ORIGINAL SURGICAL PROCEDURE MODIFIED TRABECULECTOMY

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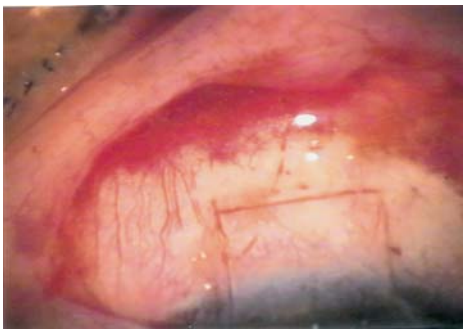
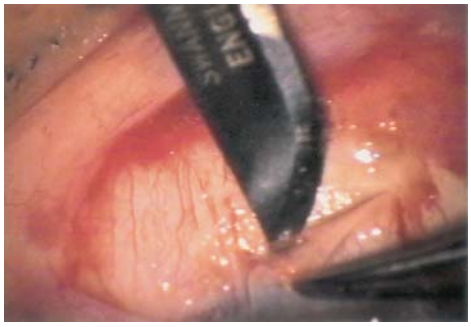
The goal of glaucoma filtering surgery is to establish a permanent flow of aqueous from the AC to subconjunctival space and thereby lowering IOP. However, the procedures tend to fail over time because of fibroblastic proliferation and subconjunctival fibrosis that occurs during the normal healing. Various modifications to trabeculectomy have been tried over the years. In this new modification for trabeculectomy a small perpendicular strip of sclera is removed in addition to ablation of the trabecular meshwork. Tenonectomy done reduced post operative fibrosis thereby reducing bleb failure.

Steps of modified trabeculetomy :

- Peribular block was performed with 2% Xylocain plus sensorcaine / adrenalin / hyalase.
- The conjuctival flap was dissected towards the limbus from 7mm to 8mm away
- The first limbal-based scleral flap of one-third thickness, measuring 4mm perpendicular to and 6mm parallel to the limbus, was dissected until the surgical limbus was seen (Figure 1 and 2)

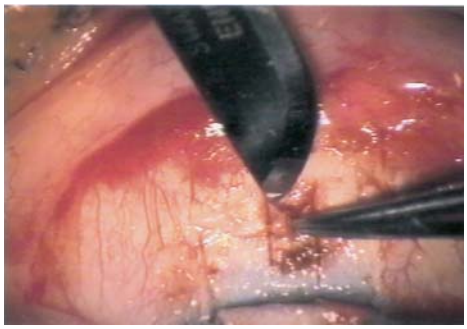


First limbal based scleral flap Markings



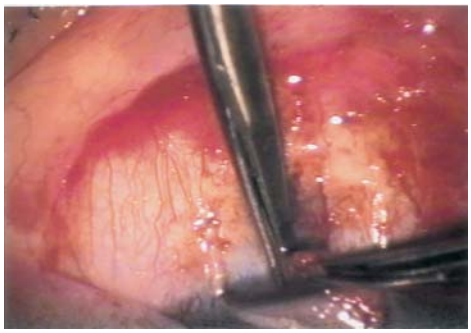
Fivst scleral flap of one third thickness being Dissected

- A second scleral flap was marked out with a Bard Parker knife in the centre of the area left after the first flap, leaving 2mm on either side - dissection started 1mm above the upper margin of the first flap (Figure 3)



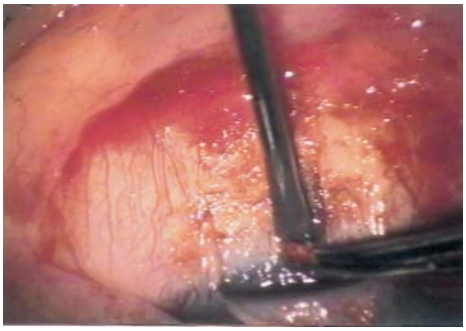
Second scleral flap being Dissected

- On reaching the surgical limbus the second scleral flap was lifted and the anterior chamber was entered with an anterior chamber puncture blade (Figure 4)

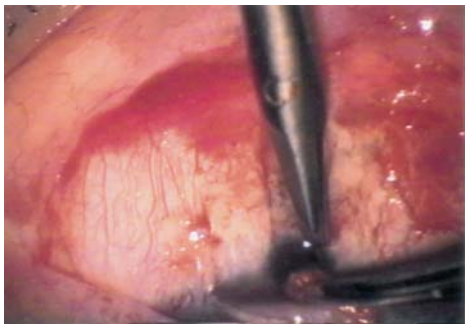


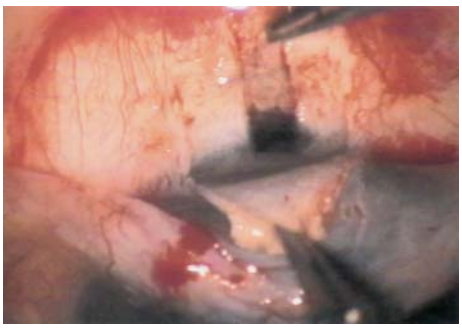
Second scleral flap lifted at suprical limbus & A.C. entered

- The trabecular meshwork was cut to 2mm x 1mm with Vanas scissors along with the second scleral flap (Figure 5)



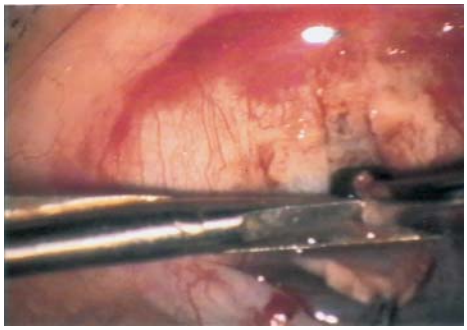
Trabecular meshwork being cut along with the second scleral flap.

