

## **Anti-metabolites in Glaucoma Filtering Operations (Mitomycin-C and 5-Fluorouracil)**

### **INDICATIONS**

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.

## **PATIENT CONSENT**

I have read the above information and have discussed it with my physician and agree with the doctor’s decision:

- To use the anti-metabolites “off-label” as may be found indicated in my operation
- Not to use the anti-metabolites in my operation

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Patient signature

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Date