Blebs: the Bane of Glaucoma Surgery

Many experts have described glaucoma as a surgical disease long in wait of an effective surgical cure. Medications lower IOP but not to the extent necessary to prevent glaucomatous progression in susceptible patients. During the past few years, various multicenter clinical trials sponsored by the National Eye Institute—especially the Advanced Glaucoma Intervention Study (AGIS)—have convincingly demonstrated that patients whose IOP remains under control after trabeculectomy experience less visual field loss than those with higher IOPs.[1] In other words, patients successfully treated surgically lose less vision than those treated with medications.

There is much to be said for primarily treating glaucoma with surgery. Filtering procedures produce lower IOP with less diurnal fluctuation than medication. Surgery also avoids the problems associated with medical therapy's cost and instillation as well as patients' adherence. Why, then, don't we recommend trabeculectomy to our glaucoma patients? The answer is a four-letter word: bleb. Entire Web sites have been devoted to this cyst-like structure of thin conjunctiva (eg, http://www.blebs.net/). Without a bleb, trabeculectomy surgery fails, but this flap of tissue can seem like nothing but trouble. According to the 3-year results of the Tube Versus Trabeculectomy (TVT) Study, 12 of 37 early and 23 of 33 late postoperative complications were attributed to the bleb.[2]

No one has ever claimed that trabeculectomy is the perfect procedure. In fact, I have mentioned in several of my editorials that the success or failure of the ideal surgery for glaucoma ultimately will not depend on the conjunctiva. For that matter, it should not rely on modulations of wound healing to control what occurs in the conjunctiva or at the sclerostomy site during the first 6 postoperative weeks. We continue to debate the optimal approach to each of trabeculectomy's steps: limbus- versus fornix-based flap, size of the scleral punch, desirable amount of flow, etc. If the trabeculectomy procedure were to undergo a rigorous clinical trial today, similar to current studies of the new canal procedures, would it be approved? I doubt it, although aspirin probably wouldn't be, either.

The cover series of this edition of *Glaucoma Today* is devoted to the curse of the glaucoma surgeon: managing the bleb. As this is what, in part, keeps our practices busy, I thank our contributors for their informative and educational articles, but let's hope that the next generation of glaucoma specialists has better things to worry about. ❑

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1. Palmberg P. What is it about pressure that really matters in glaucoma? Ophthalmology. 2007;114(2):203-204.
2. Gedde SJ, Schiffman JC, Feuer WJ, et al; Tube Versus Trabeculectomy Study Group. Three-year follow-up of the Tube Versus Trabeculectomy Study [published online ahead of print August 10, 2009]. Am J Ophthalmol. PMID:19674729.