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Research Paper

BILATERAL OPTIC NEURITIS IN A 6-YEAR-OLD GIRL – A CASE REPORT AND REVIEW OF LITERATURE

Medical Science

KEYWORDS : Children, demyelinating disease, multiple sclerosis, optic neuritis

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ABSTRACT

Idiopathic inflammation of the optic nerve occurs in isolation or in the context of a more widespread demyelinating disease. Children are more likely to have bilateral visual loss; anterior optic nerve involvement with papillitis; an associated bacterial, viral, or parainfectious etiology; and better visual recovery than adults. Optic neuritis is less often associated with multiple sclerosis in children than it is in adults. We present a case of a 6-year old with idiopathic bilateral optic neuritis, who experienced a complete recovery with no evidence of demyelination, following treatment.

Case Report :

A 6-year-old girl from prakasam district,Andhra Pradesh. presented to the ophthalmology out.patient department. with a sudden loss of vision in both eyes of 3 days' duration that was not associated with pain on eye movement. Her parents noticed difficulties in visual tasks. she was not able to catch a ball during play, she bumped into objects in a familiar environment and she could not recognise her parents from a distance.There was no history of malaise ,recent infection,fever or vaccination. Her previous medical history was un- eventful and she did not take any medication. There was no family history of hereditary or acquired ophthalmologic or neurological disorders. . She had experienced mild cold-like symptoms 3 weeks previously, but no headache, nausea, vomiting.

On examination, the best corrected visual acuity (BCVA) was hand movement in the both eyes . Extraocular eye movements were normal. There was no nystagmus. The pupillary reaction was sluggish in both eyes, with a relative afferent pupillary defect . The cranial nerve examination was normal . The funduscopic examination was remarkable for hyperemic discs in both eyes. Because of the patient's poor vision, visual field testing and color vision testing were precluded. Computed tomography (CT) of brain revealed a lacunar infarct in the thalamus . A magnetic resonance imaging (MRI) test revealed small hyperintensity on T2 FLAIR in the left thalamus.brainstem , optic nerves are normal. No intracranial evidence of demyelination was detected . The erythrocyte sedimentation rate (ESR) was 20 mm/hr. Other blood investigations, including complete blood count (CBC), antinuclear antibody (ANA) test, anti-DNA antibody test, C-reactive protein (CRP), RA latex, Treponema pallidum heamagglutination assay (TPHA), protein electrophoresis, were normal.A diagnosis of bilateral optic neuritis was made. After the patient was treated for 5 days with intravenous methylprednisolone (30 mg/kg/day) followed by oral prednisolone20 mg once daily for 5days), minimal improvement in visual acuity was detected.The BCVA had improved dramatically to 6l12 in the right eye and 6l18 in the left eye, 2 weeks after completing the intravenous therapy. After 2 months, the BCVA had further improved to 6l6 in both eyes, with a completely normal ophthalmic examination, visual field test,color vision test

Discussion:

Optic neuritis is defined as inflammation of the optic nerve, which may be idiopathic or occur in association with demyelinating disease or other conditions such as sinusitis, Lyme disease,tuberculosis, syphilis, viral agents such as rubella,hepatitis A or B,herpes simplexvirus,or cytomegalovirus; and after vaccinations. Optic neuritis is rare in children and usually occurs 1to 2 weeks after a previous bacterial or viral infection or vaccination. Brady et al reviewed 25 cases of pediatric optic neuritis and concluded that children are more likely to have bilateral disease and a good visual prognosis although approximately 20% of eyes remain visually impaired. A normal MRI is associated with a better prognosis. Unlike adults, anterior involvement of the optic nerve is common in children, with disc swelling documented in more than 66% of cases. Although children are less likely than adults to develop multiple sclerosis after optic neuritis, multiple sclerosis still develops in many cases, especially in those with multiple attacks. Wilejto et al reported that as many as 36% of children with optic neuritis develop multiple sclerosis. Boiko et al found that 38 (80.9%) of 47 children with multiple sclerosis had initially presented with optic neuritis, of which 10(26.3%) had experienced 2 or more episodes. Children who present with unilateral optic neuritis are at a higher risk for developing multiple sclerosis. In summary, ophthalmologists play an important role in the diagnosis and management of children with optic neuritis. Whereas the development of multiple sclerosis occurs in approximately one third of cases, the presence of other associated conditions in two thirds of cases mandates an investigation of the other disorders in the differential diagnosis .

Fig 1 Swollen disc at presentation in both eyes.

Fig 2 Swollen disc at presentation in both eyes.

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Fig 3 - MRI orbit with gadolinium contrast

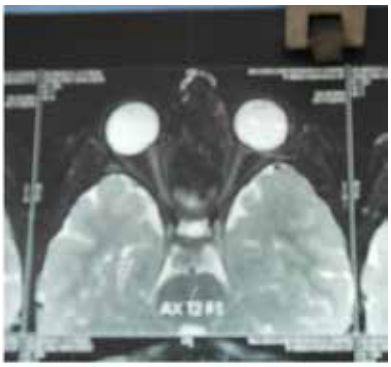
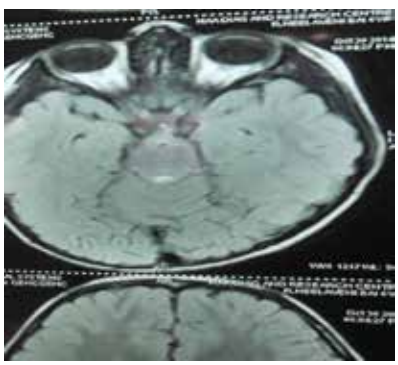


Fig 4 - T2-FLAIR MRI brain



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