Double Flap Trabeculectomy

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Purposes : To find a better technique to Trabeculectomy which is more reliable than the conventional single flap Trabeculectomy and to get

1. Good filtering blebs

2. Minimize the failure rate

3. Eliminate the complications associated with the conventional Trabeculectomy like Malignant glaucoma, Choroidal hemorrhage, shallow anterior chamber etc.

Methods : 50 Eyes of 38 patients suffering from chronic simple glaucoma were subjected for double flap Trabeculectomy. 22 males, 16 females aged between 40-80 years. 12 patients underwent bilaterally. Angle closure glaucoma and secondary glaucomas were eliminated.

Surgical Procedure : Limbal based conjunctival flap was reflected. 4.0 mm based triangular partial thickness flap was reflected. On the same bed, 3mm based triangular scleral flap was reflected. The second flap was reflected little more in the center than in the edges at the base, so that a cresentic area is enclosed by the flap. Both the flaps and the bed were treated with Mitomycin-C solution. The Trabeculectomy was done under the second flap in such a way that the posterior incision of Trabeculectomy should be in line with posterior limit of the base of the second flap. The second flap was reposited to its position. The outer flap was sutured to the bed by 3 stiches. Conjunctiva was closed by running suture.

RESULTS :

INTRA-OPERATIVE : The anterior chamber was least disturbed during the intra-operative period.

There was mild shallowing of the anterior chamber after Trabeculectomy and the anterior chamber was reformed on its own by the time the suturing was completed. There was no need to inject B.S.S. into anterior chamber. No complications were noted during the intra operative period.

Post-Operative : The anterior chamber was quite in the immediate post-operative period. Aqueous flare was absent.

48 out of 50 cases developed good blebs at the end of 6 weeks. One case exhibited flat bleb and one case failed to develop the bleb.

The intraocular pressure was less than 20.0 mm Hg in 49 cases. In one case, in which the bleb was failed, the I.O.P. was more than 20.0 mm at the end of six weeks.

Expected results are produced in 49 cases and one case was failed.

SUMMARY AND CONCLUSIONS :

The Anterior chamber was least disturbed, mild shallowing of the anterior chamber was noted, but it was reformed on its own. There was no need to reform the anterior chamber by injecting B.S.S. into it. There is no need to do Iridectomy. The reasons behind the least disturbance of the anterior chamber are

1. The Trabeculectomy was done very close to the root of the second flap. The second flap acts as value as fish mouth like dissection was carried out.

2. The Trabeculectomy was done in the posterior part of the surgical limbus.

3. By avoiding Iridectomy, surgical Trauma to the Iris and wound leakage are avoided. Because of these factor the behaviour of the anterior chamber in the intra-operative period, particularly after excising a small fragment of Trabcular meshwork was significantly different from that of the conventional Trabeculectomy.

The high success rate of double flap Trabeculectomy is due to

(1) The second flap is reflected in the deeper layers leaving behing a thin layer of sclera and trabecular bed almost amounting to externalization of schlemm's canal

(2) The Trabecular meshwork was excised on a thin bed after deep scleral dissection.

(3) Both the flaps are treated with Mito Mycin-C and the second flap, because it is treated on both the surfaces, acts as a tissue implant, thereby enhancing the aqueous out flow. The dep dissection of the sclera enhances the uveo-scleral outflow. Because of these factors, the success rate Double Flap Trabeculectomy

is very high (98%) and the dreaded complications like Malignant glaucoma, Chroroidal hemorrhage and shallow anterior chamber, which are encountered in conventional Trabeculectomy are absent in this technique. Therefore the double flap Trabeculectomy is a effective safe and reproducible. It is better technique in results and reliability. It is a perforating technique but all the benefits of non-perforating antiglaucoma surgeries can be harvested here.

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