

Branch Retinal Vein Occlusion

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INTRODUCTION

A 42-year-old female patient visited to our OPD with a complaint of gradual diminution of vision in the right eye over the past two months. The best corrected right eye visual acuity was 6/24, and the left eye was 6/9. The patient had no medical history of any known systemic illness like diabetes, hypertension and tuberculosis. Amsler's chart showed central distortion in the right eye. Fundus evaluation revealed multiple retinal hemorrhages and cotton wool spots in a right supratemporal quadrant with an absent foveal reflex (Figure 1). An OCT was advised, showing cystoid macular edema with neurosensory detachment (Figure 2). A branch retinal vein occlusion (BRVO) diagnosis with macular edema was made, and the patient was advised of intravitreal vascular endothelial growth factor inhibitors (Anti-VEGF) injection under topical anesthesia.

DISCUSSION

BRVO is a blockage of one or more branches of the central retinal vein. Symptoms mainly reduced visual acuity with distorted central vision with or without floaters.

Retinal vein occlusion can be divided into three parts:

- Branch retinal vein occlusion (BRVO)
- Hemi retinal vein occlusion (HRVO)
- Central retinal vein occlusion (CRVO)

BRVO is more common, mainly involving the superotemporal quadrant because of maximum arterio-venous crossings.

BRVO is more common in patients with hypertension, diabetes, and atherosclerosis. Smoking plays a significant risk factor. But in some cases, it's hard to find a cause. The patient was advised to consult a general physician to address the underlying systemic cause.

Cause of Decreased Vision

After venous occlusion, blood circulation is halted, often resulting in blood or fluid (macular edema) accumulation in retinal tissue. The associated macular edema, being a main culprit in reducing visual acuity with ischemic due to venous occlusion, also plays a part.

Treatment

Spontaneous improvement in visual acuity can occur in some patients, but if not, active intervention is needed. Without treatment, it may worsen and permanently decrease visual acuity.

Treatment options include intravitreal injection of FDA-approved vascular endothelial growth factor inhibitors (Anti-VEGF) like ranibizumab and aflibercept. Intravitreal injection of steroids such as triamcinolone acetate and dexamethasone intravitreal implant (FDA-approved) can help maintain visual acuity. Laser can also be used to reduce retinal edema but is now considered a second-line treatment based on visual outcome and limitations.

On follow-up visits, one should look for neovascularization on the retina, iris, or angles, which is a major complication.

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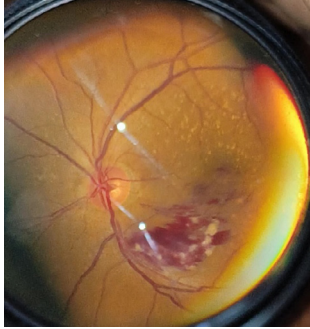


Figure 1: Fundus photograph showing multiple retinal hemorrhages with cotton wool spots in superotemporal quadrant

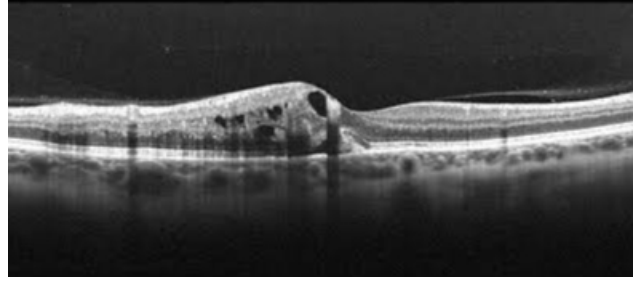


Figure 2: OCT showing macular edema with neurosensory detachment