Accepted Manuscript

Macular pigment distribution as prognostic marker for disease progression in macular telangiectasia type 2

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PII: S0002-9394(18)30398-2

DOI: 10.1016/j.ajo.2018.07.017

Reference: AJOPHT 10586

To appear in: *American Journal of Ophthalmology*

Received Date: 12 April 2018

Revised Date: 12 July 2018

Accepted Date: 15 July 2018

Please cite this article as: Müller S, Issa PC, Heeren TFC, Thiele S, Holz FG, Herrmann P, Macular pigment distribution as prognostic marker for disease progression in macular telangiectasia type 2, *American Journal of Ophthalmology* (2018), doi: 10.1016/j.ajo.2018.07.017.

Purpose: To evaluate macular pigment distribution pattern as a prognostic marker for disease progression in patients with macular telangiectasia type 2 (MacTel).

Design: Retrospective cohort study

Methods: In this single-center study, 90 eyes of 47 patients were analyzed. Macular pigment optical density (MPOD) was measured with dual wavelength fundus autofluorescence. Eyes were graded into MPOD distribution classes 1 to 3 with increasing loss of macular pigment and grading was performed blinded by two independent graders. Best corrected visual acuity, reading acuity, total scotoma size in fundus-controlled perimetry (microperimetry) and break of the ellipsoid zone (EZ) in optical coherence tomography (*en face* measurement) were defined as functional and morphologic outcome parameters and evaluated at baseline and after 60 months.

Results: After a mean review period of 59.6 months (±SD 5.2 months), no change between MPOD classes was observed compared to baseline. Morphologic and functional deficits were limited to the area of MPOD loss. At follow up, a significant mean decrease of visual acuity and reading acuity as well as a significant mean increase of scotoma size and EZ break was observed in eyes assigned to MPOD classes 2 and 3, while outcome parameters remained stable in eyes of class 1.

Conclusions: The results indicate that MPOD and its distribution may serve as a prognostic marker for disease progression and functional impairment in patients with MacTel.