

Filtration Surgery and Antimetabolites in Glaucoma

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Glaucoma Filtering surgery and role of Antimetabolites.

As a foreword, first, few words about the present status of Glaucoma Filtering procedures and use of Antimetabolites.

Cairn's trabeculectomy is still the most popular and durable amongst the filtering procedures.

Pressure-lowering effect of trabeculectomy is based on aqueous flow through the loosely closed scleral flap into the subconjunctival space and drained there after.

Causes and site of Failure in surgery

First, Scleral Fluid gate between the AC and bleb is closed. Reasons-iris block, lens block, inflammation, fibroblastic membrane formation.

Second, sclerostomy created at the time of surgery is too small.

Third, Scaring in the filtration bed, Conjunctival suture line and the scleral flap gap

Identification of high risk failure cases

{a} Inflammatory condition.

{b} Neo visualization in the Anterior segment.

{c} Young age.

{d} Aphacik glaucoma.

{e} Previously failed filtration surgery.

Those at high risk include

{f} Some races of African origin.

{g} Uveitic glaucoma.

{h} Combined cataract and glaucoma surgery.

{i} Childhood glaucomas.

How this menace is to be tackled?

[1] Surgical planning for adequate filtration

[2] Use of drugs to prevent Undue Fibroblastic Response

Surgical planning

History of Keloid or Pemphigus, Trachoma, xerosis, operative scars and re-operations - extra care for anti-inflammatory drug,

Select site carefully topical steroids to be planed in advance.

Iridectomy

Full thickness iridectomy extending beyond width of scleral window is crucial .In smaller iridectomy root may block the scleral window.

Limbal based conjunctival flap - conjunctival and the tennon margins are sutured separately and not in watertight manner.

Testing the passage

Through a pre made corneal paracentesis track inject BSS note fluid travel through the scleral gate into subconjunctival space. Watch the watertight ness of the conjunctival suture line.

Medical planning

[a] Steroids. Steroids work well within limits.

[b] Antimetabolites like 5-Fluorouracil or Mitomycin C

Antimetabolites

To increase success rates of filtration surgery use of antimetabolites - help prevent growth of fibroblasts during the time the aqueous humor contains the stimulatory properties.

Antimetabolites are nonspecific. And not targeted solely at proliferating fibroblasts, they are equally active against the normally replicating cells involved in ocular metabolism also.

5-Fluorouracil

5-FU is more toxic to replicating cells than to non proliferating cells;

Route of Application

Subconj. Injection of 5-FU post operatively significantly improves success rate even in Aphakic patients almost a year.