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Case Report

Optical coherence tomography in the management of posterior scleritis

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Introduction

Scleritis may present as anterior or posterior scleritis based on the anatomical location of inflammation.¹ It may often pose a diagnostic challenge since the clinical features are subtle and diagnostic modalities are limited.² We present a case of posterior scleritis in a young woman in whom we encountered various challenges in the diagnosis and management. Use of optical coherence tomography (OCT) in the management is highlighted.

Case report

A 28 year old female patient presented with recurrent pain, redness and itching of both eyes for the past 3 years. Her

symptoms were exaggerated for the past one week in left eye and was associated with mild blurring of vision. She had been treated elsewhere with topical steroids as a case of allergic conjunctivitis with little relief. She denied any complaints of photophobia, flashes and floaters. She did not give any history of pain or swelling in the joints, fever, cough, malaise or weight loss.

On initial examination the distance vision was 6/6 in the right eye and 6/18 in the left eye. Anterior segment and fundus evaluation of the right eye was unremarkable except few papillae in conjunctiva. The left eye had conjunctival congestion with mild tenderness over the globe. The cornea was clear with a quiet anterior chamber. Pupil was 3 mm in size and briskly reacting to light. No evidence of relative afferent pupillary defect was noted. The lens was clear with 0.5+ retrolental cells. Optic disc margins were blurred. The retinal periphery was normal but multiple choroidal folds were noted radiating outward from the macula (Fig. 1). No retinal detachment or macular edema could be noted clinically. Intra ocular pressure was 20 mm Hg in both eyes by goldmann applanation tonometer. Optical coherence tomography showed a neuro-sensory detachment of retina (Fig. 2). Enhanced depth imaging on OCT further showed a hyper reflective choroid (Fig. 3) Ophthalmic Ultra sound B scan showed a thickened choroid with the classical T sign (Fig 4).

The patient was diagnosed with a case of posterior scleritis. She was investigated to find out a possible cause of scleritis. Her ESR was elevated (50 mm fall/1st hour). She was negative for rheumatoid factor, anti-nuclear anti-body and C reactive protein. She was found to have strong reaction to mantoux test (Fig 5). The chest radiograph was normal. She was evaluated by a chest physician with HRCT which was normal. Aqueous tap was done and was subjected for MTb

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Fig. 1 – Fundus picture showing blurred disc margins and retinal folds.

PCR which was negative. She was started on tab ibuprofen 400 mg t.i.d., tab prednisolone 1 mg/kg/day, 1% prednisolone acetate eye drops 4 hourly with homatropine 2% eye drops b.i.d.

After one week the fundus picture showed disappearance of choroidal folds. She was closely monitored with OCT for worsening of neuro sensory detachment. She made remarkable improvement at the end of 2 weeks with full visual recovery to 6/6. Serial OCT showed normal foveal contour (Fig. 6) and B scan also returned to normal with disappearance of T sign.

Discussion

Posterior scleritis is an immune mediated disease affecting females in 5th to 6th decade. This disease can be associated with pain and redness but in the absence of these features, the diagnosis becomes difficult. This entity forms an important differential diagnosis of various vision threatening conditions like optic neuritis, central serous chorioretinopathy and mass lesions like melanoma. Systemic collagen vascular diseases

Fig. 2 – Optical Coherence Tomography picture showing neuro sensory detachment.

Fig. 3 – Hyper reflective choroid on OCT during active disease process.

Fig. 4 – T sign on B scan.

like rheumatoid arthritis, systemic lupus erythematosus and Wegener's granulomatosis are important associations. In developing countries, chronic infections like tuberculosis have also been reported as a cause of posterior scleritis.³

The diagnosis is confirmed by use of B scan⁴ and CT/MRI. These modalities are good for confirming the diagnosis but

Fig. 5 – Mantoux test after 48 h.

Fig. 6 – Normal fovea at the end of two weeks.

fail to be a clinically sensitive tool for follow up. OCT is extensively being used for ocular imaging. In children, typical cystic lesion has been reported under the neurosensory detachment which resolved as the clinical condition improved.⁵ Enhanced depth imaging is a new tool for detailed analysis of posterior pole including the choroid.⁶ This case of posterior scleritis was diagnosed and followed up by using this sensitive tool. The high resolution HD images gave the clinician confidence not to start potentially toxic anti-tubercular therapy despite of highly positive Mantoux as the diseased area was regularly monitored for worsening of neurosensory detachment.

Systemic NSAIDs and steroids are most preferred agents for treatment of posterior scleritis. Recently use of biologic

agents like infliximab has been successfully documented. Clinical efficacy of Bevacizumab has also been reported as VEGF levels in these eyes were found to be elevated.⁷

The diagnosis in the early stages of the disease is the key to effective treatment and vision restoration. OCT is of great use when monitoring a patient on steroids for worsening of neurosensory detachment.

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