

Commentary on: Glaucoma drainage devices: Boon or bane

In refractory glaucoma or conditions resulting in extensive conjunctival scarring, such as previously failed glaucoma filtering procedures, trauma, or previous ocular surgery, trabeculectomy has a notoriously poor success rate. In such situations, glaucoma drainage devices (GDDs) appear to be a better choice^[1,2] because they create an alternate pathway by shunting aqueous from the anterior chamber to an equatorial plate through a long tube resulting in a posterior bleb.^[3]

India has a sizeable share of severe glaucoma, of which many are refractory and would benefit from a GDD, but for the prohibitive cost. The Ahmed Glaucoma Valve (AGV) (New World Medical, Rancho Cucamonga, CA, USA) was the only GDD available till some years ago, but was beyond the reach of a majority who needed it the most.

The Aurolab Aqueous Drainage Implant (AADI) has been introduced recently for clinical use in India by Aurolab, a manufacturing division of Aravind Eye Institute, Madurai, India. The AADI is a low-cost, nonvalved GDD, designed like the Baerveldt Glaucoma Implant (BGI) with a 350 mm² plate area. Prof George Baerveldt authorized the use of his highly successful design (350 mm² plate) for developing AADI from Aurolabs, Madurai, India. The AADI was made commercially available in India in June 2013. The AADI is Conformité Européenne (CE) approved and is available in African and Southeast Asian countries at a fraction of the cost of the BGI.

Preliminary results with the AADI are promising. A previously published report^[4] describing 2-year results of the AADI for refractory childhood glaucoma indicates that AADI appears to be an effective GDD with effectiveness and safety

profile comparable to published reports of the Baerveldt and AGV implants for childhood glaucoma.^[5] Recently, Pathak-Ray *et al.*^[6,7] in retrospective reviews of their patients, reported good early results using the AADI for refractory glaucoma.

In this issue, results of the AADI for difficult glaucoma have been published from a tertiary care center in South India.^[8] Of 55 eyes, 25 eyes underwent AADI as primary surgery for scarred conjunctiva or refractory glaucomas such as iridocorneal endothelial syndrome (ICE) and uveitic glaucoma. The results were comparable to published reports of the AGV and BGI. Those who underwent a primary AADI had marginally inferior results compared to those implanted with an AADI after a failed glaucoma surgery. Another comparative study of the AGV compared to the AADI from a tertiary care center in North India showed better results with the AADI in the early postoperative period.^[9]

These preliminary reports appear to suggest that the AADI is a safe and effective low-cost alternative to the Baerveldt implant. Complications are similar to any other GDD. However, a better study design to study noninferiority would ideally be a randomized controlled trial between the BGI and AADI. It is understandable that such a study would be challenging given nonavailability in India and the high cost of the BGI.

Any study involving the AADI would suffer from the limitations of a nonhomogenous group with varied diagnoses and different previous treatments. Another drawback of published studies so far is the relatively short follow-up period. A 1–2-year follow-up may mean very little in terms of visual preservation in their lifetime. More numbers with longer follow-ups are required to assess the actual usefulness of the AADI in managing this problematic cohort of patients.

Notwithstanding these limitations, the AADI has emerged as a viable, safe, and above all affordable GDD. Many patients who would have earlier undergone a cyclodestructive procedure, now have the option of a more reliable and more predictable glaucoma procedure for their intractable glaucoma. To that end, so far, the AADI has emerged as a boon for this challenging group of patients.

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