COMPARISON OF STANDARD ASPHERIC AND WAVEFRONT-GUIDED FEMTO-LASIK MYOPIC CORRECTION RESULTS USING PROPENSITY SCORE MATCHING METHOD

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Purpose: To evaluate results of standard aspheric (SA) and wavefront-guided (WFG) myopic laser-assisted in situ keratomileusis with femtosecond laser-assisted flap formation (femto-LASIK) in completely comparable groups. Methods: Data of 88 (55 – SA, 33 – WFG) patients (176 eyes) with myopia chosen from 151 patients that undergone femto-LASIK (lasers: excimer – VISX STAR® 4 IR; femtosecond – IntraLase® FS 60) by propensity score matching method (PSM) was analyzed. It included full anamnesis, complaints on vision quality (CVQ) not connected with visual acuity (VA), physical eye discomfort (PD), filling up NEI-VFQ-25 (National Eye Institute Visual Function Questionnaire) (VFQ), as well as uncorrected VA (UCVA), aberrometry (WaveScan WaveFront® System) before and 6 months after the operation. Differences between groups were calculated with the chi-square (Fisher's exact) test and the Mann–Whitney U test. Results: Postoperative refractive result (p=0,931) and UCVA (p=0,666 for UCVA ≥ 1,0, p=0,886 for UCVA 0,55 – 0,8) were almost equal in both groups. Postoperative values of higher-order aberrations (HOA) were substantially lower in Group 2 (p0,001). Visual life quality improved (p0,001) in both groups (p=0,24). Percentage of patients with PD increased in Group 1 to 47,3%, in Group 2 to 27,3% (p=0,014) as well as with CVQ: 57,3% in Group 1, 27,3% in Group 2 (p0,001). Conclusions: As a result of PSM analysis SA and WFG femto-LASIK were commeasurable in refractive outcome, achieved UCVA and BSCVA, visual life quality improvement. WFG femto-LASIK has better statistically significant results in postoperative HOA induction and values, percentage of patients with CVQ and PD. NO financial disclosure.