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Case Report

Frosted branch angiitis in a pregnant woman

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Case report

A 29 year old female patient primigravida in her late third trimester of pregnancy presented to us with mild blurring of vision in both her eyes two days of duration. On examination her DVA (BE) was 6/9. Her intraocular pressure was 18 mm of Hg in both eyes. The extra ocular movements were full and free. Her anterior segment examination showed 1+ cells. Fundus examination showed perivascular white sheathing on major veins, both in the inferior and superior retina exhibiting the typical frosted branch pattern (Fig. 1). A presumptive diagnosis of acute idiopathic frosted branch angiitis was made and the patient was kept under observation and regular follow-up in view of her pregnancy and minimum visual complaints. Detailed history does not suggest any systemic disease (like oral or genital ulceration, previous episodes of red eye or similar episodes in past). A comprehensive investigation failed to reveal underlying etiology. This include complete blood cell count, erythrocyte sedimentation rate, blood sugar, urine analysis, antinuclear antibody, fluorescent treponemal antibody test, chest radiograph, angiotensin converting enzyme, Mantoux test and ELISA for tuberculosis, human immunodeficiency virus, cytomegalovirus and herpes zoster and simplex viruses). One month later she presented to us with gradual increase in blurring of vision. On examination her DVA (BE) was 6/12 with anterior chamber reaction of 1+ in both eyes. Posterior segment examination showed increase in the perivascular sheathing of peripheral arcade (Fig. 2). OCT right eye showed few cystic spaces around macula in the

Introduction

Frosted branch angiitis (FBA) is a rare kind of retinal angiitis. It was first reported by Ito et al in 1976.¹ Since then about 60 cases have already been reported in literature and most cases have been idiopathic.² The disease mostly affects both the eyes with sheathing of blood vessels and has good response to systemic steroids.

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Fig. 1 – Perivascular sheathing of major veins in both eyes.

parafoveal region (Fig. 3). Fundus fluorescein angiography (FFA) was not done because of relative contraindication in pregnancy. She was started on tablet prednisolone 1 mg/kg after taking the clearance from her gynecologist. Prednisolone was tapered over 6 weeks and the patient showed gradual improvement in visual acuity with the regression of perivascular sheathing with complete resolution of cystic spaces around macula (Fig. 4). At her eighth week follow-up visit, visual acuity was 6/6 in both eyes with presence of mild retinal perivascular sheathing (Fig. 5).

Discussion

Acute idiopathic FBA is a clinical entity that predominantly affects the young and healthy. The typical ophthalmoscopic appearance of frosted branches of a tree is the first important feature that helps in making the diagnosis. The cause of disease is unknown, and it may be primary (idiopathic) or secondary. Many observations led to hypothesize an immune-mediated mechanism. The evidence of a localized ocular vasculitic process sparing other systemic organs, suggests that the immune response is directed to an inciting antigen in the eye in

idiopathic FBA. Kleiner proposed that otherwise healthy young patients might be referred to as having “acute idiopathic FBA”, because there is lack of systemic associations.³ Secondary FBA is associated with viral disease (like CMV). It has been hypothesized that viral antigens form immune-complexes deposit in retinal vessels causing vasculitis. A direct viral invasion (CMV has particular tropism for endothelial cells) is also thought to be responsible for the pathogenesis. Immune complexes are also responsible for retinal vasculitis secondary to autoimmune disorders (SLE, Crohn's). Typically, an idiopathic frosted branch angiitis patient presents with acute, grossly diminished vision in both eyes simultaneously with thick sheathing of retinal vessels.⁴ There appears to be a bimodal age distribution with one peak in childhood and a second in the third decade. The youngest patient reported to date was 2 years⁵ and the oldest 42 years.⁶ Treatment include use of corticosteroid after ruling out the treatable cause. Recovering of visual acuity starts approximately two to three week after treatment institution. The visual acuity during recovery ranges from 6/6 to 6/12. Complications are rare but have been reported like neovascular glaucoma, macular scarring, retinal detachments or vitreous hemorrhage⁷ in untreated cases. Rayenders et al reported a case of frosted branch angiitis

Fig. 2 – Increase in peripheral vascular sheathing.

Fig. 3 – Right eye OCT –cystic spaces around macula.

Fig. 4 – Complete resolution of cystic spaces.

Fig. 5 – Decrease in perivascular sheathing in both eyes.

in pregnant woman in Behcet disease.⁸ Our patient is 29 years old with presentation in third trimester of pregnancy without severe loss of visual acuity and she showed good response to systemic corticosteroid with good visual recovery. Comprehensive investigations failed to diagnose any systemic association of any disease.

Conclusion

We have presented a rare case of idiopathic frosted branch angiitis in both eyes which have shown good response to oral steroids and also without any gross diminution of vision. To our knowledge this is the first case report in young pregnant women patient without any systemic association.

Conflicts of interest

All authors have none to declare.

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