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Optimization of reparative processes in the structures of the drainage system after microinvazive nonpenetrating deep sclerotomy in patients with primary angle-open glaucoma.

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PURPOSE:
To evalute the efficacy of new biodegradable drainage implant “Healaflow” in surgical glaucoma treatment.

METHODS:
The clinical analysis was performed in 62 patients (62 eyes) before and 2 days, 2 weeks,1,3,9,12 months after micro-invazive nonpenetrating antiglaucoma surgery.

The main group included 32 patients (32 eyes) with primary angle-open glaucoma (PAOG) after microinvazive non-penetrating deep sclerotomy with drainage implant “Healaflow” injected under the scleral flap 0,2 ml. The comporative group included – 30 patients (30 eyes) with primary angle-open glaucoma (PAOG) after microinvazive nonpenetrating deep sclerotomy (NDPS) without the use of implants.

Eye investigation of patients included visual examination, tonometry, gonioscopy, kinetic perimeters, stil-lamp biomi-croscopy, A-scan biometry. Parameters of the drainage system were measured by the UBM, model 840 (Zeiss-Hum-phrey Instruments) and included measuring filtering bleb, scleral flap, intrascleral cavity, trabecula-descemet mem-branes, acoustic density.

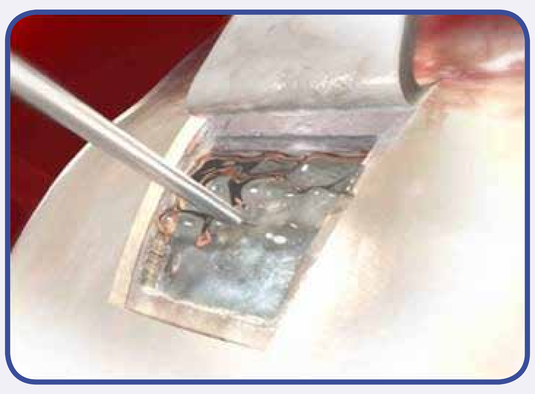

Fig. 1. Inject under the scleral flap

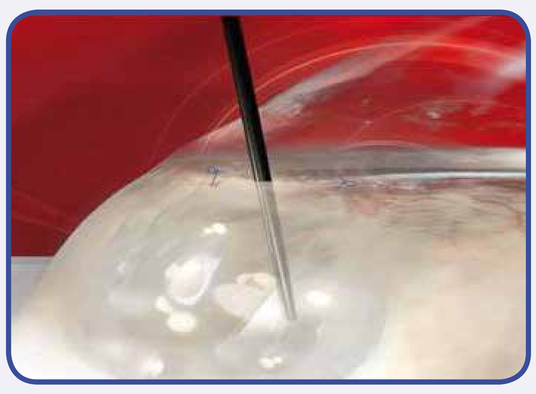

Fig. 2. Inject under the conjuctiva

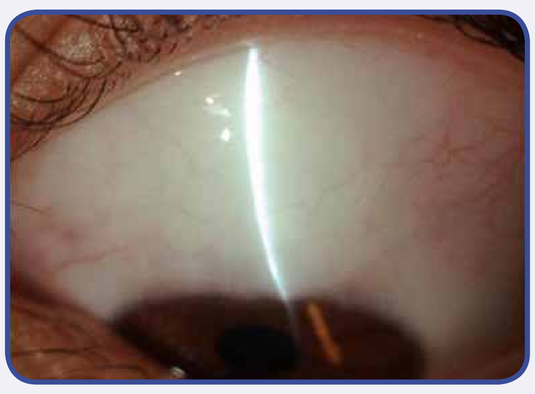

Fig. 3.

Fig. 4. Filtering bleb

RESULTS:
Stable intraocular pressure (IOP) has been obtained in all cases (13±0,4 mm Hg in NDPS with implant group, and (20±0,5 mm Hg in NDPS without implantation). Ultrasound biomicroscopy showed preservation of the Healaflow sub-stance in the all period of observation. We haven’t revealed any cases of inflammation follow-up. No cases of cystoid blebs have been noted.

Filtering bleb was clearly visualized and preserved fine-meshed structure. (0.98+0.03 mm). Scleral flap remained with low acoustic density, it’s thickness was (0.27±0.004 mm) and its borders has been remained clearly. Intrascleral cavi-ty preserved own parameters of hight 0.40-0.67 mm (0.59±0.02mm) Thickness trabecula-descemet membrane was 0.06-0.1 mm. and it reflected the active filtration of aqueous humor and the preservation of the main structure of the drainage system, created by the operation.

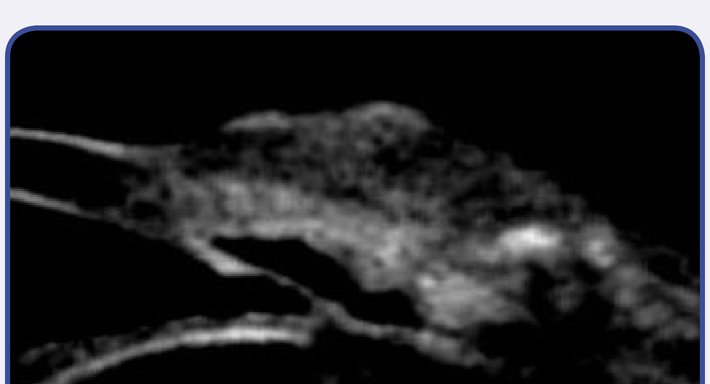

Fig. 5. UBM 1 month

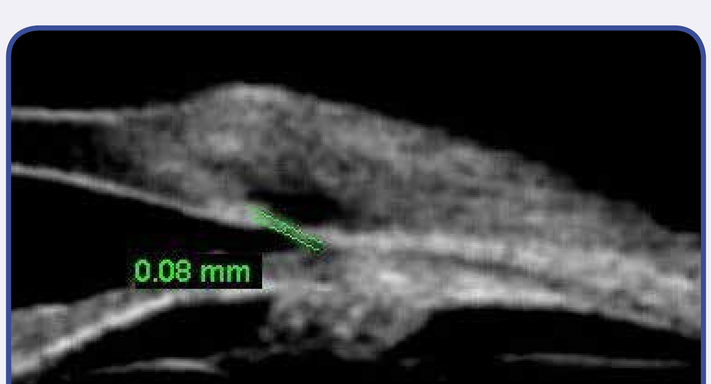

Fig. 6. UBM 3 months

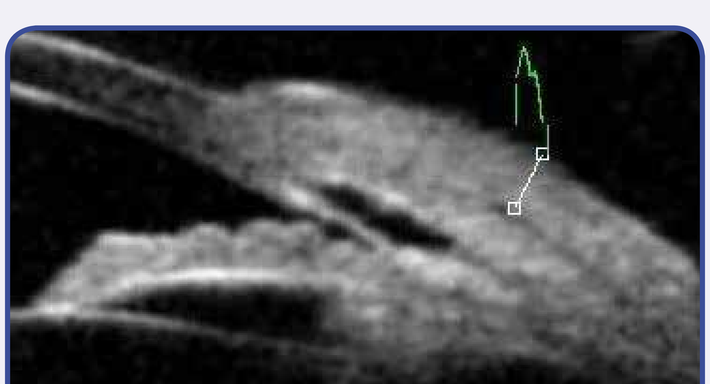

Fig. 7. UBM 6 months

Fig. 8. UBM 9 month

Fig. 9. UBM 12months

CONCLUSION:
Thus new biodegradable drainage implant “Healaflow” allows you to create optimal conditions for the long-time hypo-tensiv effect.