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論文審査担当者	主査： 芝本 雄太 副査： 城 卓志, 小椋 祐一郎

## **Abstract**

### **PURPOSE:**

To evaluate the area of the foveal avascular zone (FAZ) detected by en face OCTA (AngioVue, Avanti OCT; Optovue) in healthy and diabetic eyes.

### **METHODS:**

This study was a retrospective chart review of patients who had undergone fundus examinations that included OCTA at the Nagoya City University Hospital or the Ozeki Eye Clinic between November 2014 and February 2015. Eyes with proliferative diabetic retinopathy and history of laser photocoagulation were excluded. The FAZ area in the superficial and deep plexus layers were measured and evaluated using ImageJ software.

### **RESULTS:**

The FAZ area in the superficial layer was  $0.25 \pm 0.06$  mm<sup>2</sup> in healthy eyes (n = 19), whereas it was  $0.37 \pm 0.07$  mm<sup>2</sup> in diabetic eyes without retinopathy (n = 24) and  $0.38 \pm 0.11$  mm<sup>2</sup> in eyes with diabetic retinopathy (n = 20). Diabetic eyes showed statistically significant FAZ enlargement compared with healthy eyes, regardless of the presence of retinopathy (P < 0.01). The FAZ area in the deep plexus layer was also significantly larger in diabetic eyes than in healthy eyes (P < 0.01).

### **CONCLUSION:**

Our data suggest that diabetic eyes show retinal microcirculation impairment in the macula even before retinopathy develops. En face OCTA is a useful noninvasive screening tool for detecting early microcirculatory disturbance in patients with diabetes.