

## Abstract 197

### COLOCALIZATION OF ELLIPSOID ZONE DISRUPTION IN ENFACE OCT WITH CAPILLARY NON-PERFUSION ON DIFFERENT RETINAL VASCULAR LAYERS AND CHORIOCAPILLARIS OF DIABETIC PATIENTS

Oral

Mirshahi R.<sup>[1]</sup>, Ghasemi Falavarjani K.<sup>[1]</sup>, Ahmadi M.J.<sup>[2]</sup>, Rahdar A.<sup>[2]</sup>, Nekoozadeh S.<sup>[1]</sup>

<sup>[1]</sup>Iran University of Medical Sciences ~ Tehran ~ Iran, Islamic Republic of, <sup>[2]</sup>Chashmyar Company ~ Tehran ~ Iran, Islamic Republic of

#### Purpose:

To assess the colocalization of ellipsoid zone (EZ) disruption with capillary non perfusion of choriocapillaris (CC), retinal superficial (SCP) and deep capillary plexus (DCP) in diabetic patients using enface OCT and OCTA

#### Methods:

Macular OCT and OCTA scans (3x3 mm) of 41 diabetic patients were obtained using RTVue XR 100 Avanti instrument. After removing the shadow artifacts, ellipsoid zone integrity was assessed in enface OCT slab using Gaussian mixture model clustering method compared with corresponding EZ enface OCT of 10 age matched normal patients. Similar technique was used for detection of capillary non perfusion in CC enface OCTA. Geometric perfusion density (GPD) maps were also generated for SCP and DCP. Maps of capillary non perfusion in CC, SCP and DCP were compared pixel by pixel with the map generated from EZ disruption.

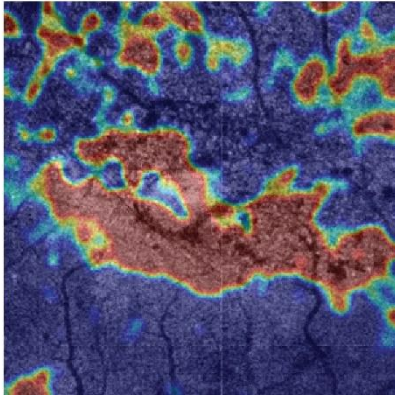
#### Results:

Twenty-one patients with diabetic macular edema (DME) and 20 patients with diabetic retinopathy without DME were included. In both groups, the overlap of EZ disruption was significantly higher with choriocapillaris non perfusion in comparison to non-perfusion in SCP and DCP (Dry macular group: 33.15% with CC vs. 0.85% with SCP vs. 0.41% with DCP, p value <0.001; DME group: 29.81% with CC vs. 0.55% with SCP vs. 0.45% with DCP, p value <0.001). In linear regression model, there was a statistically significant correlation between logMAR visual acuity and EZ disruption in the dry macular group only (B: 0.473, p value: 0.045).

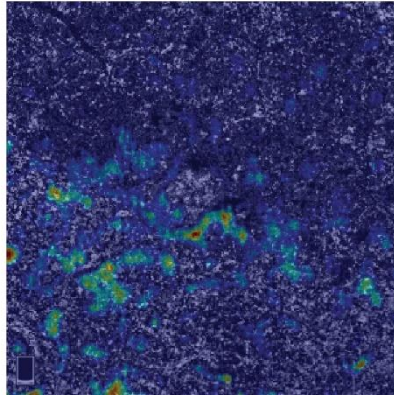
#### Conclusions:

In patients with diabetic retinopathy, choriocapillaris non-perfusion may have a more significant role in photoreceptor loss than retinal non-perfusion.

EZ disruption heatmap on corresponding enface OCT  
(Shadow artifacts were excluded before generating the map)



CC nonperfusion heatmap on corresponding enface OCTA  
(Shadow artifacts were excluded before generating the map)



The areas of overlap between EZ disruption and  
CC nonperfusion are highlighted in white

