A post infectious scare: optic neuritis secondary to enteroviral meningoencephalitis

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ABSTRACT

Optic neuritis, characterised by inflammation of the optic nerve, is often idiopathic or associated with conditions such as multiple sclerosis (MS) or neuromyelitis optica spectrum disorder (NMOSD). Post-infectious optic neuritis, though rare, predominantly affects children. A 5-year-old boy presented with sudden reduced vision for 1 day associated with headache and fever. Upon presentation, the patient was not responding to light and showed absent blink reflex. Bilateral pupils were sluggish and there was bilateral optic disc swelling. Otherwise, anterior and posterior segment examinations were unremarkable in both eyes. Other neurological examinations were normal. Lumbar puncture showed cerebrospinal fluid (CSF) positive for enterovirus. CSF aquaporin-4 and oligoclonal band were negative. Serum myelin oligodendrocyte glycoprotein (MOG) antibody testing was not performed due to financial constraints. MRI of the brain and orbit indicated features consistent with central nervous system infection or meningoencephalitis, along with signs of raised intracranial pressure. Thus, this patient was treated as optic neuritis secondary to enteroviral meningoencephalitis. Intravenous methylprednisolone was initiated and bilateral eye visual acuity improved to 6/24 after 5 days. Currently, there is no specific antiviral medication that is available for enterovirus, therefore the patient was treated conservatively. Enterovirus infection can cause acute disseminating encephalomyelitis. Early steroid treatment and specific antiviral may be beneficial. It is usually monophasic but relapses can occur within 6 months with or without functional deficits. Therefore, it is crucial to monitor for potential development of multiple sclerosis and recurrent optic neuritis in the future.