ORIGINAL RESEARCH PAPER

Ophthalmology

KEY WORDS:

MANAGEMENT OF A CASE OF PAPILLITIS WITH NEURORETINITIS

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ABSTRACT

Neuroretinitis is an inflammatory disorder characterized by optic disc oedema & subsequent formation of a macular star figure. Papillitis is inflammation & deterioration of the portion of optic nerve. Our aim is to determine the efficacy of corticosteroids in the treatment of papillitis and neuroretinitis to determine anatomical and visual improvement post treatment & to determine speed of recovery after treatment.

INTRODUCTION

Neuroretinitis is a type of optic neuropathy characterized by an acute unilateral visual loss in the setting of optic disc swelling accompanied by hard exudates characteristically arranged in a star shape around the fovea.[1]

Fundoscopically, neuroretinitis is often confused with hypertensive, renal, and infiltrative retinopathies as well as with papillitis, papilledema, anterior ischemic optic neuropathy and retinal vein occlusion. It is an entity that physicians, pediatricians, neurologists, are poorly exposed to since the diagnosis and management are almost exclusively performed by the ophthalmologist. Pathogenesis and etiology of neuroretinitis are distinctly different from other funduscopically resembling conditions encountered by neurologists very often during their training and clinical practice; further, these have obviously different principles of management and prognosis. Prognosis for visual recovery is reported to be excellent, although not uniform.[2] Our objective is to present two typical cases of neuroretinitis and highlight the need for neurologists to distinguish it from optic neuritis or retinal disorders that it closely mimics .

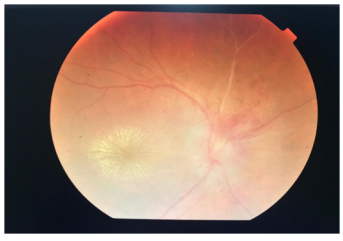
REVIEW OF LITERATURE

The clinical picture of neuroretinitis is characteristic and clinically distinct from other optic neuropathies. The condition is usually painless but some patients complain of eye pain that may worsen with eye movements as seen in optic neuritis. If the neuroretinitis is due to an infectious process, there may be associated fever, malaise or headache. Visual acuity at presentation can range from 20/20 to light perception. The degree of colour deficit is usually worse than the degree of visual loss would suggest. The most common field defect is a cecocentral scotoma, but central scotomas, arcuate defects, and even altitudinal defects may be present. A relative afferent pupillary defect is present in most patients, unless the condition is bilateral. This is indicative of optic disc involvement.

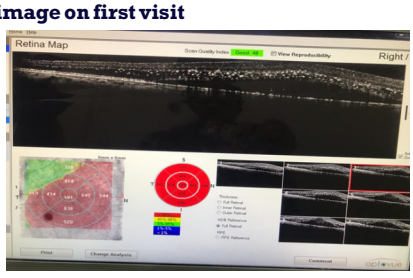
Absence of afferent pupillary defect indicates a primary macular involvement.[4] In severe cases, splinter haemorhages may be present. Segmental disc swelling has been reported. A macular star figure composed of lipid (hard exudates) may not be present when the patient is examined soon after visual symptoms begin, but tends to become more prominent as the optic disc swelling resolves.[8] Small, discrete, usually white, chorioretinal lesions may occur in both the symptomatic and asymptomatic eyes.[9] inflammatory signs consisting of vitreous cells and venous sheathing as well as occasional cells and flare may occur

METHODOLOGY

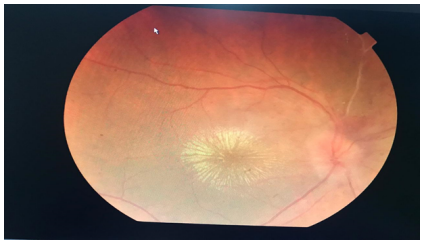
- A 65 year old female patient came with complaints of diminution of vision in right eye (RE) since 1-2 weeks
- No history of trauma ,fever
- History of cataract surgery done in 2018 in both eyes
- Not a known case of diabetes and hypertension
- On examination :
- Visual acuity – RE – HM+ LE – 6/60
- Intra ocular pressure – RE – 13 mm of hg LE – 12 mm of hg
- Cornea – clear
- Anterior chamber- quiet
- Anterior segment revealed BE pseudophakia
- Posterior segment RE showed disc edema with peripapillary flame shaped hemorrhages and exudates at macula with subretinal fluid (SRF).
- Sclerosed vessels in superotemporal quadrant suggestive of old branched retinal vein occlusion (BRVO)
- No evidence of vitritis
- LE – with in normal limits (WNL)
- That is CDR – 0.3, foveal reflex +, no evidence of vitritis
- Optical coherence tomography RE showed – SRF and intraretinal hyper reflective lesions (suggestive of exudates) with disc edema
- Systemic investigations done such as CBC, ESR- WNL
- HbsAg, HIV, VDRL-negative
- Mantoux test-negative Homocysteine values were elevated
- Patient was diagnosed as RE idiopathic optic neuritis
- Was advised intravenous methylprednisolone 1gm/day – 3 days



