

Rates of Local Retinal Nerve Fiber Layer Thinning before and after Disc Hemorrhage in Glaucoma

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PURPOSE: To investigate longitudinal temporal and spatial associations between disc hemorrhage (DH) and rates of local retinal nerve fiber layer (RNFL) thinning before and after DHs.

DESIGN: Longitudinal, observational cohort study.

PARTICIPANTS: Forty eyes of 37 participants (23 with glaucoma and 17 with suspect glaucoma at baseline) with DH episodes during follow-up from the Diagnostic Innovations in Glaucoma Study and the African Descent and Glaucoma Evaluation Study.

METHODS: All subjects underwent optic disc photography annually and spectral-domain optical coherence tomography (OCT) RNFL thickness measurements every 6 months. The rates of RNFL thinning were calculated using multivariate linear mixed-effects models before and after DH.

MAIN OUTCOME MEASURES: Rates of global and local RNFL thinning.

RESULTS: Thirty-six eyes of 33 participants with inferior or superior DHs were analyzed. The rates of RNFL thinning were significantly faster in DH quadrants than in non-DH quadrants after DH (-2.25 and -0.69 $\mu\text{m}/\text{year}$; $P < 0.001$).

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Ophthalmology. 2017 Sep;124(9):1403-1411. doi: 10.1016/j.ophtha.2017.03.059. Epub 2017 May 9.

PMID: 28499748

<http://www.ncbi.nlm.nih.gov/pubmed/28499748>