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QUANTITATIVE ASSESSMENT OF CHORIOCAPILLARIS FLOW DEFICITS AND TYPE 1 MACULAR NEOVASCULARIZATION GROWTH IN AGE-RELATED MACULAR DEGENERATION

Oral

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Purpose:

To evaluate the association between choriocapillaris (CC) flow deficits (FD) and growth patterns of type 1 macular neovascularization (MNV) in eyes with age-related macular degeneration (AMD).

Methods:

Retrospective, consecutive case series of AMD eyes with exudative or nonexudative type 1 MNV exhibiting growth on swept-source optical coherence tomography angiography (SS-OCTA) over a minimum follow-up of 12 months. MNV growth pattern and two types of quantitative CC FD measurements [FD average size and FD percentage (%)] from the visit preceding neovascular growth were assessed using radial sectors spanning a concentric 600 µm ring surrounding the MNV outline. MNV growth and FD measurements from each pair of visits were plotted, and the strength of the association evaluated using Kendall's rank-order correlation.

Results:

Twenty-two eyes from 19 patients were evaluated, of which 4 eyes had non-exudative lesions and 5 eyes had treatment naïve exudative type 1 MNV. The mean follow-up interval was 28 ± 3 months and the median interval between SS-OCTA visits was 18 ± 25 months (quartile 1 = 10; quartile 3 = 35). There was an overall weak correlation between type 1 MNV growth and CC FD average size (τ = 0.18) and a moderate correlation with CC FD % (τ = 0.20).

Conclusions:

In AMD eyes with type 1 MNV, lesions grow preferentially into CC areas with an increased FD average size and increased FD%, supporting the concept that type 1 MNV recapitulates areas of CC blood flow impairment.