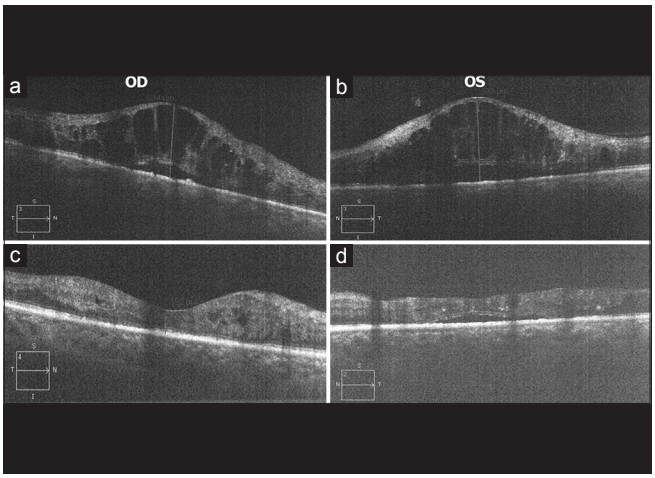

Figure 1: Top panel shows severe cystoid macular edema (ME) on spectral domain optical coherence tomography in the right eye (OD) and the left eye (OS) before intravitreal ziv-aflibercept injection. Bottom panel shows significant decrease in ME at 1-month follow-up in both eyes

Intravitreal ziv-aflibercept for recurrent macular edema secondary to central retinal venous occlusion

Dear Editor,

Recurrent macular edema (ME) secondary to central retinal venous occlusion (CRVO) is a challenging situation. Recently, newer anti-vascular endothelial growth factor (VEGF) drug, aflibercept (Eyelea®, Bayer Healthcare, Germany), approved by Food and Drug Administration (FDA), has shown good treatment outcomes in randomized clinical trials in patients with ME secondary to CRVO.[1,2] However, this drug is not available in India. Ziv-aflibercept (Zaltrap; Regeneron, New York, USA), anti-VEGF drug, is a recombinant fusion protein with a similar mechanism to aflibercept. It was approved by FDA in August 2012, for the treatment of resistant metastatic colorectal carcinoma. Recently, Mansour *et al*. reported intravitreal ziv-aflibercept as safe treatment at 4 weeks without any ocular toxicity in patients with diabetic ME and age-related macular degeneration, and they clarified the concerns about the osmolarity of this preparation.[3,4] Here, we present a single case of off-label use of intravitreal Zaltrap® in a patient with recurrent ME secondary to CRVO. Ethics committee approval was taken to report this case.

A 64-year-old male presented with a sudden vision loss in both eyes since 1-month. On examination, his best-corrected visual acuity was 20/160 in right and left eye respectively. He was diagnosed to have CRVO with ME and was treated with intravitreal bevacizumab in both eyes. His systemic investigations were within normal limits. During the follow-up of 20 months, he had multiple episodes of recurrent ME and received 12 and 13 anti-VEGF injections in right and left eye respectively, along with one intravitreal triamcinolone injection and peripheral panretinal photocoagulation in both eyes. After a treatment-free interval of 2 months that is, at 22 months of follow-up, he presented with recurrent edema in both eyes with of 20/200 in both eyes. On examination, there was ME in both eyes, with a central macular thickness (CMT) of 834 μ and 938 μ on optical coherence tomography (OCT) [Fig. 1a and b]. In view of recurrent recalcitrant edema, after obtaining informed consent, he underwent intravitreal Zaltrap® (1.25 mg in 0.05 ml) in both eyes under aseptic conditions, with an interval of 5 days between two eyes. The patient was subsequently followed at postinjection day 1, day 7 and day 30 (1-month). He did not have any symptoms of blurred vision or ocular pain related to injection without any signs of inflammation/toxicity. At 1-month follow-up, his visual acuity improved to 20/100 and 20/159 in his right and left eye respectively. OCT showed a decrease in edema with CMT of 193 μ and 232 μ [Fig. 1c and d] in right and left eye respectively. As there was no observed clinical toxicity at 1-month follow-up and good clinical response, the patient has been advised to undergo another injection of Zaltrap® in both eyes.

This is the first report of intravitreal Zaltrap® in eyes with ME secondary to CRVO. Our report presents evidence supporting the clinical safety and efficacy of a single intravitreal Zaltrap® injection and supports its use as the primary or second line of anti-VEGF therapy in recalcitrant ME due to CRVO. However, further studies are warranted to evaluate the long-term safety and efficacy of this drug in various situations where anti-VEGF therapy is indicated.

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