

Simvastatin and Disease Stabilization in Normal Tension Glaucoma: A Cohort Study.

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PURPOSE: To investigate whether simvastatin use is associated with visual field (VF) stabilization in patients with normal tension glaucoma (NTG) .

DESIGN: Prospective cohort study (ClinicalTrials.gov Identifier: NCT00321386) .

PARTICIPANTS: A total of 256 eyes from 256 Chinese subjects with NTG.

METHODS: Patients were followed up at 4-month intervals for 36 months for VF progression per Anderson's criteria. Clinical parameters were checked for association with progression in multivariate analysis.

MAIN OUTCOME MEASURES: The primary outcome was the association between simvastatin use and VF progression.

RESULTS: Thirty-one patients (12.1%) were taking simvastatin (statin+) , and 225 patients (87.9%) were not taking simvastatin (statin-) . Baseline age, gender, untreated intraocular pressure, VF indices, vertical cup-to-disc ratio, and central corneal thickness (CCT) were comparable between the 2 groups.

There were significantly more patients with a history of hypercholesterolemia, systemic hypertension, and ischemic heart disease in the statin+ group. A total of 121 patients (47.3%) showed evidence of VF progression (mean rate of mean deviation loss was -0.30 decibel per year) during the 36 months of follow-up.

Simvastatin use was among 8 of 121 patients (6.6%) who progressed compared with 23 of 135 patients (17.0%) who did not progress (P = 0.011) . Logistic regression revealed that history of disc hemorrhage (relative risk [RR] 3.26; 95% confidence interval [CI], 1.21-8.76; P = 0.019) , history of cerebrovascular accidents (RR 2.28; 95% CI, 1.03-5.06; P = 0.043) , and baseline age (per 10 years older; RR 1.38; 95% CI, 1.08-1.76; P = 0.009) were significant risk factors for VF progression, whereas simvastatin use conferred a protective effect (RR 0.36; 95% CI, 0.14-0.91; P = 0.030) .

CONCLUSIONS: Simvastatin use may be associated with VF stabilization in patients with NTG. A larger scale randomized controlled trial and cost-effectiveness analyses seem warranted.

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