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Isolated Optic Chiasmal Neuritis Secondary to Multiple Sclerosis

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Abstract: **A 30-year-old woman without contributory medical history presented with vision loss in her both eyes. Visual field examination shows bitemporal hemianopia. Corrected visual acuities were spared, and funduscopic findings demonstrated no abnormalities in both eyes. Multiple sclerosis was proved by Cranial and orbital magnetic resonance imaging. Thereafter, under 3 days of intravenous methylprednisolone at 1000 mg/day, bitemporal hemianopia gradually improved. This is a first reported case of isolated optic chiasmal neuritis secondary to MS.**

Keywords: **multiple sclerosis; Bitemporal hemianopia; Chiasmitis (chiasmopathy); Optic chiasmal syndrome.**

1. INTRODUCTION

It is well known that multiple sclerosis may cause optic neuritis and uveitis [1, 2]. However, chiasmal optic neuritis is extremely rare to be the initial presentation of MS [1]. Here, we describe a first reported case of isolated optic chiasmal neuritis (OCN) secondary to MS.

2. CASE REPORT

30 years old lady not known to have any medical illness presents to the ER department in our hospital with history of severe headache and blurry of vision for the last few weeks.

On ocular examination a full extra ocular motility were seen, normal slit lamp examination regarding the anterior segment with normal fundus exam and normal pupillary light response in both eyes. The best corrected visual acuity is 20/20 both eyes. The color vision was taken by ishihra plate shows 2/15 in both eyes. A gross visual filed was checked by confrontation test shows a bitemporal hemianopia that were confirmed by a Humphrey electronic visual filed which shows a temporal hemianopia in both eyes respecting the vertical midline.

Magnetic resonance imaging test were requested urgently to rule out a compressive chiasmal lesion but unexpectedly shows a demyelinating chiasmal lesions with demyelinating plaques located in the periventricular area, so based on these findings we confirm a diagnosis of multiple sclerosis with a chiasmal optic neuritis, and ruling out a compressive lesions.

Then the patient received IV methylprednisolone 1000 mg daily for three days then given a tapering dose of oral prednisone over three weeks. Neurology were consulted for further treatment of her systemic condition.

Then was examined again and showed improvement regarding the ocular findings.

3. DISCUSSION

Visual field defect may be the earliest symptom in patients with lesions involving the optic chiasm [3]. Consequently, perimetry is the most important clinical tool for detecting chiasmal lesion, and bitemporal hamianopia is commonly observed [3, 4]. On the other hand, chiasmal involvement may be induced by extrinsic or intrinsic abnormalities [3, 4]. Regarding intrinsic chiasmal lesions, neoplasm [3, 5-7], chiasmal infarction [3, 8, 9], sarcoidosis [3, 10], and OCN [1, 3, 11-19] have been reported. Among them, OCN is a relatively rare symptom consisting of acute visual loss due to chiasmal inflammation [1, 3, 11-19], and commonly occurs as an idiopathic event, either in isolation or in the setting of multiple

sclerosis [3, 11]. Furthermore, previous reports have noted that VZV infection, infectious mononucleosis due to EBV [12], CMV infection [13], mumps parotitis [14], Lyme disease [15], neuromyelitis optica [16], systemic lupus erythematosus [17], vitamin B12 deficiency [18], and ethchlorvynol toxicity [19] might induce OCN.

In our present patient, no other ophthalmological or systemic abnormalities except for bitemporal hemianopia were observed. MRI demonstrated the demyelinating plaques in the vicinity of the optic chiasm. And intravenous steroid agent was immediately initiated when bitemporal hemianopia developed. In conclusion, we emphasize that multiple sclerosis can mimic compressive optic chiasmal optic neuropathy.

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