Teaching NeuroImage: Pseudo Figure-of-Four Sign

Author(s):
Chethan K Rao, DO, MS\textsuperscript{1}; William O Tatum, DO\textsuperscript{2}

Corresponding Author:
William O Tatum
tatum.william@mayo.edu

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Affiliation Information for All Authors: 1. Department of Child and Adolescent Neurology, Mayo Clinic College of Medicine and Health Sciences, Jacksonville, Florida, USA; 2. Department of Neurology, Mayo Clinic College of Medicine and Health Sciences, Jacksonville, Florida, USA

Contributions:
Chethan K Rao: Drafting/revision of the manuscript for content, including medical writing for content; Major role in the acquisition of data; Study concept or design; Analysis or interpretation of data; Additional contributions: Literature review
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Case Summary
A 37-year-old right-handed man with spastic quadriparetic cerebral palsy, congenital hydrocephalus, and anxiety was admitted for seizure characterization with video-EEG monitoring. Neurological examination demonstrated marked upper extremity spasticity and left elbow flexion contracture. Three habitual focal to bilateral tonic-clonic seizures (Figure 1) were recorded on EEG (Figure 2).

While the figure-of-four sign in focal to bilateral tonic-clonic seizures is strongly lateralizing contralateral to the tonically extended arm,\textsuperscript{1,2} our patient’s left arm spasticity restricted extension leading to a falsely lateralizing figure-of-four sign. Semiology remains a cornerstone for clinical decision making though requires individualization for comorbid physical disabilities.

Figure Legends
Figure 1: Semiology during video-EEG supporting seizure-onset in the left hemisphere. Pseudo-figure-of-four sign with right arm extended and left arm flexed to reproduce a falsely lateralizing number "4" from left elbow flexion contracture in a patient with focal epilepsy and recurrent focal to bilateral tonic-clonic seizures.
Figure 2: Interictal and ictal EEG supporting right temporal lobe epilepsy. EEG demonstrating (A) right temporal ictal rhythmic theta. Onset was obscured by movement and myogenic artifact and (B) interictal right mid-temporal sharp waves.

References:
Appendix 1. Authors:

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<tr>
<th>Name</th>
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<tr>
<td>Chethan K. Rao, DO, MS</td>
<td>Mayo Clinic,</td>
<td>Drafting of the manuscript, acquisition of data,</td>
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