

OPTIONS IN REFRACTIVE CATARACT SURGERY**Prof. Dr. Mahmut Kaşkaloğlu***Kaskaloglu Eye Hospital, Izmir, Turkey*

New so called premium intraocular lenses and technological advances in surgical devices have taken cataract surgery to new level. Today we have more to offer to our cataract patients than ever in terms of efficacy and safety. Advances in intraocular lenses such as aspheric surfaces, toricity, multifocality and ability to be implanted through smaller incisions provide a better visual outcome. The advances in optical biometry and intraocular lens calculations enable us precise IOL power selection and new optical tracking electronic devices enable us to correctly position the toric lenses intraoperatively. Femtosecond laser assisted cataract surgery and new phaco machines make cataract surgery more precise and safer. In this presentation I will review these advances in refractive cataract surgery and reflect my experience.

QUALITATIVE ANALYSIS OF CHANGES IN THE POSTERIOR SEGMENT OF THE EYE WICH FEMTOSECOND LASER-ASSISTED CATARACT SURGERY**Zabolotniy A., Misakyan K., Bronskaya A.***FSBI «The Academician S.N. Fyodorov IRTC “Eye Microsurgery” of the Minzdrava of Russia the Krasnodar Branch; Kuban State Medical University of the Ministry of the Minzdrava of Russia; Russian Federation*

Purpose: Analysis of the qualitative changes in the posterior eye segment structures – choroid thickness (CT) and distance height of vitreous posterior hyaloid membrane (VPHM) from retina by spectral optical coherence tomography (SOCT) method in femtosecond laser-assisted cataract surgery (FLACS).

Methods and Materials: 46 eyes with immature cataract and retinal SOCT possibility before the operation. Average corrected visual acuity – 0.3 ± 0.05 ; eye length - 22.51 ± 0.9 mm; IOP – 20 mm Hg; age - 65 years. Before and after surgery (1, 3, 5 days), SOCT of vitreoretinal interface and choroid was performed, RTVue XR 100 «Avanti», Optovue. Group 1, 24 patients, ultrasound FEM of cataract, «Stellaris», B&L. Group 2, 22 patients – FLACS, LenSx, Alcon. Capsulorhexis diameter – 4.9-5.2 mm (energy 12.5 μ J). Fragmentation of the lens nucleus by «chop», «cylinder» methods (energy 10-15 μ J). The main corneal incision – 2.5 mm (energy 5 μ J). Phakoaspiration on «Stellaris», elastic IOLs were implanted. FLACS duration – 9-10 minutes, femtolaser effect \leq 2 minutes.

Results: Before the surgery CT in Group 1 was 253.1 ± 62.1 microns. In 1, 3, 5 days after FEM of cataract CT were 310.4, 262.7, 258.1 microns. Distance height of VPHM before the surgery was 400.1 microns. In 1, 3, 5 days after surgery – 505.6, 492.7, 500.3 microns.

In Group 2 before the surgery CT was 256.4 ± 60.3 microns. In 1, 3, 5 days after FLACS CT were 333.1, 279.4, 259.1 microns. Distance height of VPHM before the surgery – 366.2 microns. In 1, 3, 5 days after FLACS – 510.8, 506.2, 508.9 microns.

Reactive thickening of the choroid after surgery was determined in both groups. Group 1, 1th day – 57.3 microns (22.6%). By the 5th day CT became initial. Distance height of VPHM increased by 105.5 microns. By the 5th day the situation was not changed. Group 2, FLACS, thickening of CT per 1 day is 76.7 microns, (29.9%). By the 5th day CT returned to previous values. VPHM was increased by 144.6 microns. By the 5th day the situation was not changed.

Conclusion: Increase of TC and distance height of VPHM in the early postoperative period was noticed in the both groups. After FLACS big figures are conditioned apparently by intraoperative vacuum effect and/or sudden IOP changes during femtolaser stage. Return of CT to initial state indicates processes reversibility. Patients with vitreomacular adhesion when FLEC are highly risky of vitreomacular traction.