

Study examines effects of delaying treatment for ocular hypertension

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Early treatment of ocular hypertension appears to reduce the risk of developing glaucoma, especially in individuals at the highest risk, according to a report in the March issue of *Archives of Ophthalmology*. However, this strategy may not offer an absolute benefit in individuals at low risk.

Glaucoma is one of the most common causes of blindness in the United States and worldwide, according to background information in the article. High pressure within the eye—referred to as elevated intraocular pressure or ocular [hypertension](#)—is a leading risk factor for the development of primary open-angle glaucoma, the most common type. It is also the only risk factor that is modifiable.

"It is estimated that 4 percent to 7 percent of the U.S. population older than 40 years has ocular hypertension," the authors write. "There is substantial controversy on how to manage this large group of individuals who are at higher risk of developing glaucoma than the general population." The Ocular Hypertension Treatment Study previously demonstrated that lowering intraocular pressure in this population could delay or prevent the onset of glaucoma, but the optimal timing for initiating treatment has yet to be determined.

Michael A. Kass, M.D., of Washington University School of Medicine, St. Louis, and colleagues in the Ocular Hypertension Treatment Study Group compared the safety and efficacy of earlier vs. later treatment in preventing glaucoma among 1,636 individuals with elevated intraocular

pressure. Participants were randomly assigned to either observation or topical ocular pressure-lowering medication. Those assigned to receive medication were treated for a median (midpoint) time of 13 years, whereas the observation group was monitored for a median time of 7.5 years and then received medication for a median of 5.5 years.

Overall, 22 percent of participants in the original observation group and 16 percent in the original medication group developed glaucoma after 13 years—meaning early treatment was associated with a 27 percent reduction in the risk of glaucoma. Among the one-third of individuals who had the highest initial risk of developing glaucoma—as determined by factors such as age, corneal thickness and baseline intraocular pressure—40 percent in the observation group and 28 percent in the medication group developed glaucoma. There was little evidence of adverse events associated with the medication.

"The data presented suggest that ocular hypertension patients at high risk may benefit from more frequent examinations and from early treatment, taking into consideration age, health status, life expectancy and the patient preference," the authors write. "Conversely, most ocular hypertension patients at low risk could be followed up at less frequent intervals without treatment. Delaying treatment for 7.5 years in low-risk participants resulted in only a small absolute increase in the overall frequency of primary open-angle glaucoma."

The results indicate that an individualized assessment of the risk of developing [glaucoma](#) can aid patients and clinicians in making treatment decisions. "Clinicians need to consider the patient's age, health status, life expectancy and personal preferences when making such decisions. Ultimately, the full extent of the penalty for delaying treatment will require longer follow-up to ascertain the incidence and degree of visual impairment by randomization group," the authors conclude.

More information: *Arch Ophthalmol.* 2010;128[3]:276-287.

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