



Isolated Medial Rectus Palsy Due to Midbrain Infarct

KEYWORDS

DR, BHAGWAN PANDHARINATH GORE

ASSISTANT PROFESSOR SKNMC NARHE PUNE

DR PATEL RISHI DEVILAL

ASSOCIATE PROFESSOR SKNMC NARHE PUNE

ABSTRACT Isolated ocular muscle palsy is a very rare condition and most of the recorded cases are either due to mid-brain infarct or local pathological. This case is nuclear oculomotor nerve palsy with unusual presentation can be diagnosed with diffuse weighted imaging.

INTRODUCTION

Most common lesion affecting third cranial nerve involve fascicular portion of the nerve at some level. The symptoms reflect reduced function in the muscles innervated by the nerve, usually in combination. Isolated involvement of one or another muscle from fascicular third cranial nerve lesion is very rare.

CASE-A 72 years old man, presented with sudden onset of giddiness followed by diplopia with horizontal separation of images on looking to extreme left gaze. On hemodynamic were normal and neurological examination showed right medial palsy. Magnetic resonance imaging (MRI) of the brain showed hyperintensity in rostral midbrain in diffusion weighted images. He was thoroughly investigated for cause of stroke and was found to have dyslipidemia and hypertension, which was treated with antihypertensive, cholesterol lowering agent and anti platelet and physiotherapy.



DISCUSSION-

Oculomotor nerve has two motor nuclei the main motor nucleus and accessory parasympathetic nucleus. The main oculomotor nucleus which is situated in the anterior part of gray matter surrounding the cerebral aqueduct of the midbrain. Supplies all the extrinsic muscle of the eye except the superior oblique and lateral rectus muscle. It consists of one unpaired caudal nucleus for bilateral levator palpebrae superioris and four paired subnuclei.

The sub nucleus for superior rectus muscle is situated dorsomedially and decussation of the fiber to the superior rectus takes place within the oculomotor nuclear complex; thus, lesion affecting the nucleus may simultaneously involve ipsilateral superior subnuclei as well as crossing fibers resulting in bilateral superior rectus muscle palsy. Ventral to superior rectus subnuclei are the subnuclei for ipsilateral inferior rectus followed by intermediate subnuclei for ipsilateral inferior oblique and most ventrally situated subnuclei is for ipsilateral medial rectus. Third nerve nuclear lesion causes weakness of bilateral superior rectus muscle, ipsilateral inferior oblique, medial rectus, with bilateral partial ptosis [due to involvement of central caudal subnuclei supplying both levator palpebrae superioris]. This case is a nuclear oculomotor nerve palsy with unusual presentation due to location of infarct in rostral midbrain involving medial rectus subnuclei which is situated most ventrally and can be diagnosed with diffuse weighted imaging. [3] Unilateral ocular palsy with lesions in the orbit or from muscular diseases rarely from third nerve nuclear lesion, though inferior oblique muscle palsy caused by involvement of intermediate subnuclei [4] and isolated inferior rectus palsy due to ipsilateral involvement of dorsally situated subnuclei or fascicular lesion have been described [5] with use of DWI and other multimodality MRI the probability of picking up midbrain infarct causing isolated oculomotor palsies have increased.

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