



CLASSIFICATION SYSTEM PROPOSAL FOR PREVALENT AND INCIDENT OPEN-ANGLE GLAUCOMA

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Background/Purpose: Systems for diagnosis and classification of prevalent and incident primary open angle glaucoma (POAG) were in the past, both in clinical and in population-based studies, among others often characterized by:

- Vaguely defined examination methods for tonometry, optic disc measurements, and perimetry
- Non-standardized cut-off points for normality
- Non-masked interpretation of results
- Non-standardized combinations of various test results leading to a diagnosis of POAG
- Non-described and thus non-reproducible algorithms leading to a diagnosis of POAG.

We propose a classification of POAG, derived from population-based data that avoids these problems and thus minimizes bias.

Design: Post hoc analysis of cross-sectional study data

Participants/Methods: From the Rotterdam Study (n=6780) all continuous variables for 97.5th and 99.5th percentiles were calculated as cut-off points for possible and probable glaucomatous optic neuropathy (GON). For IOP standard values we took the 97.5th percentile. After two suprathreshold screening tests with the Humphrey perimeter, Goldmann and Humphrey C-24 perimetry were performed. (Neuro-ophthalmic causes of visual field loss (VFL) other than POAG were excluded in order to diagnose glaucomatous VFL (GVFL).

Main Outcome Measures: Possible, probable, definite or no glaucoma.

Results: An algorithm was written with predefined GON and GVFL criteria leading, without final subjective interpretation by an ophthalmologist, to a diagnosis of no, possible, probable or definite POAG. Similarly IOP values were used for definition of ocular hypertension. By use of identical criteria, incident POAG was defined as progression from absence of any POAG or possible POAG at baseline towards probable or definite POAG in at least one eye. Progression of POAG was defined as progression towards one higher

category in at least one eye from possible POAG.

Conclusions: A non-subjective classification scheme for diagnosis of glaucoma based on standardized clinical data is possible.

Updated: March 11, 2008 12:55 PM AST