Correlation of Functional Impairment and Morphological Alterations in Patients With Group 2A Idiopathic Juxtafoveal Retinal Telangiectasia

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Objective: To correlate functional impairment with morphological alterations in patients with group 2A idiopathic juxtafoveal retinal telangiectasia.

Methods: As part of the Macular Telangiectasia Project, a cohort of 10 patients underwent additional functional testing and imaging studies including photopic and scotopic fine matrix mapping, microperimetry, reflectance, and autofluorescence imaging with scanning laser ophthalmoscopy.

Results: From clinical stage 2 to 5, scotopic central function was reduced, which corresponded to depletion of macular pigment density. From clinical stage 3 onward, severe photopic and scotopic scotomata with up to 30 dB of loss were found next to fixation and were not totally confined to abnormalities seen with standard imaging modalities. The number of test points with loss of 10 dB or more was significantly greater for scotopic testing than for photopic testing ($P = .007$, Wilcoxon signed rank test).

Conclusions: Rod function may be more severely affected than cone function in patients with group 2A idiopathic juxtafoveal retinal telangiectasia, and this may occur early in the disease progression. Severe reduction in retinal sensitivity is spatially confined to morphological alterations seen with scanning laser ophthalmoscopy imaging. The findings imply that idiopathic juxtafoveal retinal telangiectasia is not solely a vascular disease and that early neuronal involvement may be implicated in the pathogenesis of the disease.

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