論 文 要 旨

Comparison of multicolor scanning laser ophthalmoscopy and optical coherence tomography angiography for detection of microaneurysmsin diabetic retinopathy

氏　　名　迫野　能士

Purpose: This study aimed to evaluate the usefulness of multicolor (MC) scanning laser ophthalmoscopy (MC-SLO) in the detection of microaneurysm (MA) of diabetic retinopathy (DR).

Design: This was a retrospective cross-sectional study.

Methods: Eyes with DR that underwent fluorescein angiography (FA), MC-SLO, optical coherence tomography angiography (OCTA), and color fundus photography (CFP) were analyzed. The foveal region was cut in the 6 × 6 -mm image, and the MA of each image was counted by retina specialists. The FA results were used as a ground standard. Sensitivity was defined by the actual number of MA within the marked MA/number of MA in FA, and positive predictive value was defined as actual MA number/total marking number. MA with enlargement of dye within 30 s was defined as MA with early dye leakage, and each MA was classified accordingly.

Results: The study included 54 eyes of 35 cases with average age of 64.5 ± 9.11 years. The sensitivity of MA detection was 37.3%, 15.3%, and 4.12% in MC-SLO, OCTA, and CFP, respectively; all of which reached statistically significant difference ($P < 0.01$). The positive predictive values were 66.4%, 46.4%, and 27.6% in MC, OCTA, and CFP, respectively; all of which reached statistically significant difference ($P < 0.01$). Sensitivity for MAs with early leakage was 36.4% in MC-SLO, which was significantly greater than 4.02% in OCTA.

Conclusions: MC-SLO was more useful in the detection of MA of DR than OCTA because of not only its sensitivity or predictability but also its quality to detect clinically important MA.