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## Factors Associated With 5-Year Glaucomatous Progression In Glaucoma Suspect Eyes: A Retrospective Longitudinal Study

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## Factors Associated With 5-Year Glaucomatous Progression In Glaucoma Suspect Eyes:

### A Retrospective Longitudinal Study

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**Purpose:** To study the association of 5-year glaucomatous progression with several demographic, clinical, visual field and optical coherence tomography (OCT) variables in glaucoma suspect eyes.

**Methods:** A retrospective chart review of 365 eyes of 288 patients were included (323 eyes with suspicious cup-to-disc ratio and 42 eyes with ocular hypertension). The study subjects were divided into two groups: eyes that progressed to glaucoma and those that did not. We calculated the percentage of glaucoma suspect eyes that progressed to glaucoma within 5 years.

The inclusion criteria were glaucoma suspect eyes (i.e., suspicious cup-to-disc ratio and/or intraocular pressure >21 mm Hg), age ≥ 30 years old, follow-up time of 5 years, best-corrected visual acuity 20/100 or better, spherical equivalent better than -8 diopters and astigmatism less than 3 diopters. We excluded eyes with any significant retinal or neurological disease, and glaucoma which was determined by at least 2 consecutive reliable visual field tests regardless of the appearance of the optic disc.

**Results:** Bivariate analysis showed eyes that progressed to glaucoma had significantly worse mean deviation, higher pattern standard deviation (PSD), less visual field index, thinner average, superior, and inferior retinal nerve fiber layer thickness (RNFL), and more severe average, superior, and inferior RNFL damages (i.e., color grading scale) at baseline. Logistic regression analysis showed only PSD and severe inferior RNFL damage (i.e., red color) were significantly associated with 5-year glaucomatous progression.

**Conclusions:** Segmental RNFL damage and PSD are associated with 5-year glaucomatous progression in glaucoma suspect eyes.