TRANSEPITHELIAL PTK/LIMITED NON TOPOGRAPHIC PRK COMBINED WITH CORNEAL CROSSLINING FOR KERATOCONUS

Hatch Mukherjee*, Spyros Pipis, Yunfei Yang, Adriana Santos. Colchester Eye Centre, East Suffolk and North East Essex Trust, Colchester, UK

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"Correspondence - Hatch Mukherjee: hatch.mukherjee@gmail.com

Objective To evaluate the outcomes of combined excimer laser PTK/limited PRK combined with corneal crosslinking in the management of keratoconus.

Methods and Analysis Data were analysed from a retrospective cohort of eyes undergoing PTK epithelial removal or limited PRK combined with corneal crosslinking. Patients undergoing PRK were either contact lens intolerant or were considering alternate surgical therapy including corneal transplantation. Data included uncorrected and best corrected vision, refraction and OCT topographic findings. Treatments were performed using a TECHNOLAS® TENO™ 2 (Bausch & Lomb) and CXL with Avedro KKL (Glaukos) according to a modified protocol.

Results 24 eyes were treated using combined Excimer laser PTK or limited non-topographic transepithelial PRK depending on intervention protocol with >3 month follow-up. Postoperative best corrected visual acuity improved by a mean of 0.42 LOGMAR units (SD 0.37, range 0.1 to 1.4) (p<0.005). All eyes had improvement of BCVA. Mean absolute spherical refractive error decreased by 0.56 D (SD 1.26, range -2.5 to 2) (p<0.05). Postoperative spherical error increased in a few cases (3/24, 12%) Mean absolute refractive cylinder decreased by 1.46D (SD 2.3 range -4.75 to 7) (p<0.05). Limited increase of astigmatism occurred in 2 (8.3%) cases. There were no postoperative complications noted.

Conclusion PTK/limited non topographic PRK combined with CXL may offer improvement to corrected visual acuity compared to CXL alone.

GALILEI TOPOGRAPHY VS ANTERION TOPOGRAPHY. SAME PATIENT, DIFFERENT RESULTS?

Mustafa Yusuf*, Chung Bong, Akash Dharni. Calderdale Royal Hospital, Halifax, UK

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"Correspondence - Mustafa Yusuf: mustafayusuf@nhs.net

Objective Corneal topography is a crucial part of the decision making process in clinics throughout the country. Numerous machines are available, therefore it is important if a patient has topography performed on one device it produces consistent results on another device. Our service is somewhat unique with eye clinics running on two different sites with two different topography machines. This study aims to compare the commonly used Galilei machine with the newer Anterion machine to see if the measurements are comparable.

Methods and Analysis We identified 20 patients (between the ages of 15 and 40) with a diagnosis of keratoconus who had topography performed on one device it produces consistent results on another device. Our service is somewhat unique with eye clinics running on two different sites with two different topography machines. This study aims to compare the commonly used Galilei machine with the newer Anterion machine to see if the measurements are comparable.

Results The mean difference in Flat Sim K was 0.41. The largest difference was 1.1. The mean difference in Steep Sim K was 0.52. The largest difference 1.8. The mean difference in K Max was 0.73. The largest difference 2.1. The mean difference in pachymetry was 11 μm. The largest difference 21 μm.

Conclusion There were considerable differences in measurements between the two devices, with K Max and Pachymetry showing the most disparity. We therefore recommend caution when deciding upon, for example keratoconus progression, in a patient who has undergone topography on two different devices.