Letters

Gap in Capillary Perfusion on Optical Coherence Tomography Angiography

We read with great interest the recent article by Tsuboi et al. The authors used optical coherence tomography angiography (OCTA) and a threshold technique to evaluate correlations between persistent macular edema associated with branch retinal vein occlusion (BRVO), and the macular perfusion status in the superficial (SCP) and deep (DCP) capillary plexus. They found that the gap between the SCP and DCP (i.e., specifically the presence of isolated vessels in the SCP existing simultaneously with capillary loss in the DCP) was associated with persistent macular edema. We congratulate the authors for their excellent work and would like to make some contributions and criticisms related to this study. (1) According to the descriptions of the OCT device (RTVue-XR Avanti; OptoVue, Inc., Fremont, CA, USA), The SCP en face OCTA image was segmented with an inner boundary 3 μm below the internal limiting membrane and an outer boundary 15 μm below the inner plexiform layer. The DCP en face OCTA image was segmented with an inner boundary 15 μm below the inner plexiform layer and an outer boundary 70 μm below the inner plexiform layer. For OCTA measurement, if the macular edema occurs below the inner boundary of DCP, capillary loss will be found only in the DCP, which could result in the gap between the SCP and DCP. Therefore, the authors should provide more information about the location of macular edema, which would have great influence on the results of their study. (2) The present study is a cross-section observation study. It could not tell the exact cause-and-effect relationship between the gaps in capillary loss and persistent macular edema in BRVO. Therefore, it will be more important to conduct a prospective and longitudinal trial to explore which one (capillary loss or macular edema) occurs first in the progress of BRVO. This will help us better understand the pathogenesis of BRVO.

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References


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