

The Effectiveness of Laser In situ Keratomileusis for Correction Various Types of Refractive Anomalies

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Abstract : The laser in situ keratomileusis (LASIK) is widely common surgical procedure, which has become an alternative for patients who are not satisfied with the performance of other correction methods. A high level of patient satisfaction functional outcomes after refractive surgery confirms the high reliability and safety of LASIK and provides a significant improvement in the quality of life and social adaptation. Purpose: To perform clinical analysis of the results of correction made to the excimer laser system SCHWIND AMARIS 500E in patients with different types of refractive anomalies. Materials and Methods: This was a retrospective analysis of 1581 operations (812 patients): 413 males (50.86%) and 399 females (49.14%) at the age from 18 to 47 years with different types of ametropia. All operations were performed on excimer laser SCHWIND AMARIS 500E in the LASIK procedure. Formation of the corneal flap was made by mechanical microkeratome SCHWIND. Results: Analyzing the structure of refractive anomalies: The largest number of interventions accounted for myopia: 1505 eyes (95.2%), of which about a low myopia: 706 eyes (44.7%), moderate myopia: 562 eyes (35.5 %), high myopia: eyes 217 (13.7%) and supermyopia: 20 eyes (1.3%). Hyperopia was 0.7% (11 eyes), mixed astigmatism: 4.1% (65 eyes). The efficiency was 80% (in patients with supermyopia) to 91.6% and 95.4% (in groups with myopia low and moderate, respectively). Uncorrected visual acuity average values before and after laser operation was in groups: a low myopia 0.18 (up 0.05 to 0.31) and 0.80 (up 0.60 to 1.0); moderate myopia 0.08 (up 0.03 to 0.13) and 0.87 (up 0.74 to 1.0); high myopia 0.05 (up 0.02 to 0.08) and 0.83 (up 0.66 to 1.0); supermyopia 0.03 (up 0.02 to 0.04) and 0.59 (up 0.34 to 0.84); hyperopia 0.27 (up 0.16 to 0.38) and 0.57 (up 0.27 to 0.87); mixed astigmatism of 0.35 (up 0.19 to 0.51) and 0.69 (up 0.44 to 0.94). In all cases, after LASIK indicators uncorrected visual acuity significantly increased. Reoperation was 4.43%. Significance: Clinical results of refractive surgery at the excimer laser system SCHWIND AMARIS 500E in different ametropia correction is characterized by high efficiency.

Keywords : effectiveness of laser correction, LASIK, refractive anomalies, surgical treatment

Conference Title : ICO 2016 : International Conference on Ophthalmology

Conference Location : London, United Kingdom

Conference Dates : October 17-18, 2016