Change of Retinal Pigment Epithelial Atrophy after Anti-Vascular Endothelial Growth Factor Treatment in Exudative Age-related Macular Degeneration

Moosang Kim
Department of Ophthalmology, Kangwon National University Hospital, Chuncheon, Korea

**Purpose:** To investigate the quantitative changes of retinal pigment epithelial (RPE) atrophy during 24-month follow-up period of anti-vascular endothelial growth factor (VEGF) for exudative age-related macular degeneration (AMD)

**Methods:** This is a retrospective study. Sixty-five eyes of 62 consecutive patients with naïve exudative AMD who had received treatment with anti-VEGF therapy and followed for more 24 months were enrolled. All patients received three initial monthly injections of anti-VEGF (ranibizumab or bevacizumab), followed by PRN or treat-and-extend protocol. Color fundus image, optical coherence tomography, and fundus autofluorescence were evaluated for RPE atrophy. Multiple regression analysis was performed to investigate the predictive factors found during univariate analysis to identify an association with increased RPE atrophic areas.

**Results:** The mean number of anti-VEGF treatments was 9.18. RPE atrophic area was 1.293±1.298 mm2 at baseline, and enlarged to 2.394±1.940 mm2 after 24 months, which differed significantly (P=0.001). Multiple regression analysis revealed that larger areas of RPE atrophy at month 4 and larger number of anti-VEGF treatments were associated with increased RPE atrophic areas.

**Conclusion:** RPE atrophy progresses in eyes with exudative AMD during anti-VEGF treatment. Larger areas of RPE atrophy at month 4 and larger number of anti-VEGF injections are the factors that predict the progression of RPE atrophic areas during anti-VEGF treatment. These findings may have important implications on the counseling and management of patients with exudative AMD.