PHOTOREFRACTIVE KERATECTOMY IN PATIENTS WITH SUSPECTED KERATOCONUS: FIVE YEAR FOLLOW-UP

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PURPOSE & DESIGN

To assess long-range outcomes of photorefractive keratectomy (PRK), using functional and topographic criteria, in myopic eyes with suspected keratoconus.

Long-term (mean: 4.7 year) follow-up of eyes with suspected keratoconus.

METHODS

Classified KCS or KC > 0 by NCN OPD Scan II

Evaluation 2011

RESULTS

Patient population at baseline consisted of 62 eyes of 42 patients. The mean age was 34.6 ± 15.1 years and the mean spherical equivalent (SE) was -3.96 ± 3.05 Diopters (D) (mean sphere: -3.48 ± 3.48 D, mean cylinder: 0.38 ± 0.92 D). The mean central pachymetry was 529.4 ± 32.8 μm (mean thinnest point 523.1 ± 33.6 μm) and the mean simulated keratometry 45.75 D ± 1.75 D. The percentage of similarity to Keratoconus suspect (KCS) or keratoconus (KC) was positive in all 62 eyes and exceeded a 50% similarity score in 30 eyes (48.4%).

MEAN FOLLOW-UP WAS 4.8 ± 1.4 YEARS

The mean magnitude of the SE was -0.53 ± 1.35 diopters over the follow-up period, with a mean postoperative keratometry of 42.9 ± 2.4 D.

Only 2 patients had to wear glasses again because of significant myopic regression.

NO CASE OF CORNEAL ECTASIA HAS BEEN REPORTED OVER THE STUDY PERIOD.

DISCUSSION

Corneas with topographic suspicion of keratoconus and believed to have subclinical keratoconus = absolute contraindication for Lasik surgery.

What about PRK?

- Sensitivity & specificity of subclinical keratoconus detection based Placido topography is not 100% of some of the included corneas may correspond to false positives, being only physiological variants of normal corneas.

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CONCLUSION

Photorefractive keratectomy in eyes with suspected keratoconus based on Placido Neural Network may be safe and effective for myopia and astigmatism in carefully selected patients, with improvement of the visual function extended with refractive and corneal stability. However, treatment indications remain to discuss on a case-by-case basis as limitations may exist regarding steeper and thinner corneas.

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