OCULAR HYPERTENSION

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Ocular hypertension is defined as an elevated intraocular pressure or eye pressure without discernable damage to the optic nerve. Glaucoma is a disease in which the optic nerve is irreversibly damaged resulting in peripheral vision loss. The most significant risk factor for developing glaucoma is an elevated eye pressure, yet many eyes with high pressures never develop glaucoma damage. Therefore, it is clinically relevant to understand which eyes are at significant risk for developing glaucoma. This would allow for more accurate decision making in determining which patients to treat and which to simply observe without treatment.

An important study, the Ocular Hypertension Treatment Study, was designed to help elucidate which eyes warrant treatment. The 5-year outcome with an enrollment of 1,636 patients was recently published. This study demonstrated that treatment with glaucoma medications decreased the overall incidence of developing glaucoma damage from 9.5% to 4.4%.

Not surprisingly, higher eye pressures resulted in a higher risk of developing damage. In addition, characteristic changes in the appearance of the optic nerve resulted in an increased risk of developing glaucoma. Also, it was found that in eyes with thin corneas, which are the clear dome of the eye, there was a much higher incidence of eventually developing glaucoma. When an eye pressure is measured, it is done through the cornea. When the cornea is thin, this results in an artificially low measurement of the pressure. The true pressure is thus significantly higher, which puts the eye at a higher risk for sustaining damage.

In summary, this study has demonstrated subgroups that are at high risk for developing glaucoma damage if left untreated - up to 36% at 5 years. In addition, it demonstrated that other subgroups are at very low risk of developing damage. Because of medication costs, potential side effects and the nuisance of using chronic eye medications, treatment should be initiated only in those patients at significant risk for eventually developing glaucoma damage. This study helps clinicians better determine which eyes truly warrant treatment.

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