



OCULAR HYPERTENSION TREATMENT STUDY

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I. Study Design

- Randomized 1,636 ocular hypertensive (OHT) participants to observation or treatment with commercially available topical drugs.
- Qualifying intraocular pressures (IOP): = 24 mmHg, = 32 mmHg one eye = 21 mmHg, =32 mmHg fellow eye.
- Normal and reliable Humphrey 30-2 visual fields.
- Normal optic discs.
- Visual fields every six months.
- Stereo disc photographs yearly.

II. Endpoints

- Three consecutive visual fields judged abnormal and reliable by masked readers; defect: similar character, location all three fields.
- Two consecutive sets disc photographs judged deteriorated from baseline by masked readers.
- Masked endpoint committee determines if defects real and caused by primary open-angle glaucoma (POAG).

III. Results

- Treatment reduced IOP ~20%.
- POAG developed in 9.5% of observation group, 4.4% of treatment group at five years.
- Optic disc deterioration noted more commonly than visual field change.
- Possible safety concerns with cataract and serious genitourinary and psychiatric adverse events.
- Major risk factors include IOP, age, corneal thickness, cup/disc ratio.

IV. Conclusions

- Consider treating OHT individuals at moderate to high risk for developing POAG.
- Take into consideration risk factors, age, general health, life expectancy.
- Measure central corneal thickness (CCT) in all OHT and glaucoma patients.

V. Some Unresolved Issues

- When is(are) proper time(s) to intervene in POAG?

- How much IOP reduction is necessary at various stages of disease and at various patient ages?
- Are hypertension, hypotension, male gender, heart disease, race, etc. risk factors for developing POAG?
- Can we develop better risk profile for individual patients?
- How to correct IOP measurements for CCT?
- What is impact of topical medication on cataract formation?

How do race and ethnicity act to influence development of POAG and response to treatment?

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