Chiasmal Optic Neuritis

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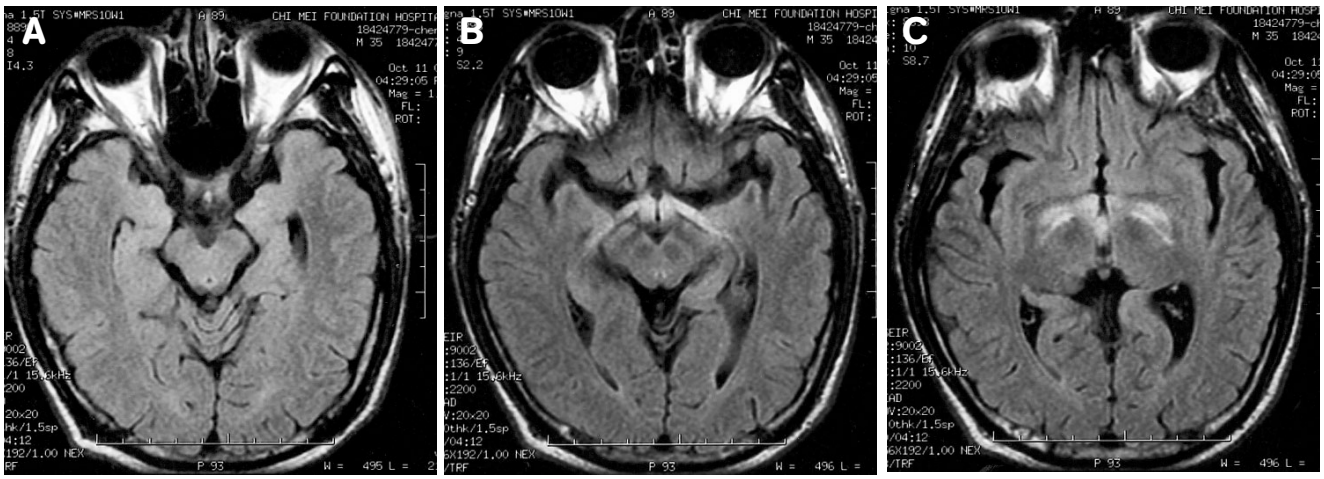

Figure. Sequential axial magnetic resonance imaging of the head demonstrating abnormal high signal in optic chiasma (A), bilateral optic tracts (B) and lateral geniculate bodies (C) in FLAIR images

A 35-year-old man has been well until he developed influenza-like illness characterized by fever, sore throat and general malaise. One week later, the fever resolved, and he developed acute progressive loss of vision in both eyes. On admission, the general physical and neurological examination results were normal. Pupils were 5 mm and sluggishly reactive to light bilaterally. Visual acuity was reduced to finger counting in both eyes. His eye fundi, including optic disc, were normal. The cerebral spinal fluid showed mildly elevated protein (127 mg/dl), normal glucose, normal cell counts and negative oligoclonal bands. The magnetic resonance images (MRI) of the brain showed abnormal bright-intensity signals on FLAIR (fluid attenuation inversion recovery) images in the optic chiasm (Fig. A), bilateral optic tracts (Fig. B) and lateral geniculate bodies (Fig. C). The patient was treated with intravenous methylprednisolone in high dosage (500mg per/day for 5 days). Over the next several weeks his vision improved gradually. Six months later his visual acuity recovered to 20/25 in both eyes, and abnormal high intensity disappeared on the follow-up brain MRI.

Chiasmal optic neuritis is a relatively rare condition with inflammatory lesions involving the optic chiasmal region[1]. In our patient, MRI demonstrated the extension of inflammation from chiasma to bilateral optic tracts and lateral geniculate bodies indicating a severe form of chiasmal optic neuritis. The clinical response to steroids is good with improvement of vision, and multiple sclerosis (MS) has not developed during a 5-year follow-up period. The relationship between chiasmal optic neuritis and bilateral simultaneous optic neuritis is

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questionable[1,2]. One study at the Institute of Neurology (Queen Square, London) reported that bilateral simultaneous optic neuritis led to MS only rarely in children and uncommonly in adults[3], and another follow-up study of bilateral simultaneous optic neuritis in adults in United Kingdom proved that subsequent development of MS was rare[4]. The chiasmal optic neuritis is often idiopathic and has been associated with acute viral infection and rarely with concurrent MS[5]. Its subsequent development of MS is rarely documented, which is quite similar to the natural pictures of simultaneous bilateral optic neuritis in adults.

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