IStent and Pseudophakia

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The Glaukos iStent has filled an incredible void in the clinical management of glaucoma. Since the iStent is the first glaucoma device ever to be approved through the PMA process, it has some of the most robust data supporting its efficacy ever produced by a glaucoma device. The label for the Glaukos iStent shows that its indication for use is in the treatment of mild to moderate open angle glaucoma in combination with cataract surgery. The reason why the label states “in combination with cataract surgery” is because the trial was performed in conjunction with cataract surgery. The obvious question becomes is it effective in the absence of cataract surgery? We, as physicians, perform off-label treatments all the time. For example, no antibiotic has been approved for prevention of endophthalmitis following cataract surgery, however, the standard of care is to give every patient antibiotic prophylaxis for the prevention of endophthalmitis. Off-label use is not synonymous with "cowboy care" or unjustified treatment. When used judiciously, off-label use is simply applying the technologies and treatments that we know or believe to be best for our patients in a particular situation. Oftentimes evidence-based medicine is not applicable to an individual's situation, or the available data exists to support a treatment modality, but not enough to get FDA labeling.

With all that in mind, it makes sense that using the Glaukos iStent in pseudophakic individuals should lower intraocular pressure by bypassing the trabecular meshwork system. Studies by Pooley et al have shown that cataract surgery does lower intraocular pressure by itself. In fact, the Glaukos FDA trial is the best data in existence demonstrating cataract surgery alone does lower intraocular pressure. However, cataract surgery plus an iStent lowers intraocular pressure more. Smuelson and colleagues studied the Glaukos iStent in pseudophakic individuals and found that pseudophakic iStents do lower intraocular pressure. We also have used the iStent in pseudophakic patients and presented this data at ASCRS in 2014. We found that intraocular pressure was lowered on average 4.1 mmHg by iStent alone in pseudophakic individuals and there was a decrease in the medication burdened by roughly 40.

The job of a physician is to combine the available evidence, individual experience and logical approaches to take the patient to provide the best treatment possible for a patient in their moment of vulnerability. The beauty of being a physician is we can always ask ourselves “what would I do if it were my eye”. If I was pseudophakic and had progressive glaucoma or could not tolerate medications and needed further intervention, I would definitely choose an iStent prior to a trabeculectomy or a tube shunt because of the morbidity shown in the tube versus trab trial and the safety and efficacy shown by iStents both in combination with cataract surgery and in pseudophakic individuals.


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