

Plaza Del Rio Eye Clinic, P.C.

Glaucoma Filtering Surgery (Trabeculectomy)

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INDICATIONS, BENEFITS, AND ALTERNATIVES

Your doctor has diagnosed you with glaucoma and informed you that if it is left untreated, it is very likely that you will experience vision loss and eventual blindness. Glaucoma can sometimes be treated successfully with medications to lower the pressure in the eye. If medications are not effective, laser and other surgical procedures may be of value in controlling the pressure and preventing further vision loss. Both medications and surgery are designed to do one of two things: 1) decrease the amount of fluid production in the eye from the cells that make the fluid, or 2) help the fluid flow out of the eye.

Your doctor has informed you that a drainage operation called a trabeculectomy is necessary to help control the pressure in your eye(s). If this pressure remains too high, your optic nerve can become damaged, leading to vision loss and eventual blindness. This procedure allows your ophthalmologist to create a new drainage channel for the eye. The trabeculectomy allows fluid from the eye to flow into a filtering area called a bleb. The bleb is mostly hidden under the eyelid. When successful, this procedure will lower the pressure in your eye, minimizing the risk of further vision loss from glaucoma. **The purpose of the operation is to control the pressure and preserve your vision; any vision lost to glaucoma cannot be restored.**

COMPLICATIONS

As with any surgical procedure, there are risks associated with glaucoma drainage surgery. For instance, there is always the possibility that the surgery will not help to control your eye pressure. Eye drops or more procedures may be needed. Not every conceivable complication can be covered in this form but the following are examples of risks encountered with glaucoma drainage surgery. These complications can occur days, weeks, months, or years after later. They can result in loss of vision or blindness. Careful follow-up is required after surgery. After your eye heals you will still need regular eye exams to monitor your pressure and to watch for other eye problems.

- Complications of the surgery
- Failure to control eye pressure, with the need for another operation (early or late)
- Vision could be made worse or, in rare cases, totally lost
- Early or late increase of pressure in eye (glaucoma)
- Pressure that is too low
- Infection, early or much later
- Abnormal collection of fluid in eye, with the need for a second operation
- Bleeding in the eye
- Chronic inflammation

- Cataract except in those cases where the cataract has been removed
- Irritation or discomfort in the eye that may persist
- In spite of surgery, vision could become worse from continuing degenerative changes in the eye

Anti-metabolites in Glaucoma Filtering Operations (Mitomycin-C)

Anti-metabolite medications, originally developed for the treatment of various types of cancer, have also been found to be of value with certain types of glaucoma filtration operations. These agents, applied during or after the surgery, reduce the growth of scar tissue, a common cause of failure in glaucoma surgery. When anti-metabolites are used with other medications that reduce inflammation, the success rate is greatly improved, especially in patients at high risk for excessive scarring.

Definitive criteria for using or not using anti-metabolites have yet to be established in glaucoma filtration surgery, although there is an evolving consensus when these agents are of most value. Reasons to use these medications include surgery on previously operated eyes, failure of previous glaucoma operations in the same or fellow eye, co-existing preoperative inflammation (uveitis), glaucoma due to new blood vessel formation within the eye, combined glaucoma and cataract surgery, in patients of "relative youth," the more deeply pigmented races, an established need for very low postoperative pressures in patients who have "low tension" glaucoma, and unoperated eyes at risk for postoperative filter scarring.

Mitomycin-C and 5-Fluorouracil are the most commonly used anti-metabolites in ophthalmology today; these medications are used in conjunction with other preoperative, operative and postoperative medications designed to increase the success rate in glaucoma operations. In spite of these anti-metabolites increasing the success rate in glaucoma surgery, most ophthalmologists, including glaucoma specialists, do not use anti-metabolites in every glaucoma case because of problems caused by these medications.

Mitomycin-C is applied to the operative site at the time of surgery and 5-Fluorouracil is used both intraoperatively and postoperatively. These medicines are adjusted in both dosage and duration of treatment in order to optimally slow the healing process. The decision to use these agents is based on the evaluation of the advantages and potential disadvantages in each individual case. Conversely, the decision not to use the anti-metabolites may be valid because of the particular circumstance and risk factors involved.

FDA STATUS OF THESE MEDICATIONS IN EYE SURGERY

These medications were approved by the Food and Drug Administration (FDA) for the treatment of various types of cancer. Upon approval, the drug manufacturer produces a "label" that explains its use. Once a drug is approved by the FDA, physicians can use it for other purposes "off-label" as part of the practice of medicine if they are well-informed about the product, base its use on firm scientific method and sound medical evidence, and maintain records of its use and effects. My ophthalmologist has informed me that these medications will be used "off-label" as part of my glaucoma surgery.

COMPLICATIONS

In addition to the usual complications of glaucoma surgery, the "anti-metabolite" filter, especially when Mitomycin-C is used, on occasion may cause over- filtration, initially associated with a soft eye and blurring of vision, which, although usually transient, may become permanent. These soft eyes may have poor vision because of astigmatism, swelling or fluid within or behind the retina, corneal abrasions, leaking incisions, thinning of the eye tissues, and other causes.

The cornea, the transparent window in the front of the eye, may recover more slowly in operations in which the anti-metabolites are used. As with any glaucoma operation in which "thinning" of the filtration tissue occurs, there is a risk of infection or leaking that is lifelong.