Case report:

Prompt Response to single injection of Bevacizumab in a case of Fibrinous Central Serous Choroidopathy (CSC).

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Abstract

Purpose: Central Serous Choroidopathy (CSC) is a disease of young and middle aged adults as a localized detachment of the neurosensory retina. Though the cause of CSC remains unknown, it is believed that abnormalities in choroidal circulation make overlying retinal pigment epithelium dysfunctional, resulting in development of a serous retinal detachment. Subretinal fibrin accumulation is rare but vision threatening association of CSC. ***Methods***: A young 31 years female with acute central serous chorioretinopathy received an Intravitreal bevacizumab (1.25 mg/0.05 ml) injection. At baseline and follow-up visits, patients had best corrected visual acuity (BCVA), IOP assessment, dilated fundus examination, fundus photography, fluorescein angiography (FA), and Optical Coherence Topography(OCT) imaging. ***Results***: Patient showed resolution of fibrin, resolution of intraretinal or subretinal fluid promptly, and improvement in visual symptoms and acuity within 1 month. At 6 months patient is maintaining 20/20 vision without any recurrence. ***Conclusions:*** Intravitreal bevacizumab injection for acute fibrinous central serous choroidopathy may result in prompt resolution of neurosensory detachment and reduction of angiographic leakage. These short-term results suggest that Intravitreal bevacizumab injection may constitute a promising therapeutic option in fibrinous central serous chorioretinopathy.

Keywords: Central serous choroidopathy; visual function; fibrin, bevacizumab

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Introduction

Central Serous Choroidopathy (CSC) has been described as a benign and self limiting disease with a tendency to recur affecting the visual function[1, 2]. It manifests as neurosensory detachment of the macula in young and middle aged healthy; and Type A personalities. It has also been reported in women frequently associated with pregnancy typically in the third trimester. In up to 18% of cases it may be bilateral but frequently manifests symptomatically in one eye. Abnormalities in choroical circulation makes the overlying retinal pigment epithel ium (RPE) dysfunctional resulting in focal or multifocal leak in RPE with serous elevation of the neurosensory retina in macular area is believed to be the pathophysiology, though the exact cause remains unknown [3].

Literature search has reported six cases with CSC with sub retinal fibrin which later had fibrosis with severe loss of vision. This CSC complicated with subretinal fibrin is potentially an unusual presentation

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with severe threatening vision loss[4]. Here we present case of CSC with fibrin in the sub retinal space with visible remarkable response to bevacizumab.

Case Report

A 31 year old, young female was referred to the Department of Ophthalmology, Gian Sagar Medical College and Hospital with a history of sudden painless decrease in vision with relative central scotoma in the right eye since three days. There was no history of any kind of trauma or systemic illness. She gave a history of steroid intake Prednisolone 40mg from last four days. Her Best Corrected Visual acuity (BCVA) measured was CF at 1 meters and 20/20 in the right and left eye, respectively. The dilated fundus evaluation revealed a yellowish lesion in the super nasal quadrant to the macula. The Fundus Fluorescein angiography (FFA) revealed a focal leak at the level of the RPE near the fovea and did not reveal the typical pattern of CSC (Figure 1). Optical Coherence Tomography (OCT) showed a subfoveal neurosensory detachment along with cystoid spaces with subretinal accumulation of highly reflective material. Left eye revealed a normal angiogram (Figure 2, 3).

Our initial diagnosis was idiopathic Choroidal Neovascular Membrane (CNVM) and was decided to give Intravitreal Bevacizumab. Next day she was given Intravitreal bevacizumab injection (1.25 mg/0.05 ml) (Avastin, Genentech, Inc., San Francisco, CA) without any complications. After fifteen days of Bevacizumab she came for follow up visit, BCVA and OCT repeated, her BCVA improved to 20/40 (Figure 3).

OCT revealed complete resolution of highly reflective material and cystoid spaces, RPE detachment became more clear and shallow neurosensory detachment so the final diagnosis of Fibrinous CSC was made.

