It's Not Just Tubes and Trabs Anymore

This issue of *Glaucoma Today* highlights recent advances in both medical and surgical glaucoma therapy. Although the former remains the primary methodology of glaucoma treatment, recent innovations may allow clinicians to prevent the dramatic loss of vision all too commonly associated with the natural progression of this disease. In best-case scenarios, compliance studies report that only approximately 60% to 65% of patients adhere to prescribed medical therapy, even when it involves a single drop of a topical prostaglandin analogue administered daily for 1 year.[1] After 20 years of follow-up since the initiation of glaucoma therapy, the number of blind patients (27% unilateral and 9% bilateral) encountered in Olmsted County, Minnesota, is humbling and certainly unacceptable.[2] We must do better.

The concept of interventional glaucoma therapy emphasizes the importance of the physician's involvement in patients' care, yet this idea does not necessarily imply that glaucoma patients require surgery earlier in their disease. Safer, more effective medications and drug delivery systems may improve compliance and minimize our reliance on patients' behavior to achieve satisfactory outcomes. Innovative drug delivery systems in development use punctal plugs or contact lenses, or the devices are inserted into the subconjunctival or intravitreal space. These technologies offer hope to patients who find it challenging to administer eye drops on a daily basis.

In addition, options for minimally invasive glaucoma surgery (MIGS) are on the horizon. Although not all of these products will make it to market, I remain optimistic that at least some will significantly benefit our patients. Laser trabeculoplasty has already become mainstream as a first-line treatment for glaucoma, and many of our European colleagues propose surgical intervention earlier in the disease process than is standard in the United States. If any of the new MIGS procedures proves effective in consistently lowering IOP over time and provides greater safety than trabeculectomy or tube shunt surgery, its place in the US glaucoma treatment paradigm may come to include mild-to-moderate glaucoma. Certainly, if MIGS procedures can ultimately be performed in the office setting, their utilization will become widespread.

Early in my professional career, my approach to glaucoma management was more conservative: I considered surgical intervention a last resort. Having watched countless individuals over the years suffer dramatic vision loss due to noncompliance and poor follow-up, I have come to believe that I might have served these patients better if I had intervened more aggressively earlier in the course of their disease. With advances in medicinal products, drug delivery systems, and surgical techniques, I hope that we will have better tools with which to treat glaucoma and improve our patients' long-term quality of life. ❑

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1. Schwartz GF, Reardon G, Mozaffari E. Persistency with latanoprost or timolol in primary open-angle glaucoma suspects. *Am J Ophthalmol.* 2004;137:S13-16.
2. Hattenhauer MG, Johnson DH, Ing HH, et al. The probability of blindness from open-angle glaucoma. *Ophthalmology.* 1998;105:2099-2104.