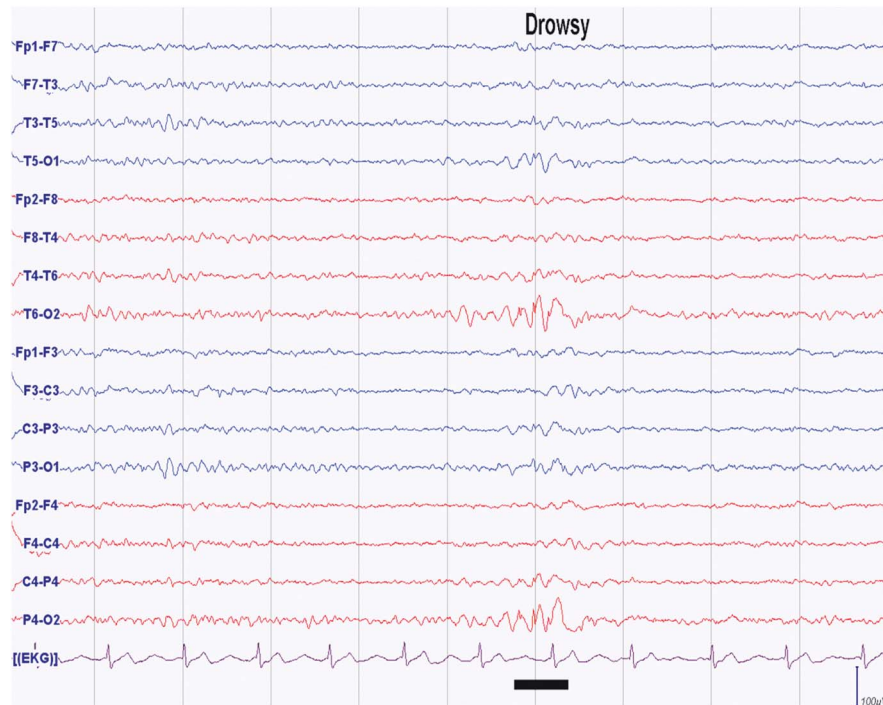


Mystery Case: EEG FOLDer

Ramachandiran
Nandhagopal, MBBS,
DM
Rajesh P. Poothrikovil,
BSc, DNT, RPSGT,
R.EPT
Abdullah Al-Asmi, MD,
FRCPC

Correspondence & reprint
requests to Dr. Nandhagopal:
rmandagopal@yahoo.com

Figure A portion of EEG record obtained in a 20-year-old woman (low-frequency filter 1 Hz, high-frequency filter 70 Hz)



A 20-year-old woman underwent sleep-deprived EEG (figure) for evaluation of possible seizure disorder. Interpret the EEG finding.

ANSWER This longitudinal bipolar montage (figure) shows initial 8–9/second, 55- μ V posterior background rhythm. In the portion of the record underscored by a solid black line, characteristic bisynchronous burst of occipitally predominant, up to 40 μ V (average 27 μ V), 6/second spike-and-wave complexes occurs for 0.5 second. Preceding and following this asymmetric low-amplitude burst, the drowsy state is reflected as α dropout. The pattern of 6/second phantom spike-and-waves observed in this young woman is termed FOLD (female, occipital, low-amplitude spike, and drowsy).¹ This rare and benign EEG finding should not be mistaken for epileptiform discharges.¹ The other variant, WHAM (waking, high-amplitude spike,

anterior, male), might transiently impair cognition and has a higher rate of frequency of epilepsy.¹

REFERENCES

1. Hughes JR. Two forms of the 6/sec spike and wave complex. *Electroencephalogr Clin Neurophysiol* 1980;48:535–550.
2. Klass DW, Westmoreland BF. Nonepileptogenic epileptiform electroencephalographic activity. *Ann Neurol* 1985;18:627–635.

MYSTERY CASE RESPONSES

The Mystery Case series was initiated by the *Neurology*[®] Resident & Fellow Section to develop the clinical reasoning skills of trainees. Residency programs, medical student preceptors, and individuals were invited to use this Mystery Case as an education tool. Responses were solicited through a group e-mail sent to the American Academy of Neurology Consortium of Neurology Residents and Fellows and through social media. All the answers that we received came from individual residents

From the Department of Medicine–Neurology Unit (R.N., A.-A.A.) and Department of Clinical Physiology (R.P.P.), College of Medicine and Health Sciences, Muscat, Oman.

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

rather than groups and they were all well-reasoned and thoughtful. Most of the respondents (58%) correctly identified the classical appearance of 6-Hz phantom spike-wave and 33% of the respondents specifically indicated the FOLD variant.

The most complete answer came from Dr. Pierre Mégevand: “Hughes¹ observed a 6-Hz spike-and-wave pattern in 2.5% of EEGs from over 60,000 patients. Based on a subset of this cohort, he suggested subdividing 6-Hz spikes and waves into 2 groups: one observed more often during wakefulness, of higher amplitude, of more anterior topography, and more common in males (WHAM), the other observed more often in females, of more occipital topography, of lower amplitude, and more commonly recorded during drowsiness (FOLD).

In Hughes’ study, the WHAM pattern was associated with epileptic abnormalities on the EEG and with seizures, whereas the FOLD pattern was not. However, this distinction is controversial,² and some authors consider all 6-Hz spike-and-wave patterns to be of uncertain significance.”

The teaching point of this Mystery Case is that despite similar appearance, the particular topographic distribution of the phantom 6-Hz spike-and-wave discharges may be used as a prognostic factor for clinical evolution.

Dragos A. Nita, MD, PhD

The Hospital for Sick Children, University of Toronto, Toronto, Canada

Neurology®

Mystery Case: EEG FOLDer

Ramachandiran Nandhagopal, Rajesh P. Poothrikovil and Abdullah Al-Asmi

Neurology 2012;79:e187-e188

DOI 10.1212/WNL.0b013e318276107c

This information is current as of November 26, 2012

Updated Information & Services	including high resolution figures, can be found at: http://n.neurology.org/content/79/22/e187.full
References	This article cites 2 articles, 0 of which you can access for free at: http://n.neurology.org/content/79/22/e187.full#ref-list-1
Subspecialty Collections	This article, along with others on similar topics, appears in the following collection(s): EEG http://n.neurology.org/cgi/collection/eeg_ EEG; see Epilepsy/Seizures http://n.neurology.org/cgi/collection/eeg_see_epilepsy-seizures
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 © 2012 American Academy of Neurology. All rights reserved. Print ISSN: 0028-3878. Online ISSN: 1526-632X.