Visual acuity improved to 20/20 after two month following only one dose of bevacizumab, with resolution of symptoms and fibrin with cystoid spaces and the neurosensory detachment. Retinal examination, visual acuity and OCT remained stable thereafter for the following 12 months without any apparent fluid.

Discussion

It has been previously reported that in majority of CSC, the sub retinal fibrin is known to resolve spontaneously but it takes a long time and in rest of the cases formation of the subretinal fibrotic scar results in severe vision loss[4].

In our patient, we found presence of intraretinal fluid, subretinal fluid and highly reflectivity, the PED was not clear and adding further in FFA the typical pattern was not evident, so the initial diagnosis made was idiopathic CNVM. In 15 days diagnosis was clearer with the complete and rapid resolution of highly reflective material (fibrin) and intraretinal fluid and PED became clearer on OCT. Improvement of both BCVA and foveal contour made the diagnosis more clear toward the Fibrinous CSC. Such a dramatic response to a single injection of Intravitreal bevacizumab in case of fibrinous CSC makes this case report different to the previous publication.

Schatz et al. reported 6 cases of CSC with sub retinal fibrin which developed into subretinal fibrotic scar which was further followed by subretinal neovascularzation. Four out of seven eyes had severe vision loss (20/400 or worse) because of sub retinal fibrosis. In the literature, in majority of CSC complicated with fibrin, there is gradual resolution of fibrin maintaining a good vision [4].

Bevacizumab has been reported to be effective treatment in chronic CSC. Intravitreal Bevacizumab was found in our case had prompt response inspite of no direct evidence for vascular endothelial growth factor (VEGF) in inducing CSC. Shams and Ianchulev (2006) reported that VEGF is a critical regulator of ocular angiogenesis and vascular permeability. When increased choroidal hyperpermeability claimed to be one of the main underlying mechanism of CSC, it seemed logic to treat such cases with anti-VEGF such as (Avastin, Genentech, Inc., San Francisco, CA) [5]. In our case a rapid response to bevacizumab may suggest that anti VEGF agent may be alternative treatment option in the management of fibrinous CSC.

Ethical approval: This case report is ethically approved by the ethics committee of Department of Ophthalmology, Gian Sagar Medical College and Hospital.

Conclusions

Intravitreal bevacizumab injection for acute fibrinous central serous chorioretinopathy may result in prompt resolution of neurosensory detachment and reduction of angiographic leakage. This result suggests that Intravitreal bevacizumab injection may constitute a promising therapeutic option in fibrinous central serous chorioretinopathy and may result in recovery from this vision threatening complication.

Conflict of interest: none

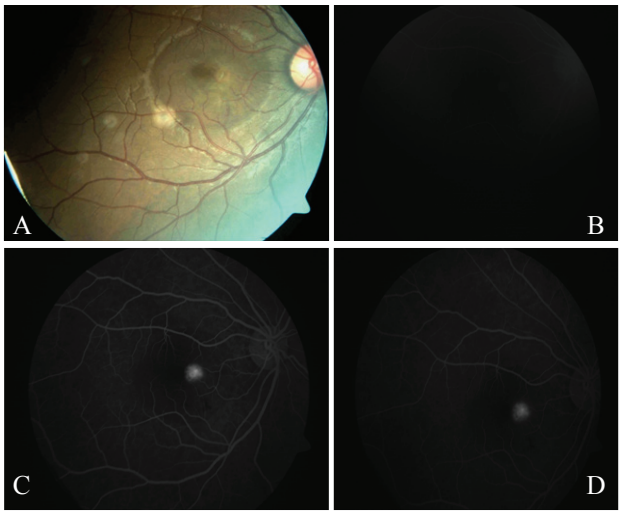


Figure 1. Fundus Fluorescein angiography of eye, (A) FFA of the eye; (B) FFA during early phase; (C) FFA during mid phase; (D) FFA during late phase