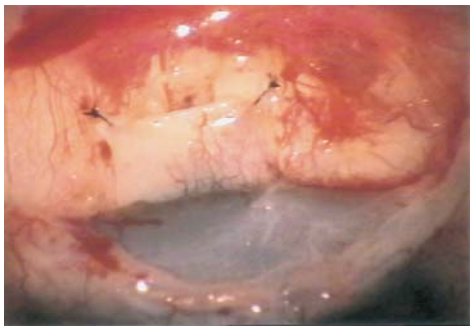




Window after cutting trabecular meshwork

- The first scleral flap was sutured with 8-0 ethicon at the corners (Figure 8)

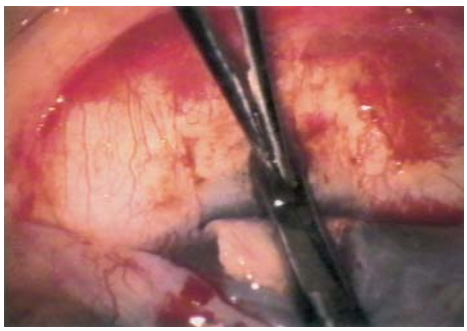


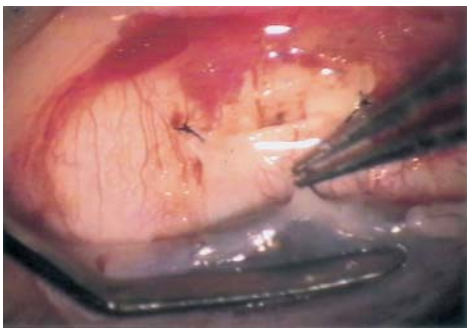


First scleral flap sutured back of the corners

- Peripheral iridectomy was performed (Figure 6 and 7)

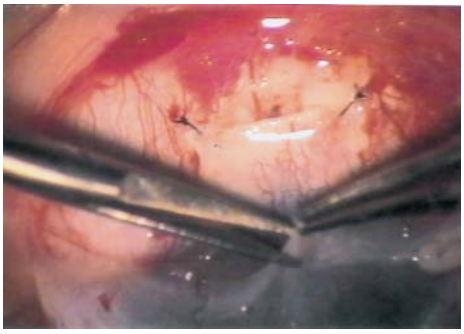
- Tenon's membrane was dissected from the conjunctival flap and tenonectomy was performed (Figure 9 and 10)





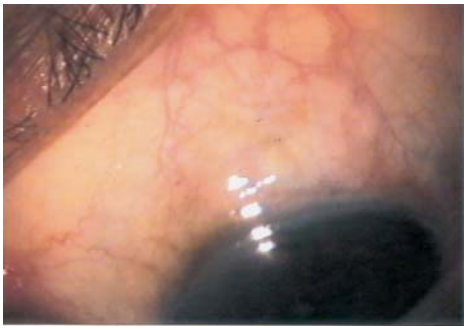
Peripheral iridectomy

Tenon's membrane dissected from conjunctival flap



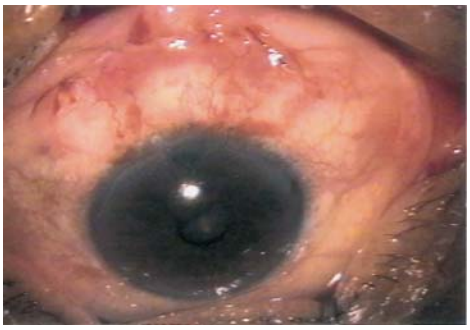
Tenonectomy performed

- The conjuctival flap was sutured with a contimuous suture of 8-0 ethicon (Figure 11)
- Conjuctival bleb in one of the patients (Figure 12)

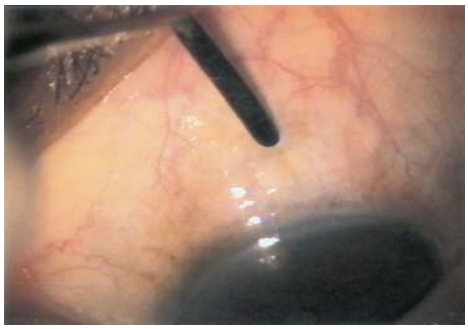


Conjuctival Bleb in one of the patients

- Superior opening of functional scleral tunnel (Figure 13)



Conjuctival flap sutured back continuous suture



Superior opening of functional scleral Tunnel

OBSERVATIONS

- Modified trabeculectomy with tenonectomy offers a reliable method of controlling IOP (90-92%) for patients with glaucoma.
- The surgical procedure was consistent regardless of the type of glaucoma or the IOP.

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