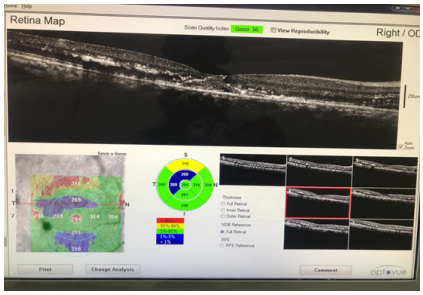
Fundus image on first visit



OCT done on first visit



Fundus image on first follow up



OCT done on follow up

- Followed by 1 mg/kg body weight/day for 10 days ,then tapered over 3 days and stopped (as per Optic neuritis treatment trial- ONT trial)
- On subsequent follow up patient was evaluated with visual acuity , fundus examination and OCT.
- Fundus examination showed resolving disc edema and OCT showed resolving SRF.
- On further follow up after completion of ONTT trial , visual acuity was 6/60, disc edema resolved further, with resolved SRF at macula .
- But persistence of exudates at macula was noted
- Patient was asked further follow up after 1 month

DISCUSSION

- Neuroretinitis, characterized by optic disc edema and macular exudates. Macular edema is initially diffuse; hard exudates form within days, frequently in a star -shaped pattern. The macular star formation is caused by leakage of lipid-rich exudates originating from the optic nerve permeable capillaries, along the outer plexiform layer. As the serum is absorbed, the lipid precipitates in a stellate pattern around the fovea [4]
- Most cases of neuroretinitis are idiopathic, but the diagnosis requires the exclusion of infectious causes such as Bartonella henselae, Toxoplasma gondii,Treponema pallidum, Toxocara canis, Borrelia burgdorferi, Leptospira, Mycobacterium tuberculosis, Histoplasma capsulatum, Rickettsia typhi, and Brucella; nonspecific viral syndromes and viral etiologies involving Epstein-Barr virus, herpes simplex virus, human immuno deficiency virus, mumps, or hepatitis B or C have also been implicated.
- The diagnosis of acute demyelinating optic neuritis is based on an appropriate history and clinical signs and symptoms. Diagnostic tests, including magnetic resonance imaging, cerebrospinal fluid analysis, and serological studies, usually are performed for the following reasons
- To determine if the cause is non inflammatory (such as a compressive lesion), or a nonidiopathic inflammatory or infectious process in cases that are not typical for acute demyelinating optic neuritis.
- Granulomatous inflammation of the optic nerve is a frequent ocular manifestation of sarcoidosis and may be an initial sign of this disorder.
- In Syphilitic optic neuritis, Optic nerve involvement may be unilateral or bilateral. Vitreous cellular reaction is a typical feature that differentiates syphilis infection from acute demyelinating optic neuritis, in which the vitreous humor usually is clear. The diagnosis is established with identification of positive syphilis serological and CSF VDRL.[2]
- In the absence of a proven etiology to the disease, the condition is diagnosed as Leber's idiopathic stellate retinopathy.[5]It is a diagnosis of exclusion made after ruling out other known causes of neuroretinitis. It occurs most often in healthy young subjects presenting with acute unilateral visual loss. Although treatments with systemic steroids have been attempted, there is no definite evidence that such treatment alters either the speed of recovery or the ultimate outcome.[6]The prognosis is usually good, with a spontaneous resolution within 6–12 weeks, although the macular star-shaped structure may persist beyond this period.

CONCLUSION:

- Faster resolution of disc edema with ONT trial as compared to improvement in visual acuity
- Better improvement in colour vision as compared to visual acuity .

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