

(488±45 preoperatively, to 431±37 mm at 5 years). ORA measurements showed no significant differences in corneal hysteresis (CH) and corneal resistance factor (CRF) before and 1 year after treatment.

Conclusion: These results demonstrate that traditional CXL is effective and safe option in stabilizing the progression of keratoconus. There was no intra- or postoperative complications except temporary corneal epithelial defect and haze. Corneal endothelial count remained stable without significant decrease. ASOCT showed the collagen cross linking effects in the stroma. There were no cases of progression after 5 years of epi-off CXL.

CLINICAL RESULTS OF EXCIMER LASER CORRECTION FOR THE CORRECTION OF INDUCED AMETROPIA AFTER PENETRATING KERATOPLASTY

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Purpose: To demonstrate the main technological approaches and clinical results of excimer laser correction of induced astigmatism after penetrating keratoplasty.

Methods: The study includes of 6 patients (7 eyes) aged 23 - 35 years, after penetrating keratoplasty due to keratoconus, with a high degree of postoperative astigmatism and irregularity of the corneal surface. All patients underwent standard preoperative examination, including endothelial cells density and topographic analysis of anterior and posterior surface of the cornea (Tomey TMS 5, Japan). Patients were followed up for two years after keratoplasty. Was performed one-step LASIK using installation "Microscan Vizum".

Superficial corneal flap from 70 to 100 microns thickness was performed with a microkeratome ML7 (Med-Logics, USA). Terms of follow-up was between 3 to 10 years after Lasik.

Results: The results show the benefits of refractive excimer laser intervention after penetrating keratoplasty, confirms the significant topographic improvements of the anterior surface of the cornea. It was obtained high uncorrected visual acuity after refractive surgery, in comparison with the preoperative maximal corrected visual acuity. Years of dynamic analysis of corneal topography indicates a long-term stability of refraction after Lasik.

Conclusion: Analysis of clinical - functional results of the correction of refractive errors by LASIK, using the "Microscan Vizum" showed high efficacy and safety, as well as high predictability of excimer laser refractive operations. This technology demonstrates the usefulness of refractive surgery in patients after penetrating keratoplasty with severe refractive errors combined with anisometropia, which can significantly improve visual function and efficiency of spectacle correction, contributing to more successful medical-social and professional rehabilitation.

ICL vs LASIK

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Purpose: To compare the findings of moderate and high myopia correction using excimer laser vs ICL.

Methods: The 108 eyes of 57 patients were treated with ICL implantation and 2688 eyes of 1376 patients were undergone LASIK to correct low and high myopia. Spherical equivalent (SE) from 5.0 to 18.0 D, astigmatism (A) from 0.5 to 6.0 D in ICL cases and (SE) from 3.5 to 12.0 D, astigmatism (A) from 0.5 to 6.0 D in Lasik cases.

Results: In every case Post Op UCVA was 20/40 or more. In 3% the loss of 2 lines of acuity was observed in LASIK group. VA lost by the two line. UCVA was higher in ICL cases. UCVA 20/20/

was achieved in 78.9% with ICL and in 63.4% with LASIK correction. ($p < 0.001$). No serious complications were observed.

Conclusion: Phakic ICL implantation is a good alternative of LASIK for high myopia correction. It has high capacity and characterized by a low degree of high order aberrations that resulted in high quality of visual acuity. Moreover the procedure is reversible if necessary.

ETIOSURGERY OF TOTAL POST-BURN LIMBAL DEFICIENCY BY ALLOGENEIC LIMB TRANSPLANTATION

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Purpose: Analysis of results of allolimbal fragments transportation, conserved by normothermia within 21-28 days, in post-burn corneal leukoma and recurrent pterygiums.

Methods: Allolimbal fragments transplantation, conserved by normothermia, was performed in 16 eyes, 6 eyes were with post-burn corneal leukoma, and was combined with penetrating keratoplasty. In 10 eyes with recurrent pterygiums was performed allolimbal transplantation, in which on the limbal area within the dissected body of the pterygium were fitted limbal transplants and fixed by interrupted sutures. Limbus allotransplantants conservation was performed in the modified environment DMEM/F12 with glutamine, insulin, dexamethasone, embryonal serum, HEPES and antibiotic-antimycotics composition in terms of CO₂-incubator at 37° C, 95% of humidity and 5% of CO₂, and for 21-28 days.

Results: After keratoplasty in the post-burn corneal leukomas in the early postoperative period the transplantant epithelialization was observed in the epithelial graft for 7-14 days, due to the limbus transplants epithelium. Within 6 months after the surgery, corneal transplants has been remained transparent. After allolimbal transplantation any relapses in patients with recurrent pterygiums was not observed, patients` observation has been currently continuing. Conservation of limbus allotransplantants allows significantly increase the number and activity MSC-like limbus cells and significantly reduce the concentrations of histocompatibility antigens in transplantants, that allows not to use immunosuppressive therapy in the postoperative period.

Conclusions: Combined performing of penetrating keratoplasty and allolimbal fragments transplantation, conserved by normothermia within 21-28 days, significantly increases the percent of corneal transparent retention. Allolimbal fragments transplantation, conserved by normothermia within 21-28 days, in recurrent pterygium - pathogenetically reasonable treatment method, which doesn't require immunosuppressive therapy. Eliminating sectoral limbus deficiency, it creates a barrier to the growth of the conjunctiva.