Re: Schlenker et al.: Efficacy, safety, and risk factors for failure of standalone ab interno gelatin microstent implantation versus standalone trabeculectomy (Ophthalmology. 2017;124:1579-1588)

TO THE EDITOR. The recent article by Schlenker et al. retrospectively compares the outcomes of an ab interno gelatin stent to stand alone trabeculectomy in reducing intraocular pressure (IOP) in patients with uncontrolled open angle glaucoma. The article concludes that both procedures demonstrate equal efficacy and risk of failure. “Both procedures had a 75% survival at approximately 10 months for complete success at an IOP ≤ 21 mmHg.” In terms of trabeculectomy success rates in this study these data seem to be suboptimal in comparison with recent trabeculectomy outcome data from the UK, where Kirwan et al demonstrated a 90% survival at 10 months for complete success at an IOP ≤ 21 mmHg and a bleb needling revision rate of 17%, compared with 30.8%. A further issue apparent in this study is that a significant minority of patients undergoing reoperation after a failed gel stent required aqueous shunt implantation, presumably because the conjunctiva was not suitable for a trabeculectomy.

Our recent experience of use of the ab interno gel stent demonstrates a significant difference in outcomes compared with trabeculectomy in our hands. Although the numbers are small a retrospective review of 18 consecutive ab interno gel stent procedures compared with 19 consecutive trabeculectomies in patients with primary open-angle glaucoma and without a history of prior incisional surgery, demonstrated far superior unqualified success rates in eyes undergoing trabeculectomy at 12 months. In the gel stent group, the mean IOP decreased from a mean of 24.3 mmHg on 2.7 medications to a mean of 17.2 mm Hg on a mean of 1.1 medication at 12 months. The unqualified success rate at 6 mmHg < IOP ≤ 21 mmHg was 58% at 12 months. In the trabeculectomy group, the mean IOP decreased from 22 mmHg on a mean of 3 medications to 12.4 mmHg on a mean of 0 medications at 12 months. The unqualified success based on the same criteria as stated was 100% at 12 months for the trabeculectomy group. Furthermore, needling revision was required in no cases in the trabeculectomy group over this period and 3 of the 18 cases (17%) in the gel microstent group; 9 cases of 18 (50%) ended up back on medication (range, 0–3) by 12 months. One of the quoted outcome measures and benefits of microinvasive glaucoma surgery is a significant reduction in medication owing to the problems with adherence. Trabeculectomy in our view remains the procedure of choice if a significant reduction in medication is required. In terms of complications, there were none in the trabeculectomy group and 3 in the gel-stent group, including hypotony with choroidal detachment, iris incarceration into the stent, and cyclodialysis cleft, which resolved after 6 months. Three patients in the microstent group required revision surgery for IOP control over the 12-month period.

Our impression of the relative mechanisms of fibrosis is quite the opposite to the authors of “Could the diffuse aqueous flow from a trabeculectomy flap in high IOP situations fibrose the bleb more than the regulated flow from the micro-stent.” In the early postoperative period after trabeculectomy, the ability to vary the flow allows mitigation of the wound healing response, whereas this would not be possible with the fixed lumen diameter of the microstent. This might predispose to more fibrosis and an increased risk of failure, as was seen in our retrospective analysis.

Microinvasive subconjunctival filtering surgery has a place in the microinvasive glaucoma surgery armamentarium; however, high-quality trabeculectomy surgery in our view is still the gold standard for long-term success in lowering IOP, attaining very low target IOPs, and preserving vision. We do not believe the 2 procedures at least at present to be equivalent in terms of efficacy or longevity. Suboptimal trabeculectomy outcomes may give the erroneous impression that ab interno gel microstent surgery is equally efficacious; therefore, these studies should be interpreted with caution at present.

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References
