VIDEO NEUROIMAGE OPEN ACCESS

Oculomotor Nerve Neuromyotonia

An Inflammatory Syndrome

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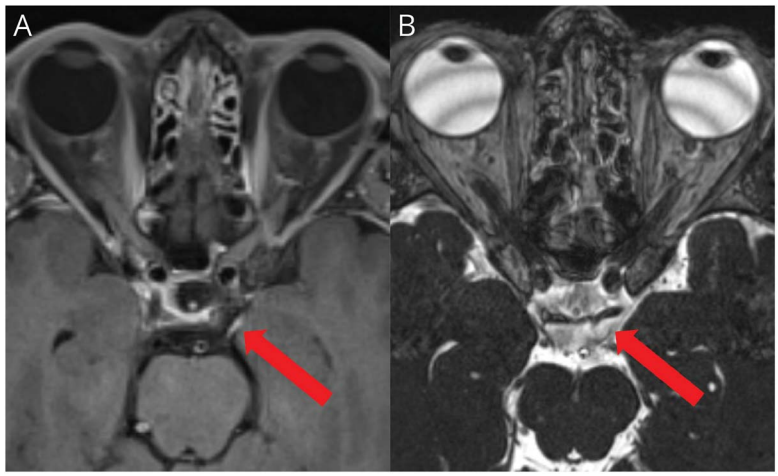
Figure MRI Imaging Findings



(A) Axial T1 postcontrast MRI demonstrating smooth enhancement of the cisternal portion of the left oculomotor nerve. (A) CSF filled dural cuff surrounds the nerve, which is susceptible to inflammatory, compressive, or neoplastic pathology.[2] (B) The 3D constructive interference in steady state sequence is useful for visualizing abnormal signal within the nerve (red arrow).

A 68-year-old woman presented with a 1-year history of episodic, painless double vision. On examination, diplopia was triggered by sustained right lateral gaze. On subsequent return to neural gaze, the left eye remained 'locked' in adduction (Video 1). Impairments of abduction and vertical movements of the left eye were noted, consistent with a diagnosis of left oculomotor nerve neuromyotonia.[1]

MRI revealed smooth enhancement of the left oculomotor nerve (Figure), which was unchanged on repeat scanning after 6 months but had resolved after 1 year. Investigations did not reveal a causative pathology, and the patient's symptoms resolved with carbamazepine. An inflammatory process was thought most likely based on the spontaneous resolution of the enhancement pattern.

Ocular neuromyotonia is a rare condition causing transient diplopia due to extraocular muscle spasm, often secondary to ephaptic transmission in a damaged ocular motor nerve. Common causes include cranial irradiation, but many cases are idiopathic.[1]

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Video

Disclosure

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Author Contributions

A. Handel: 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. S.R. Irani: 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. A. Oswal: 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.

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