Treatment of Simple Myopia With Astigmatism Using (193 nm) Excimer Laser

A dissertation

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دراسه

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كجزء من متطلبات نيل شهاده الدبلوم العالي الليزر في الطب (طب العيون)

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ABSTRACT

PURPOSE:

To evaluate the effect of 193 nm excimer laser in the correction of refractive errors (myopia) and to compare the visual refractive outcomes of laser in situ keratomileusis (LASIK) carried out with a scanning- slit beam excimer laser and flying-spot beam excimer laser for treatment of simple myopia with or without myopic astigmatism .

METHODS : Patients and Methods :

80 consecutive eyes of 40 patients that underwent LASIK with scanning –slit beam laser (Group A, 40 eyes) and flying-spot beam laser (Group B, 40 eyes) were reviewed. Manifest refraction, uncorrected and best spectacle corrected visual acuity (BSCVA), corneal topography and central corneal thickness (CCT) were recorded before treatment.

RESULTS:

The preoperative mean for spherical refraction and standard deviation in eyes related to group A were (-2.44 ± 1.26 diopters), the range (-0.5 to -5.25 diopters), and for eyes related to group B were (-3.03 ± 1.53 diopters), the range (-0.5 to -6.0 diopters). The mean cylindrical equivalent refraction for group A were (-1.74 ± 1.33 diopters), the range (-0.5 to -5.0 diopters), and for group B were (-1.41 ± 1.37 diopters), the range (-0.5 to -7 dioptres).

Three months after LASIK, the mean spherical and standard deviation of group A were (- 0.39 ± 0.79 diopters), the range (-1.25 to +3.0

diopters) and for group B were (- 0.12 ± 0.41 diopters), the range (-1 to +1 dioptres). The residual cylinder for groyp A were (-0.89 ± 0.58 diopters), the range (0.0 to -2.5 diopters) and group B (-0.42 ± 0.28 diopters), the range (0.0 to -1.25 diopters).

Three eyes lost more than one line of BSCVA (7.5%) in group A, and one eye in group B. No re-LASIK procedure was needed in both groups.

CONCLUSION:

LASIK treatment for simple myopia with or without astigmatism was performed:

1. The using of 193 nm excimer laser, applied in two types of beams.

2. Lasik treatment of simple myopia with or without astigmatism using 193 nm excimer laser applied in 2 types of beams revealed no statistically significant difference in case of spherical treatment, but there was a significant difference in treatment of astigmatism.