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Webino Syndrome: Wall-Eyed Bilateral Internuclear Ophthalmoplegia

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Abstract: Multiple Sclerosis is a chronic autoimmune inflammatory demyelinating relapsing-remitting or progressive disease of central nervous system. The sign and symptoms of multiple sclerosis are extremely varied and depends on site of lesion in the central nervous system. The diagnosis requires demonstration of lesions dissemination in time and space either clinically or neuroimaging (Magnetic Resonance Imaging is the gold standard). Here we want to present a teaching clinical image of rare and characteristic presentation wall-eyed bilateral internuclear ophthalmoplegia (WEBINO Syndrome) of multiple sclerosis.

Keywords: Multiple Sclerosis, Internuclear ophthalmoplegia, Interferon beta, Magnetic Resonance Imaging (MRI).

INTRODUCTION

Multiple Sclerosis is an autoimmune demyelinating disease of the Central Nervous System characterized by chronic inflammation, demyelination, gliosis and neuronal loss. This is a case of relapsing-remitting multiple sclerosis presenting with diplopia and urinary retention diagnosed to have wall-eyed bilateral internuclear ophthalmoplegia.

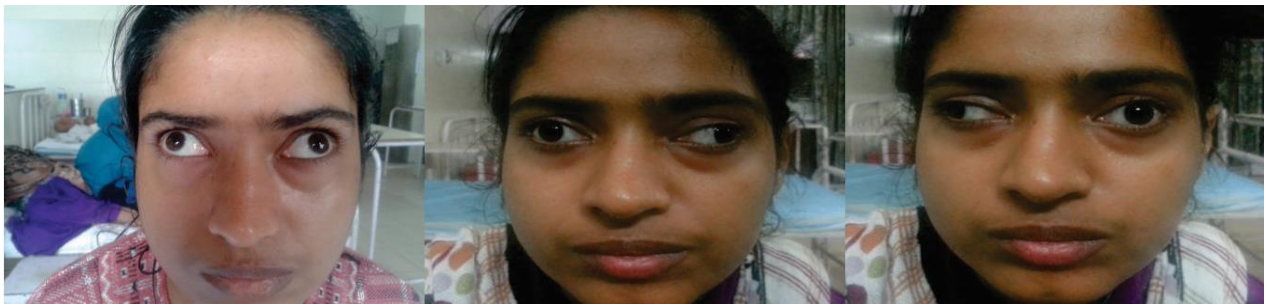

Fig-1: Showing bilateral horizontal gaze internuclear ophthalmoplegia (wall eyed bilateral internuclear ophthalmoplegia/WEBINO) (before treatment)

CASE PRESENTATION

A 19 years old female known case of relapsing and remitting multiple sclerosis presented in neurology clinic with complaints of diplopia and urinary retention. On examination patient was found to have bilateral conjugate horizontal gaze palsy with inability to converge her eyes. On examination patient was found to have bilateral conjugate horizontal gaze palsy with inability to converge her eyes (Figure 1). MRI brain revealed lesions in dorsum of rostral pons extending into midbrain. Treatment started with injection methylprednisolone for five days followed by disease modifying therapy with interferon beta. After four weeks of therapy, patient has improved symptomatically (Figure 2).

