Teaching Video NeuroImages: Postanoxic Tonic Eyelid Opening (PATEO)

Author(s): Yael Pinero Colon1,2; Aybuke Acar1,2; Naiara Garcia Losarcos, MD1,2; Neel Fotedar, MD1,2

Corresponding Author: Neel Fotedar, neel.fotedar@uhhospitals.org

Affiliation Information for All Authors: 1. Neurological Institute, University Hospitals of Cleveland; 2. Case Western Reserve University School of Medicine

Equal Author Contribution:

Neurology® Published Ahead of Print articles have been peer reviewed and accepted for publication. This manuscript will be published in its final form after copyediting, page composition, and review of proofs. Errors that could affect the content may be corrected during these processes.
A 29-year-old man with end-stage renal disease presented with out-of-hospital PEA (pulseless electrical activity) arrest, requiring multiple rounds of resuscitation. Video-EEG within 24-hours demonstrated a generalized burst-suppression pattern (Figure A). The patient was noted to have repetitive eyelid opening (Video) with duration of 1750.3±710.9ms. 68.5% of these eyelid openings were time-locked to bursts with a latency of 434.7±213.3ms. Tonic eyelid opening has been described in postanoxic coma time-locked with EEG bursts.\textsuperscript{1} The presence of EEG bursts preceding the eyelid opening supports a cortical mechanism. However, partial eyelid openings without EEG bursts (Figure A) support a subcortical mechanism. Brain MRI demonstrated diffuse anoxic injury with relative sparing of the brainstem (Figures B and C). The patient was declared brain dead on day five. This clinical sign is associated with poor prognosis but the data is limited.\textsuperscript{1} Generalized EEG burst-suppression, however, is reliably associated with poor prognosis post cardiac arrest.\textsuperscript{2}

**Video Legend:** Video-EEG: Eyelid opening with generalized burst-suppression pattern.
Figure: EEG and MRI-brain.

A- 30s page. Photographs show eye closure and opening (red arrows) in relation to EEG bursts. Blue and green arrows indicate eye opening artifact with and without EEG bursts. Sensitivity 15uV/mm

B- Diffusion-weighted MRI with diffuse anoxic injury.

C- Diffusion-weighted MRI with relative sparing of brainstem.

WNL-2023-001185_vid --- http://links.lww.com/WNL/D87
References:


Multiple Choice Question:

Postanoxic tonic eyelid opening (PATEO) is a rarely described sign in postanoxic coma. What is the typical duration of this eyelid opening?

A. 200-500ms
B. 10-15 seconds
C. 1-3 seconds
D. None of the above

Answer: C
Teaching Video NeuroImages: Postanoxic Tonic Eyelid Opening (PATEO)
Yael Pinero Colon, Aybuke Acar, Naiara Garcia Losarcos, et al.
Neurology published online August 31, 2023
DOI 10.1212/WNL.0000000000207877

This information is current as of August 31, 2023

Updated Information & Services
including high resolution figures, can be found at:
http://n.neurology.org/content/early/2023/08/31/WNL.0000000000207877.citation.full

Subspecialty Collections
This article, along with others on similar topics, appears in the following collection(s):
Coma
http://n.neurology.org/cgi/collection/coma
Critical care
http://n.neurology.org/cgi/collection/critical_care
EEG
http://n.neurology.org/cgi/collection/eeeg
Eyelids
http://n.neurology.org/cgi/collection/eyelids

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 © 2023 American Academy of Neurology. All rights reserved. Print ISSN: 0028-3878. Online ISSN: 1526-632X.