



Midbrain Stroke Causing Bilateral Oculomotor Palsies and Ataxia: A Vascular Case of Nothnagel Syndrome

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Clinical Image

A 69-year-old male with hypertension, hyperlipidemia, type 2 diabetes, and coronary artery disease presented with sudden onset right oculomotor palsy, bilateral ptosis, bilateral upward gaze palsy, and right sided dysmetria. He was found to have an acute ischemic infarct in the medial midbrain (Figure 1). Clinical presentation along with stroke location is consistent with Nothnagel Syndrome. In 1879, Dr. Hermann Nothnagel - an Austrian internist, described patients with bilateral ophthalmoparesis with unilateral ataxia [1]. Nothnagel refined his hypothesis in believing these findings were caused by involvement of the oculomotor fascicles and the colliculi [2]. Today, the syndrome is defined by oculomotor paresis with associated ataxia due to involvement of the oculomotor fascicles and cerebellar fibers of the superior cerebellar peduncle or cerebellum [3]. The syndrome is a very rarely caused by vascular lesions and clinical presentation involving both eyes with an accompanying ataxia is rare.

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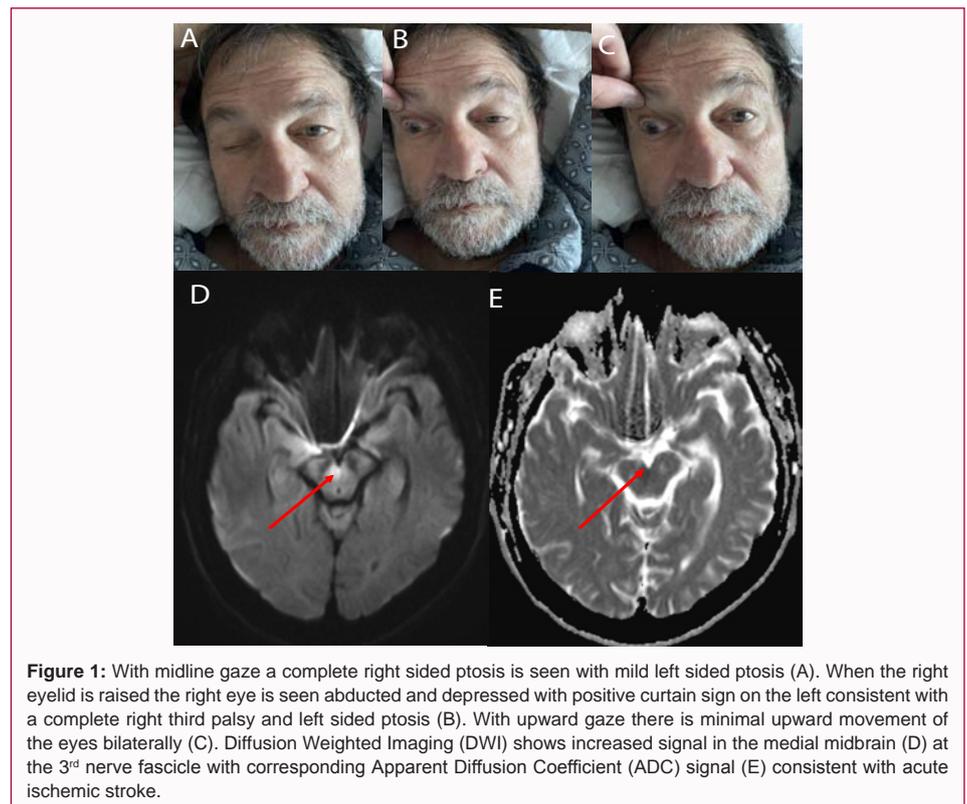


Figure 1: With midline gaze a complete right sided ptosis is seen with mild left sided ptosis (A). When the right eyelid is raised the right eye is seen abducted and depressed with positive curtain sign on the left consistent with a complete right third palsy and left sided ptosis (B). With upward gaze there is minimal upward movement of the eyes bilaterally (C). Diffusion Weighted Imaging (DWI) shows increased signal in the medial midbrain (D) at the 3rd nerve fascicle with corresponding Apparent Diffusion Coefficient (ADC) signal (E) consistent with acute ischemic stroke.

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