

2435

#### COMBINED PHACOEMULSIFICATION AND TRABECULECTOMY BY TUNNEL INCISION: MEDIUM-TERM RESULTS

NESS T. and FUNK J.

Universitäts-Augenklinik, Killianstraße 5, D-79106 Freiburg (Germany)

**Purpose:** In cases of coexisting cataract and glaucoma a phacoemulsification through a tunnel incision may be carried out in combination with trabeculectomy in order to achieve a fistulation under the conjunctiva. We do such operations since January 1994 and report our first results.

**Technique and Patients:** Phacoemulsification was performed through a 6.5 mm tunnel incision. After implantation of the intraocular lens a 1 x 1 mm section of the sclera was cut out of the interior lamella of the tunnel. We examined 20 eyes (19 patients). Parameters of investigation were: visual acuity, intraocular pressure (IOP), rate of early complications. Two groups, each of 19 age matched eyes which in the same time period underwent phacoemulsification only or trabeculectomy only served as controls.

**Results:** The mean time of observation after the operation was 8.5 months in the group with combined operation, 7.8 months in the group with phacoemulsification only and 8.3 months in the group with trabeculectomy only. In the group with combined operation the history of glaucoma lasted for  $7.1 \pm 7.0$  years, in that with only trabeculectomy  $8.9 \pm 6.9$  years.

In the group with combined operation the visual acuity improved by more than two lines in 90 %. Mean visual acuity values increased from  $0.23 \pm 0.14$  to  $0.65 \pm 0.24$  in the group with combined operation, which was indistinguishable from the results obtained in the group subjected to phacoemulsification only (improvement of more than 2 lines in 90 %; increase in the mean values of visual acuity from  $0.18 \pm 0.12$  to  $0.60 \pm 0.24$ ).

In 95 % of the patients with combined operation IOP could be successfully regulated (criteria: post-operative IOP < 21 mmHg and a drop of at least 20 % in IOP). Mean IOP values decreased from  $27.9 \pm 4.7$  to  $14.7 \pm 3.0$  mmHg in the group with combined operation, which was indistinguishable from the results obtained in the group subjected to trabeculectomy only (IOP regulation in 95 %; decrease in the mean values of IOP from  $31.8 \pm 7.7$  to  $15.1 \pm 3.7$  mmHg). The frequency of early complications (fibrin, fistulation, hyphaema, choroidal detachment) was higher in the group with combined operation than in the group with phacoemulsification only but similar to the group with trabeculectomy only.

**Conclusion:** The prognosis for both visual acuity and IOP by combined phacoemulsification and trabeculectomy is at least as good as that of only phacoemulsification or only trabeculectomy. As with trabeculectomy mild complications may frequently occur, which require intensive post-operative care. Thus the combined phacoemulsification and trabeculectomy proved as successful technique for the surgical treatment of combined disease of cataract and glaucoma.

2437

#### THE COMBINED TREATMENT OF PRIMARY GLAUCOMA

ZOLOTAREV A.V. MALYSHEV A.S.

Samara Regional Ophthalmic Hospital (Russia)

##### Purpose

Non-penetrative glaucoma surgery (NPGS) is the safest in case of primary open-angle glaucoma. The principle of such surgery is to release the corneoscleral trabecula from external tissues including the juxtacanalicular layer. So we can take off the scleral sinus functional block and also activate transtrabecular flow. The long-term results of NPGS are often not sufficient. For real success the NPGS needs the wide anterior chamber angle and almost intact trabecula.

##### Methods

One of the way to improve the results is to combine the non-penetrative operation with YAG-laser surgery. We use pre-operative laser iridectomy to made the chamber angle wider if it is not wide enough for the NPGS. During the post-op period we perform the YAG-laser goniopuncture to activate trabecula if necessary. The technique vary in every case following the drainage zone shape. 45 patients were treated using the combined technique. 12 of them had the open-angle glaucoma and 33 had the mixed glaucoma.

##### Results

There were 3 trabecula microperforation forced us to convert to usual trabeculectomy during the operation. We had no other complications. The postoperative period was easy. The intraocular pressure level and visual functions are stabilised in every case in 1 year follow up mainly without any additional medicines.

##### Conclusions

The combination of NPGS with YAG-laser surgery gives the possibility to perform safe and effective glaucoma treatment. Our technique makes the indications for NPGS more wide and the same time make the results more stable.

2436

#### Effect of Phacoemulsification and Implantation of a Posterior Chamber Lens (PE+PCL) on Intraocular Pressure (IOP) - Investigation of Bilaterally Pseudophacic Subjects

C.E.Jahn, M.Emke

Extracapsular cataract extraction lowers IOP in most eyes. However it is believed that this effect vanishes with time. We measured IOP by Goldmann applanation tonometry in both eyes of 100 consecutive patients who were bilaterally pseudophacic. The posterior capsule was intact in all eyes and none of the eyes suffered from glaucoma. Mean age of the patients was  $76 \pm 10$  years. IOP was measured 2 - 94 months after PE+PCL (mean  $26 \pm 21$  resp.  $27 \pm 22$  months). Median IOP was 12 mmHg for first and second eyes. Bilaterally pseudophacic controls had a median IOP of 14 mmHg. IOP was identical for both eyes in 50% of pseudophacic subjects. The distribution of the ratio of IOP(first eye)/IOP(second eye) was similar to the distribution of the ratio IOP(right eye)/IOP(left eye) in bilaterally phacic subjects. The ratio in pseudophacic subjects was independent of the time passed since PE+PCL. We conclude that the amount of lowering of IOP induced by PE+PCL is characteristic for each patient. It is well reproducible, when the second eye is operated. The lowering of IOP does not fade with time but is stable.

Dr. Claus E. Jahn, St.Mang Platz 1, D-87435 Kempten