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FOR THE FIRST TIME IN UKRAINE: SMALL ISCISION LENTICULE EXTRACTION LASER CORRECTION

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Annotation. The study aimed to evaluate the outcomes of laser vision correction in patients with myopia and complex myopic astigmatism using the ReLEx SMILE technology. The results of laser vision correction employing the ReLEx SMILE technology were analyzed in 250 patients (498 eyes).

Keywords: laser vision correction, myopia, astigmatism, ReLEx SMILE (Small Incision Lenticule Extraction).

Introduction. Current statistics demonstrate a trend towards an increase in the number of patients with refractive errors, among whom working-age patients who lead an active lifestyle predominate. Modern ophthalmic surgery has in its arsenal several methods of vision correction, in particular myopia and myopic astigmatism. Existing methods of refractive surgery (PRK, LASEK, LASIK) have a certain rehabilitation period, which temporarily limits professional opportunities and reduces the level of comfort of everyday life [1, 2]. A number of experts point to a fairly high percentage of dry eye syndrome, the development of corneal syndrome, and the risk of complications associated with de-epithelialization or the presence of a corneal flap [3].

The emergence of the Small Incision Lenticule Extraction (ReLEx SMILE) technology has shifted priorities in refractive surgery worldwide [4, 5]. In Ukraine, over the past five years, this vision correction method has been gaining popularity

due to its high safety profile, short recovery time thanks to its minimally invasive nature, and low complication rate.

Purpose. To analyze the results of ReLEx SMILE in patients with myopia and complex myopic astigmatism and to assess the level of patient satisfaction.

Methods. A total of 250 patients (498 eyes) with myopia and complex myopic astigmatism underwent the ReLEx SMILE procedure. Among them were 149 men (59.6%) and 101 women (40.4%). Mild myopia with complex astigmatism was observed in 290 eyes (58.2%), moderate myopia in 125 eyes (25.1%), and high myopia in 83 eyes (16.7%). All procedures were performed using the VisuMax femtosecond laser (Carl Zeiss, Germany) according to the standard technique. Visual acuity, autorefraction indices on days 1, 5, and 30 after surgery, and patient satisfaction were evaluated. The expected visual acuity was defined as the maximum corrected visual acuity prior to surgery, and the refractive target was emmetropia.

Results.

On the first day after ReLEx SMILE, the expected visual acuity was achieved in 477 eyes (95.8%). By day five, maximum visual acuity was observed in the majority of eyes (492 eyes – 98.8%), and only in 7 eyes (1.4%) was visual acuity below the expected level. Autorefraction values ranged from +0.25 to -0.25 D. One month post-surgery, the expected visual acuity was achieved in 494 eyes (99.2%), with stable autorefraction measurements. A patient survey revealed that 97.6% were completely satisfied with the results of ReLEx SMILE laser correction. The remaining 2.4% had higher expectations, highlighting the need for clear preoperative discussions regarding surgical outcomes.

Conclusion.

Thus, correction of myopia and myopic astigmatism using ReLEx SMILE laser technology offers significant advantages: minimal invasiveness, quick recovery period, and high precision. Maximum corrected visual acuity was achieved in 99.2% of cases, making this method a recommended option for patients with myopic refractive errors. Patient satisfaction following ReLEx SMILE reached 97.6%.

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