

Pairing Patients and Treatments

Physicians must select which therapy is most appropriate for the stage of disease.

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Fortunately, the options for treating mild to advanced glaucoma have increased, and the risk profiles of these procedures—particularly microinvasive glaucoma surgeries—are improving. Today, surgeons are more capable than ever of matching the treatment plan to the severity of disease.

CATEGORIZING PATIENTS

In our view, glaucoma patients can be divided into two groups. The first has advanced visual field defects, a strong family history of blindness, and a definite need for a low IOP. They require aggressive medical and surgical intervention. The second group has what we refer to as “glaucoma-lite.” These patients may have slightly elevated IOP or mild visual field loss, but their hereditary risk factors are minor. The primary goal of treatment in these cases is to control IOP and prevent early damage to the optic nerve and visual field.

Overall, we would estimate that the glaucoma of 80% of patients is controlled by topical hypotensive medication or laser therapy. Treating these patients at the earlier stages of disease will likely keep them from joining the group of patients with advanced disease. Glaucoma-lite patients with concomitant cataract have the advantage of being candidates for the iStent Trabecular Micro-Bypass Stent (Glaukos Corporation). Although cataract surgery alone lowers IOP, combining the procedure with the placement of an iStent achieves a greater reduction in pressure and leaves patients on fewer glaucoma medications.¹

INDIVIDUALIZING TREATMENT

At present, there are multiple different options that can be used individually or in combination with each other for the treatment of elevated IOP, depending on the severity of disease, the ocular pathology, and the patient’s circumstances. For someone with glaucoma-lite disease but no visually significant cataract, we typically prescribe topical hypotensive drops and/or perform

selective laser trabeculoplasty. If the patient has multiple allergies or does not adhere to prescribed therapy, we may choose selective laser trabeculoplasty as first-line therapy.²

Several combined procedures are available to patients with early glaucomatous changes and a visually significant cataract. One option is to combine standard phacoemulsification with either an iStent or endocyclophotocoagulation. Both produce a sustained reduction in IOP and are associated with low complication rates, while adding just minutes to standard phacoemulsification.³

We consider implanting an iStent when the patient has a cataract, little to no visual field loss, and moderate cupping of the optic nerve and his or her IOP is controlled by one or two medications. Recent research has shown that a sustainable drop of 1.5 mm Hg can be expected after uncomplicated phacoemulsification alone.⁴ Adding an iStent can lower the IOP 3 to 5 mm Hg, increasing the likelihood that the patient will be able to use fewer or no medications.⁴ This approach is particularly appealing, because adding an iStent does not significantly change the safety profile of cataract surgery alone.⁵ The device does require the patient to have open-angle glaucoma. If the patient has angle-closure glaucoma, narrow angles, or plateau iris, we consider performing endocyclophotocoagulation combined with phacoemulsification to lower the IOP further.

CONCLUSION

Patients who adhere to prescribed topical therapy often do quite well, but poor compliance is a well-known problem in the field of glaucoma. Recent studies have found that patients with mild to moderate disease are less likely to adhere to prescribed therapy than those with severe glaucoma.⁶ Because they do not perceive any negative effect from their glaucoma, the former patients often have a difficult time believing that they have the disease, yet they recognize the cost, inconvenience, and side effects of topical therapy.

Certainly, the iStent is not a panacea for all glaucoma patients. For patients with mild to moderate disease and concomitant cataract, however, we believe it makes sense to consider a minimal-risk procedure to control their IOP and reduce the burden of medical therapy. Cataract surgery is a reasonable approach, and its combination with implantation of an iStent should further lower IOP without decreasing safety.

The availability of less invasive glaucoma procedures will increase surgeons' ability to individualize treatment in the future. Current FDA approval is for the placement of a single stent, but studies of human cultured eyes have shown that the implantation of two devices achieves a greater decrease in IOP.⁷ A single-site evaluation involving 28 patients in Canada showed that the mean IOP fell from a baseline of 20.8 mm Hg on 2.9 medications to a mean of 14.2 mm Hg (34% reduction) on fewer medications after the placement of two stents.⁶ These data are promising for patients with more advanced disease. If the patient needs a significant reduction in IOP due to visual field loss, however, combining cataract surgery with the time-honored trabeculectomy is still a reasonable option. ■

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