Risk factors for disease progression in low-teens normal-tension glaucoma

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BACKGROUND/AIMS: To investigate the risk factors for disease progression of normal-tension glaucoma (NTG) with pretreatment intraocular pressure (IOP) in the low-teens.

METHODS: One-hundred and two (102) eyes of 102 patients with NTG with pretreatment IOP < 12 mm Hg who had been followed up for an average of 8.7 ± 3.4 years were analyzed. The patients were classified into progressors (n=36, 35.3%) and non-progressors (n=66, 64.7%). The follow-up periods, baseline VF mean deviation, and pretreatment IOP were compared between the two groups. The Cox proportional hazards model was used to identify the risk factors for disease progression.

RESULTS: Thirty-six patients (35.3%) were classified as progressors and 66 (64.7%) as non-progressors. Between the two groups, no significant differences were found in the follow-up periods (8.7 ± 3.4 vs 7.7 ± 3.2 years; p = 0.138), baseline VF mean deviation (-4.50 ± 5.65 vs -3.56 ± 4.30 dB; p = 0.348), or pretreatment IOP (11.34 ± 1.21 vs 11.17 ± 1.06 mm Hg; p = 0.121). The multivariate Cox proportional hazards model indicated that greater diurnal IOP at baseline (HR = 1.609; p = 0.004), greater fluctuation of diastolic BP (DBP; HR = 1.058; p = 0.002), and presence of optic disc haemorrhage during follow-up (DH; HR = 3.664; p = 0.001) were risk factors for glaucoma progression.

CONCLUSION: In the low-teens NTG eyes, 35.3% showed glaucoma progression during the average 8.7 years of follow-up. Fluctuation of DBP and diurnal IOP as well as DH were significantly associated with greater probability of disease progression.

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