Manuscript title: Teaching Video NeuroImages: Shedding Light on Sunflower Syndrome

Manuscript classification: Teaching Video NeuroImages – Resident & Fellow section.

Authors:

Fábio A. Nascimento, MD¹ and Elizabeth A. Thiele, MD, PhD¹

¹ Department of Neurology, Massachusetts General Hospital, Harvard Medical School, Boston, MA.

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.
Case Description

We report a 12-year-old girl with a history of absence and generalized tonic-clonic seizures as well as stereotyped, light-induced, hand-waving episodes (HWEs) (video 1). The latter were occasionally accompanied by eye fluttering. Notably, her maternal uncle had childhood-onset tonic-clonic seizures. Video-EEG confirmed that her HWEs were epileptic in nature (video 2). She was started on fenfluramine in addition to valproate with a partial improvement in HWEs.

Sunflower syndrome (SFS) is a rare childhood-onset generalized epilepsy characterized by photosensitivity, heliotropism, and drug-resistant stereotyped seizures. Hand-waving episodes are typically associated with generalized 3-4 Hz spike-and-wave discharges; however, ictal EEG findings may vary. SFS may have an underlying genetic component, although this has not been fully elucidated. Differential diagnoses include
tics and behavioral issues. Besides broad-spectrum antiseizure medications, these patients should be advised to avoid the sun and wear a hat and/or tinted glasses. [1,2] Fenfluramine appears to be an effective treatment option [3].

Appendix 1. Authors

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fábio A. Nascimento, MD</td>
<td>Massachusetts General Hospital, Boston, MA</td>
<td>Conceptualized and designed study, analyzed and interpreted data, drafted manuscript.</td>
</tr>
<tr>
<td>Elizabeth A. Thiele, MD, PhD</td>
<td>Massachusetts General Hospital, Boston, MA</td>
<td>Conceptualized and designed study, analyzed and interpreted data, reviewed manuscript, supervised study.</td>
</tr>
</tbody>
</table>

Video 1-http://links.lww.com/WNL/B347
Video 2-http://links.lww.com/WNL/B348
Teaching Slides - http://links.lww.com/WNL/B355
References


Video 1 legend

There are multiple episodes of highly stereotyped hand-waving episodes (HWEs) characterized by left hand waving in front of the patient’s face while looking toward the sun along with variable eyelid fluttering and grossly intact awareness.

Video 2 legend

Video-EEG data shows two electroclinical hand-waving seizures [sensitivity 20 uV/mm, LF 1 Hz, HFF 70 Hz, notch off, timebase 15 mm/sec]. Video shows left hand waving in front of the patient’s face while looking toward light along with intact awareness. Ictal EEG, bipolar montage shows simultaneous generalized 100-150 uV 6-10 Hz rhythmic spiky/sharp activity. Electroclinical onset and offset are marked with “first unequivocal ictal electrographic change” and “OFFSET”, respectively.