LONG-TERM RESULTS WITH "MICROSCAN VISUM" 500 HZ EXCIMER LASER

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Goal. To determine the predictability, efficacy, safety, and stability of LASIK with the "Microscan Visum" 500 Hz excimer laser platform (Optosystems, Russia) and L80 aberrometry-topography system (Visionix Luneau, France)
Materials and methods. 134 eyes underwent LASIK for myopia using the PlatoScan™ individualized laser vision correction procedure that combines the L80 System and the "Microscan Visum" Excimer Laser. Refractive outcomes and the change in higher order aberrations, coma, and spherical aberrations were analyzed. Postoperative follow-up ranged from 1 to 16 months.
Results. Mean postoperative spherical equivalent refraction was – 0.04 diopters (D) (range: – 0.69 to +0.57 D). Uncorrected visual acuity was 1 or better in 125 (93%) eyes and 1.2 or better in 78 (58%) eyes. Postoperative spherical equivalent refraction was within – 0.50 D of intended correction in 126 (94%) eyes. 63 eyes (47%) gained 1 or more lines of best spectacle-corrected visual acuity (BSCVA), and no eyes lost more than 1 line of BSCVA.

Conclusion. Wavefront-guided PlatoScan™ treatments with the "Microscan Visum" platform for myopia are safe and effective with excellent visual acuity and refractive outcomes. Eyes with ≥0.25 μm of higher order aberrations preoperatively will benefit more from PlatoScan™ treatment than eyes with a smaller amount of higher order aberrations.