The Ocular Hypertension Treatment Study (OHTS) - 2002



Objective

To determine the safety and efficacy of topical ocular hypotensive medication in delaying or preventing the onset of POAG among subjects with ocular hypertension.

Methods

Design: Multi-Center RCT

Sample Size: 1636

Treatment Groups:

- 819 to observation
- 817 to ocular hypotensive treatment; goal: IOP <24 mmHg & 20% IOP reduction

Outcome Measures:

- Development of POAG in one or both eyes:
 - Reproducible visual field abnormality, or
 - Reproducible clinically significant optic disk deterioration

Results

Point 1: Treatment of ocular hypertension effectively delayed or prevented the onset of POAG

- At 60 months, 4.4% of subjects in the treatment group and 9.5% in the observation group developed POAG (P < 0.0001)
- Compared to the treatment group, the observation group had a 2.5-fold greater hazard of POAG during the study

Point 2: Reduction of IOP using ocular hypotensive treatment was safe in non-glaucomatous individuals with with ocular hypertension

- Ocular hypotensive treatment reduced IOP by an average of 23% (from a mean of 25 mmHg to 19 mmHg)
- The rates of systemic and ocular adverse events were similar in the treatment and observation groups

TLDR: In subjects with ocular hypertension, ocular hypotensive treatment with a goal of reducing IOP by 20% and to <24 mmHG reduced the hazard of incident POAG by more than half.

Kass MA, Heuer DK, Higginbotham EJ, Johnson CA, Keltner JL, Miller JP, Parrish RK 2nd, Wilson MR, Gordon MO. The Ocular Hypertension Treatment Study: a randomized trial determines that topical ocular hypotensive medication delays or prevents the onset of primary open-angle glaucoma. Arch Ophthalmol. 2002 Jun;120(6):701-13; discussion 829-30. doi: 10.1001/archopht.120.6.701.