



# ABSTRACT E-BOOK



**7<sup>th</sup> USM  
Ophthalmology  
Symposium**

in conjunction with the  
**9<sup>th</sup> Conjoint Ophthalmology  
Scientific Conference**

**Current Controversies  
in Ophthalmology**

13<sup>th</sup> - 15<sup>th</sup> September 2019 | Hotel Perdana, Kota Bharu



**MC099 - AP2: In-Vivo Confocal Microscopy: Comparison Of Keratocytes Cell Density (Kcd) Between Femtosecond Lasik (Fs-Lasik) And Photorefractive Keratectomy (Prk) At One Month Follow-Up**

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**Purpose**

To evaluate keratocyte cell density (KCD) regeneration after 1-month laser refractive surgery (FS-LASIK and PRK) using Heidelberg Retina Tomography III/Rostock Corneal Module confocal microscope (HRT III/RCM) and image analysis.

**Methods**

Sixteen eyes of 8 participants who underwent FS-LASIK and PRK involved in this prospective non-randomised study. Inclusion criteria includes of having moderate to high myopia (spherical equivalent, SE: -3.25D to 9.25D). A flap was created and repositioned back after ablated in FS-LASIK, while in PRK the entire corneal epithelium was removed (flap-less) before ablated. Central corneas were scanned throughout their full thickness using HRTIII/RCM during baseline and post-operative 1 month by single examiner. Morphologic modifications of KCD were evaluated. Using image analysis, KCD was measured in cell/mm<sup>2</sup>. Two images with non-artefact were selected from each stromal layer for evaluation of KCD and the average mean was taken for analysis. KCD was manually calculated within a region of interest (ROI) set at 0.16mm<sup>2</sup> by modification of brightness and contrast. Cells which are more illuminated and refringent were selected and analysed using Wilcoxon signed-rank and Mann-Whitney U test.

**Results**

Mean participants' age was 27.25±4.04 years old. Approximately 19% and 33% of KCD reduction were observed in post 1-month FS-LASIK and PRK respectively. Wilcoxon signed-rank test was employed to analyse the mean of KCD. There was significant differences between pre-operative and post 1-month in both groups (P=0.012). Both PRK and FS-LASIK shows lower KCD compared to their baseline (P>0.05).

**Conclusion**

KCD regeneration does not occur as early as 1 month in both procedures. Thus, a cohort study is required.

