

## IMAGES IN EMERGENCY MEDICINE

Nontrauma and Medical

## Young woman with blurry vision

Christopher DiTullio BS<sup>1</sup> | Gayle Galletta MD<sup>2</sup><sup>1</sup> University of Massachusetts School of Medicine, Worcester, Massachusetts, USA<sup>2</sup> Emergency Medicine, University of Massachusetts, Worcester, Massachusetts, USA

## Correspondence

Christopher DiTullio, BS, University of Massachusetts School of Medicine, Worcester, MA 01605, USA.

Email: [christopher.ditullio@umassmed.edu](mailto:christopher.ditullio@umassmed.edu)

Gayle Galletta, MD, University of Massachusetts School of Medicine, Worcester, MA 01605, USA.

Email: [gayle.galletta@umassmemorial.org](mailto:gayle.galletta@umassmemorial.org)

## 1 | CASE NARRATIVE

## 1.1 | Initial presentation

A 26-year-old female with no significant past medical history presented to the emergency department with 1-week history of blurred vision and difficulty with depth perception, most pronounced when looking to the left or right while driving. She is a teacher and remarked that her students noted her eyes were "moving funny" when she looked in either direction. On examination, when the patient gazed to the right, extraocular movements showed an inability to adduct the left eye past the midline and delayed abduction of the right eye. Additionally, with gaze to the left, extraocular movements showed inability to adduct the right eye past the midline and delayed abduction of the left eye.

## 1.2 | Diagnosis

This video displays a stark example of bilateral intranuclear ophthalmoplegia (INO). INO is a result of a lesion to the medial longitudinal fasciculus, a pair of white matter tracks in the midline brainstem spanning from cranial nerve VI to the contralateral cranial nerve III that allows for conjugate eye movement.<sup>1</sup> The patient's history, in conjunction with

the physical examination findings and results of magnetic resonance imaging, rendered the diagnosis of multiple sclerosis (MS). Demyelinating disorders, such as MS, account for 34% of the cases of INO, with 73% being bilateral.<sup>1</sup> Stroke accounts for 38% of INO and is usually unilateral and in older patients.<sup>2</sup> The patient received 5 days of high-dose intravenous steroids with total resolution of her symptoms. The patient continues to receive treatment for relapsing-remitting MS.

## REFERENCES

1. Virgo JD, Plant GT. Internuclear ophthalmoplegia. *Pract Neurol*. 2017;17(2):149-153.
2. Keane JR. Internuclear ophthalmoplegia unusual causes in 114 of 410 patients. *Arch Neurol*. 2005;62(5):714-717.

## SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

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