

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 \leq 12 mm Hg who had been followed up for more than 60 months were retrospectively enrolled. Patients were divided into progressor and non-progressor groups according to visual field (VF) progression as correlated with change of optic disc or retinal nerve fibre layer defect. Baseline demographic and clinical characteristics including diurnal IOP and 24 hours blood pressure (BP) 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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