Teaching Video NeuroImages: Pulsatile proptosis and wall-eyed bilateral internuclear ophthalmoplegia

Eleni Papageorgiou, MD, PhD, Evangelia E. Tsironi, MD, PhD, Sofia Androudi, MD, PhD, and Petros Koltsidopoulos, MD, PhD

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Correspondence

Dr. Papageorgiou
e_papage@yahoo.com

Figure 1 Extraocular movements in 9 cardinal gaze positions

Extraocular eye movements demonstrate exotropia of both eyes in primary positions and bilateral internuclear ophthalmoplegia with impaired adduction on attempted lateral gaze. Upgaze is also mildly affected.

A 65-year-old man with a history of hypertension presented with double vision. Examination revealed wall-eyed bilateral internuclear ophthalmoplegia (WEBINO) (figure 1) and nonsymptomatic, pulse-synchronous, pulsatile proptosis of the left eye (video, links.lww.com/WNL/A389). According to the patient, there was a history of blunt head trauma in childhood and the pulsatile eye was present since then. CT revealed a meningocele into the left orbit due to a bony defect in the orbital roof (figure 2A). CT angiography ruled out a carotid-cavernous fistula. MRI showed an acute infarction at the midline of the midbrain tegmentum, which involved the medial longitudinal fasciculus bilaterally and caused the WEBINO (figure 2B).¹ The pulsatile proptosis was attributed to the childhood head injury and due to the orbital roof fracture and associated meningocele pulsation of the brain vessels passed onto the CSF.²

MORE ONLINE

➔ Video

links.lww.com/WNL/A389

➔ Teaching slides:

links.lww.com/WNL/A390

Figure 2 Coronal brain CT and axial brain MRI

(A) Coronal brain CT shows fracture of the left orbital roof with an associated meningocele. (B) T2-weighted axial brain MRI demonstrates an acute infarction at the midline of the midbrain tegmentum, which involves the medial longitudinal fasciculus bilaterally.

Author contributions

E.P.: study concept and design, acquisition of data, analysis and interpretation, writing of the manuscript. E.E.T. and S.A.: study supervision, critical revision of the manuscript for important intellectual content. P.K.: acquisition of data, analysis and interpretation.

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Disclosure

The authors report no disclosures relevant to the manuscript. Go to Neurology.org/N for full disclosures.

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In the Teaching Video NeuroImage “Pulsatile proptosis and wall-eyed bilateral internuclear ophthalmoplegia” by Papageorgiou et al.,¹ there is an error in the arrow placement in figure 2. Please see the correct version below. The authors regret the error.

Figure 2 Coronal brain CT and axial brain MRI

(A) Coronal brain CT shows fracture of the left orbital roof with an associated meningocele. (B) T2-weighted axial brain MRI demonstrates an acute infarction at the midline of the midbrain tegmentum, which involves the medial longitudinal fasciculus bilaterally.

Reference

1. Papageorgiou E, Tsironi EE, Androudi S, Koltsidopoulos P. Teaching Video NeuroImages: pulsatile proptosis and wall-eyed bilateral internuclear ophthalmoplegia. *Neurology* 2018;90:e1542–e1543.