

## **FOVEAL THICKNESS FLUCTUATIONS IN ANTI-VASCULAR ENDOTHELIAL GROWTH FACTOR TREATMENT FOR CENTRAL RETINAL VEIN OCCLUSION**

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**PURPOSE:** We examined the effects of foveal thickness (FT) fluctuation (FTF) on visual and morphological outcomes of eyes with central retinal vein occlusion (CRVO) receiving long-term anti-vascular endothelial growth factor (VEGF) treatment based on a pro re nata regimen for recurrent macular edema (ME).

**METHODS:** We analyzed 141 treatment-naïve patients with CRVO-ME. We assessed FT using optical coherence tomography at each study visit. The patients were divided into Groups 0, 1, 2, and 3 according to the ascending order of FTF.

**RESULTS:** The mean baseline logarithm of the minimal angle of resolution (logMAR) best-corrected visual acuity (BCVA) and FT were  $0.65 \pm 0.52$  and  $661.1 \pm 257.4 \mu\text{m}$ , respectively. The mean number of anti-VEGF injections administered was  $5.6 \pm 3.6$ . At the final examination, the mean logMAR BCVA and FT values were significantly improved relative to the baseline values (both  $p < 0.01$ ). FTF was significantly and positively associated with the logMAR BCVA and length of the foveal ellipsoid zone band defect at the final examination ( $p < 0.01$ ). The final logMAR BCVA of patients developing neovascular complications was  $1.27 \pm 0.72$ , which was significantly poorer than that of patients without complications ( $p < 0.001$ ). There was no significant difference in the neovascular complication rate among the FTF groups ( $p = 0.106$ ).

**Conclusions:** In eyes receiving anti-VEGF treatment for CRVO-ME, FTF can longitudinally impair the visual acuity and foveal photoreceptor status during the observation period, thus influencing the final outcomes. However, neovascular complications, which would also lead to a poor visual prognosis, may not be associated with FTF.