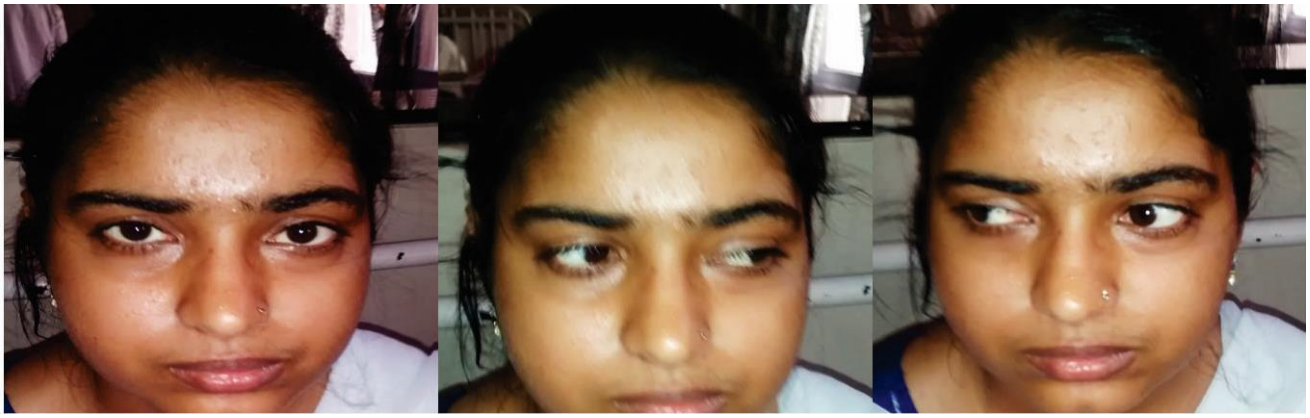

Fig-2: Showing improvement in bilateral horizontal gaze movement after one month of treatment with interferon beta (after treatment).

DISCUSSION

Multiple sclerosis (MS) is a chronic immune-mediated inflammatory disease of central nervous system. The disease course could be relapsing-remitting or progressive type. Multiple sclerosis is characterized pathologically by multifocal areas demyelination with loss of oligodendrocytes and astroglial scarring. Symptoms of multiple sclerosis are extremely varied and depend on location and severity of lesion within CNS. The diagnosis of MS requires demonstration of CNS lesions disseminated in time and space (Mc Donald criteria) [1]. The history and physical examination are most important for diagnostic purposes. Magnetic Resonance Imaging (MRI) is the test of choice to support the clinical diagnosis of MS [2]. Wall-eyed bilateral internuclear ophthalmoplegia (WEBINO) syndrome is taken as a sign of multiple sclerosis until proven otherwise. Brain stem stroke, trauma and viral encephalitis are other possible causes for this rare neuro-ophthalmic manifestation. Treatment includes short term use of intravenous or oral steroids for relapse and disease modifying therapies such as Interferons beta, Dimethyl fumarate, Fingolimod, Teriflunomide, Natalizumab etc. for prevention of relapse & disease progression [3].

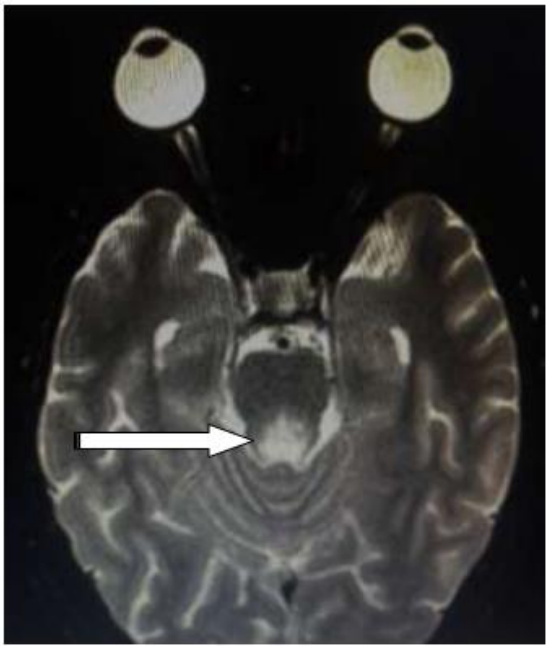

Fig-3: T2W MRI image showing bilateral lesions in dorsum of rostral pons

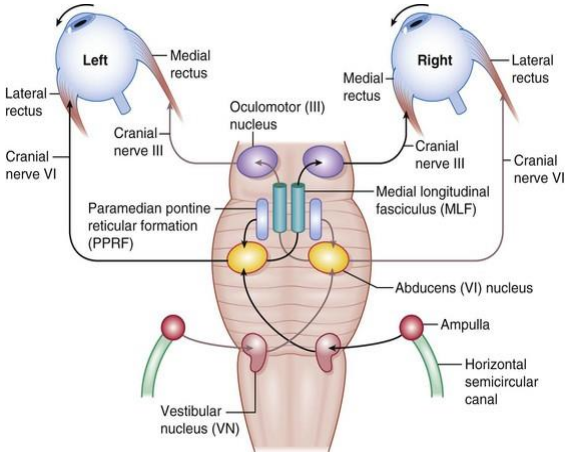

Fig-4: Showing horizontal eye movement pathway [4]

CONCLUSION

This case shows a rare characteristic neuro-ophthalmic manifestation i.e. wall-eyed bilateral internuclear ophthalmoplegia in a patient with multiple sclerosis and rapid recovery of symptoms after systemic steroids.

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