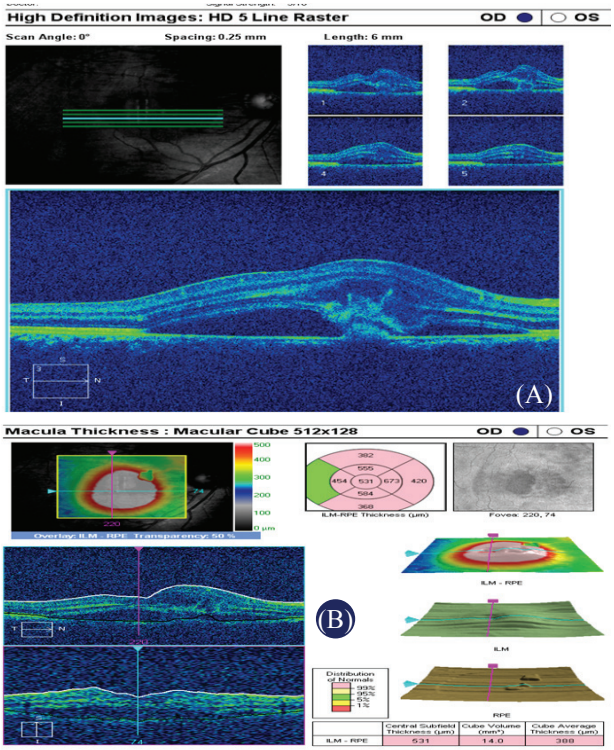
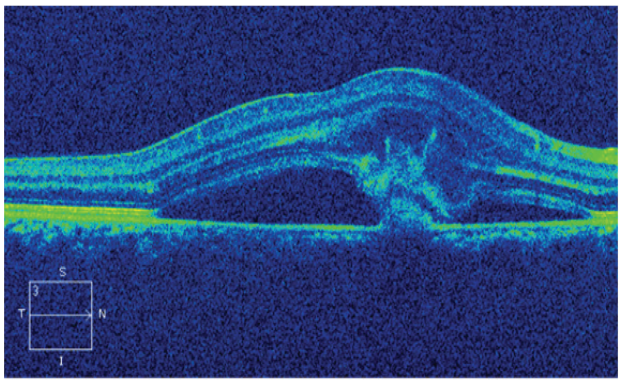
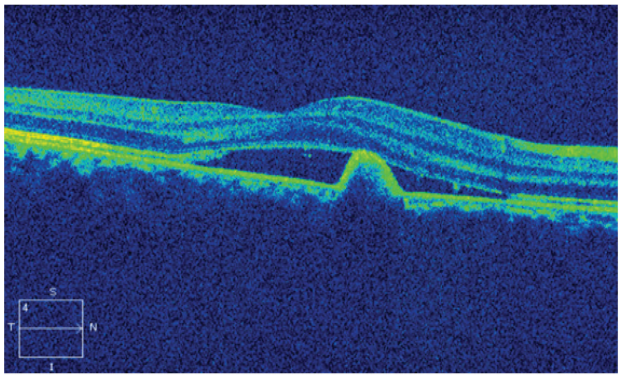


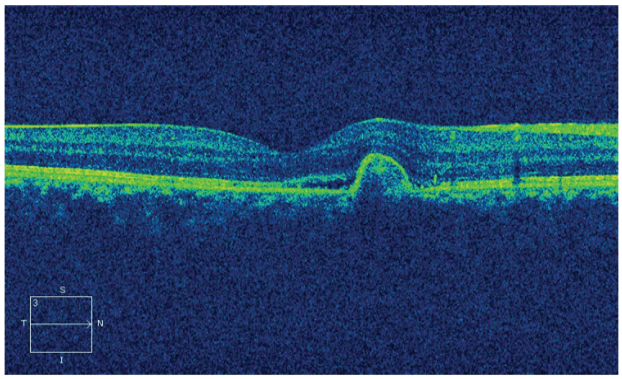
Figure 2. OCT scans depicting a neurosensory retinal elevation and intraretinal fluid with high reflectivity material with a shallow RPE detachment which is not very clear.



(A) OCT scan before single dose of Avastin



(B) OCT scan after one month of Avastin dissolution of fibrin like material and RPE Detachment became clear.



(C) OCT scan on last follow up visit showing absence of Subretinal fluid.

Figure 3. OCT Scan before (A) and after (B, C) therapy with avastin

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