Teaching Video NeuroImage: Dramatic Response to Topiramate in Acquired Pendular Nystagmus From Multiple Sclerosis

Author(s):
Olwen C. Murphy, MBCh MD MRCPI1; Peter A. Calabresi, MD1; Daniel R. Gold, DO1

Corresponding Author:
Daniel R. Gold, dgold7@jhmi.edu

Affiliation Information for All Authors: 1. Department of Neurology, Johns Hopkins University School of Medicine, Baltimore, MD, USA.

Equal Author Contribution:

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A 41-year-old man with multiple sclerosis (MS) (Figure) experienced debilitating oscillopsia secondary to acquired pendular nystagmus (APN). Treatment with gabapentin and memantine (used individually and then in combination) were mildly effective, but he reported that the oscillopsia reduced dramatically after alcohol consumption. Given responsiveness to alcohol is a feature of essential tremor, we tried a similar therapeutic approach. Propranolol was ineffective, but topiramate 100 mg twice daily resulted in a dramatic improvement in oscillopsia and APN (Video 1). Gabapentin and memantine are commonly used treatments for APN, but understanding specific alleviating factors may shed light on pathophysiology and lead to novel therapeutic strategies.

REFERENCES

Figure title: MRI brain findings

**Figure legend:** Sagittal (A, B) and axial (C, D) FLAIR images from the patient’s MRI head are shown here, with MS lesions marked with yellow arrows. Multiple lesions were evident throughout the brainstem and cerebellum, including in the paramedian area of the pons (a region potentially implicated in patients with acquired pendular nystagmus).

![MRI images](image)

Video title: Acquired pendular nystagmus in MS – before and after topiramate

**Video legend:** On examination while on treatment with memantine 10mg three times daily and gabapentin 1800mg three times daily, pendular nystagmus in an elliptical pattern was evident. On repeat examination after commencing topiramate (in addition to memantine and gabapentin), there was no nystagmus evident. The patient reported dramatic improvement in his symptoms after reaching a topiramate dose of 50mg twice daily (4 weeks into treatment), and regained the ability to tolerate and complete focused visual tasks e.g. reading and working on the computer. Treatment with gabapentin was subsequently tapered down from 1800mg three times daily to 600mg twice daily, without any change in symptoms.
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