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Case Report

A case of idiopathic choroidal neovascular membrane in a young patient

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Intravitreal Anti VEGF injection either Ranibizumab or Bevacizumab (off label) is the first line treatment for CNV.⁴ However there is no definite protocol for treatment of Idiopathic CNV unlike that for AMD. We report a case of idiopathic sub foveal CNV in a 36-year-old male patient with no evidence of any predisposing factors, treated with intravitreal Ranibizumab.

Case report

Introduction

Choroidal Neovascularization (CNV) denotes the pathologic growth of abnormal new blood vessels into the sub-retinal space. This condition commonly affects individuals above the age of 50 yrs suffering from age related macular degeneration (AMD).¹ CNV in younger patients is usually secondary to predisposing conditions that include pathological myopia, angioid streak, trauma or inflammation (e.g. ocular histoplasmosis syndrome).² In a significant number of young patients with CNV, no apparent cause can be detected, constituting idiopathic CNV.³ Currently

A thirty six years old male patient presented with the complaints of blurred vision and distortion of objects in left eye of 6 weeks duration, noticed inadvertently on closing the other eye during firing practice. The distortion progressively worsened over six weeks prompting him to seek ophthalmic consultation. There was no history of pain, redness or photophobia, no history of trauma, no history suggestive of any previous episode of ocular inflammation and no history of laser treatment. No history of wearing corrective glasses or contact lenses. On examination, best corrected visual acuity was 6/6 and 6/18 right and left eye respectively. Retinoscopy was emmetropic in both eyes. Anterior segment was normal in both eyes. Fundus **left eye** showed a juxta-foveal infero-temporal greyish white elevated lesion approximately 1/3rd disc diameter with specks of sub-retinal haemorrhages bordering the lesion (Fig. 1a). Fundus right eye was normal. No drusen, retinal pigment epithelial changes, no evidence of healed choroiditis or central serous

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Fig. 1 – (A) & (B): Initial Color photo showing the CNV with a haemorrhagic spot and well-defined area of hyperfluorescence due to leakage from the CNV on FFA (late phase).

retinopathy was seen in either eye. Fundus Fluorescein angiography (FFA) showed the lesion as a well-defined lacy pattern hyperfluorescence in early phase with increasing leakage in late phase (Fig. 1b). Optical Coherence Tomography (OCT) showed a sub-retinal hyper-reflective membrane with a few small intra-retinal cystic areas (Fig. 3a). He was diagnosed to have a juxta foveal CNVM and investigation for any underlying infective or inflammatory disorder were carried out (Hb, TLC, DLC, ESR, Mantoux test, chest radiograph PA view, pANCA, cANCA, serum ACE, RA factor, TORCH titres, VDRL, HIV, serum Calcium). All investigations were normal. Following an informed consent, Intravitreal Ranibuzimab (Lucentis) 0.5 mg in 0.05 ml was injected into left eye. At 4 weeks follow up there was one line improvement in visual acuity (Snellens) but no significant change in OCT and FFA. There after he received 2 more injection at monthly intervals. The post injection Colour fundus photo, FFA and OCT at final follow up (Fig. 2a, b) showed that the haemorrhages had absorbed and area of leakage on FFA had shrunk. Similarly the post Lucentis OCT showed disappearance of intra retinal fluid (Fig. 3b). The final Visual acuity recorded in the affected eye at the end of 6 months after the last injection was 6/6.

Discussion

The case is being reported as it is a rare cause of blindness in the young with very few published studies (case reports or small case series), which themselves have reported variable visual results.^{5–7} The diagnosis of Idiopathic choroidal vascularisation is made after thorough evaluation to exclude all predisposing causes. In our case a thorough ophthalmic examination and systemic work up failed to reveal any predisposing cause. Different treatment approaches for patients with CNV have been described which include: ocular photodynamic therapy with verteporfin, transpupillary thermo therapy, and intravitreal injections of anti-vascular endothelial growth factor (VEGF) agents.^{6–8} Of these the best visual results have been reported with intravitreal anti VEGF whereas all other modalities are associated with a risk of losing vision if the lesion is close to the fovea. There are however no defined guidelines for treatment of Idiopathic CNV with intravitreal anti VEGF. Most of the published studies have reported the off label use of Bevacizumab (Avastin) for the treatment of idiopathic CNV. Mandal et al reported results of intravitreal Bevacizumab (1.25 mg/0.05 ml) in 32 eyes with

Fig. 2 – (A) & (B): Post Lucentis color photo shows disappearance of haemorrhage, and decreased area of leakage on FFA (late phase).

Fig. 3 – (A) & (B): Pre and Post Lucentis OCT showing post treatment intra retinal fluid has absorbed and lesion become flatter.

idiopathic sub foveal CNV.⁸ After 12 weeks follow up, 19 eyes (59%) had an improvement in BCVA of three or more lines, 11 eyes (34%) remained stable and two eyes (6%) lost three or more lines. Their observations suggest that short term use of intravitreal Anti VEGF is safe and well tolerated in the management of idiopathic CNV. Although the overall absolute incidence of serious ocular side effects with Intravitreal anti VEGF have been reported to be low, the risk of contamination during preparation of aliquots of Bevacizumab from the IV vial and also systemic side effects of Bevacizumab versus Ranibizumab have been an area of debate.⁹ Hence we chose to offer the US FDA approved drug Ranibizumab to this young patient. Since the natural history of Idiopathic CNV is better than that for AMD¹⁰ with fewer injections of anti VEGF needed for complete resolution we hoped for an effective response with quick recovery and early rehabilitation. Though there was improvement in vision by one line after the first dose itself, significant visual recovery and shrinkage of lesion was seen only after three injection. The patient has completed 6 months of injection free follow up and continues to maintain his vision with no evidence of recurrence on OCT. In a juxtafoveal lesion not involving the foveal centre full restoration of vision can be expected, as was seen in this case. In this isolated case report short term treatment with Lucentis was found effective, similar to what has been reported with Bevacizumab. However comparison of efficacy with Bevacizumab in idiopathic CNVM will require large comparative studies. To conclude, Idiopathic CNV, a diagnosis of exclusion, is a rare potentially blinding disease of the young which can be safely and effectively managed with Intravitreal anti VEGF injection. The choice of Anti VEGF however, is debatable.

Conflicts of interest

All authors have none to declare.

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