LIFETIME RISK OF BLINDNESS IN EYES WITH OPEN-ANGLE GLAUCOMA

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PURPOSE
To analyze the lifetime risk of blindness and the time with blindness from glaucoma in eyes with primary open-angle glaucoma (POAG) or exfoliative glaucoma (PEXG).

METHODS
Retrospective chart review of all patients with POAG or PEXG who had been followed at the glaucoma outpatient department at Skåne University Hospital, Malmö, and who died between January 2006 and June 2010. Our department provides medical care for approximately 3/4 of all glaucoma patients living in the catchment area.

One eye per patient was included in the analysis. If both eyes had glaucoma one was randomly selected. We recorded the extent of visual field loss (as Mean Deviation) and visual acuity (VA) at diagnosis and at the last visit. Beside, we calculated the widest diameter of the remaining central visual field (Figure 4). Low vision and blindness were defined according to WHO criteria, and the major reason for either was noted. The risk for blindness from glaucoma was analyzed by cumulative incidence calculation.

RESULTS
Four hundred and twenty-three glaucomatous eyes, 65% with POAG and 35% with PEX, were included in the analyses. At diagnosis mean MD was -10.1 dB (median -7.8 dB, -32.7 to +1.7) and median VA was 0.8 (0.0 to 1.25). The mean IOP (intraocular pressure) at diagnosis was 26 ± 9.6 mmHg, ranging from 9 to 68 mmHg.

Median time between last visit and death was 8 months (3, 14 months; 25°, 75% percentile) and mean time with a glaucoma diagnosis was 10.3 years ± 6.3 (median 10y, <1y to 29y).

Seventeen eyes (4%) had low vision and 20 eyes (4.7%) were blind from glaucoma at time of diagnosis. At the last visit 48 eyes (11.4%) had low vision and 129 eyes (30.5%) were blind from open-angle glaucoma (Figure 1).

The cumulative incidence for eyes to become blind after receiving a glaucoma diagnosis was 24% at 10 years with a glaucoma diagnosis. Nearly one third of all eyes became blind from glaucoma. Average time with a diagnosis of glaucoma was approximately 10 years, and the cumulative incidence of blindness from OAG (in eyes) at 10 years was 24%. We believe that these figures should be representative for Northern Europe.

CONCLUSIONS

Figure 1 Low vision and blindness from glaucoma at diagnosis and at time for last visit.

LV: Low vision, OAG = Open-angle glaucoma.

Figure 2 Cumulative incidence of blindness from glaucoma. The cumulative incidence for eyes to become blind from glaucoma was 24% after 10 years with a glaucoma diagnosis.

Figure 3 Time with blindness from glaucoma in years. Median time with blindness from glaucoma was 3 years in the 109 eyes that became blind during follow up.

Figure 4 Calculation of the widest diameter of the remaining central visual field. A pseudosimeter (red line) is drawn midway between points with threshold sensitivities ≥ 10 dB and points with sensitivities < 10 dB indicating the remaining visual field. The space between the pseudosimeter and test points is 3° and the distance between each test point is 6°. The widest diameter of the remaining visual field is calculated by using the pseudosimeter. This field is constricted to 12° around the point of fixation.

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REFERENCES