

Session 2-L: Refractive: Surface Ablation

Title: Prospective Intraindividual Study: LASIK Versus LASEK to Correct Low and Intermediate Myopia

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Purpose: To intraindividually evaluate the efficacy, safety and reliability as well as acceptance of Laser in situ keratomileusis (LASIK) versus Laser assisted subepithelial keratectomy (LASEK).

Patients and Methods: LASIK and LASEK was performed in 52 eyes 26 patients. Each patient received LASIK in one eye and LASEK in the fellow eye. The mean preoperative spherical equivalent (SE) was $-4,14 \pm 1,16$ diopters (D) and best spectacle-corrected visual acuity (BSCVA) 1.02 ± 0.18 D in LASIK and $-3,4 \pm 1,22$ D and BSCVA 1.1 ± 0.15 D in LASEK treated eyes. One year contrast visual acuity has been measured under photopic conditions (85 cd/sqm) using Pelly Robson chart at the reading distance of 1 meter.

Results: The efficacy in the LASIK treated eyes was 0.90 ± 0.29 , 0.96 ± 0.27 and 0.98 ± 0.28 after 1 week, 1 months and 1 year respectively. The efficacy in the LASEK fellow eyes was 0.75 ± 0.31 , 0.94 ± 0.22 and 0.98 ± 0.32 1 week, 1 months and 1 year respectively. The one year safety index was in the LASIK treated eyes 1.070 ± 0.169 and in the LASEK fellow eyes 1.071 ± 0.173 . Out of 26 eyes in each treatment group 23 LASIK and 24 LASEK treated eyes were within ± 0.5 D of target refraction after 1 year. All eyes were within ± 1.0 D of target refraction. The contrast visual acuity was 10.7 in the LASIK eyes, but 11.4 contrast steps of the Pelli Robson chart in the LASEK fellow eyes. 10 patients preferred LASIK and 5 patients LASEK with the remaining patients having no preference.

Conclusion: LASEK provided slightly better contrast sensitivity than LASIK. No other differences were found between both procedures when performed intraindividually.