

FP 2874



Topographic epithelial thickness profile changes after partial topography-guided ablation and high-fluence, short duration crosslinking with riboflavin

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Financial Interests: AJK: Consultant for Alcon/WaveLight, Avedro, GA: Consultant for Alcon/WaveLight,



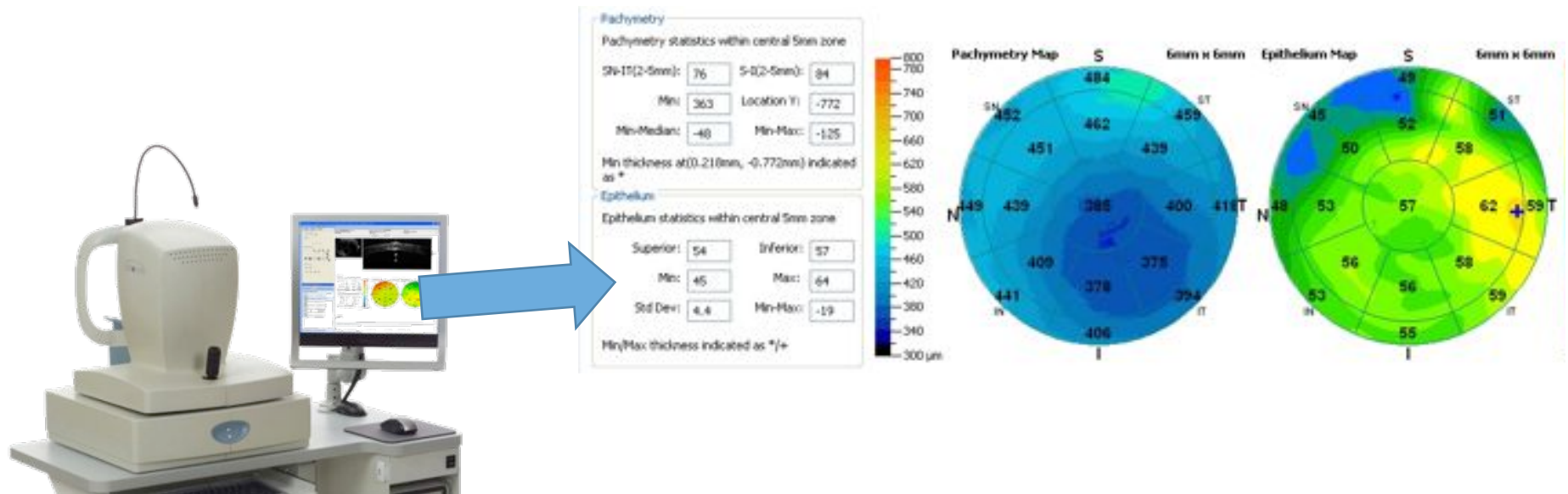
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Purpose

- To evaluate safety, efficacy and ease of measurement of epithelial thickness changes after:
 - ✓ partial topography-guided ablation and
 - ✓ high-fluence cross-linking with riboflavin.

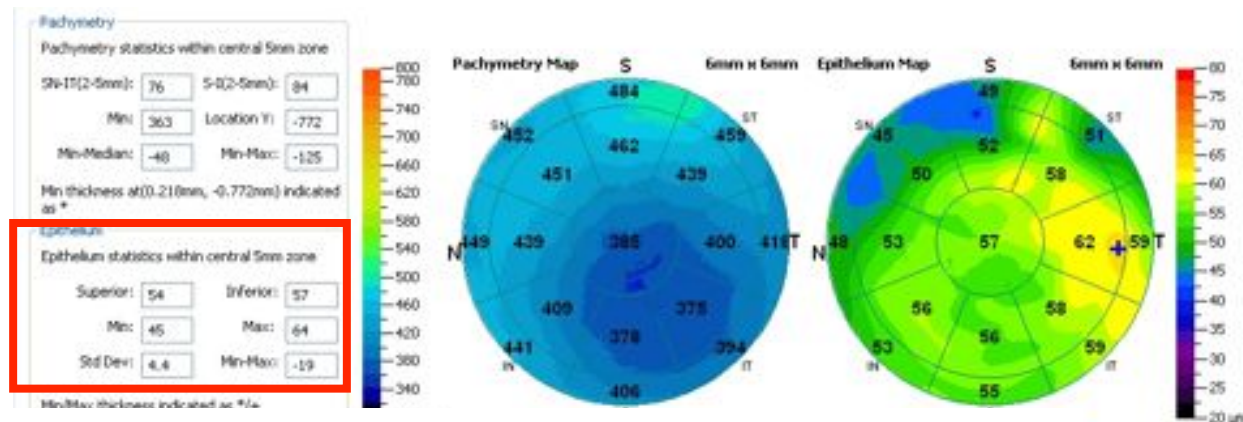


A. John Kanellopoulos and George Asimellis, *Epithelial Thickness Profile Changes Following Partial Topography-guided Ablation and High-fluence, Short Duration Cross-linking (The Athens Protocol): Six-Month and One Year Results*. *American Journal of Ophthalmology*. 2013; AJO-13-947



Methods

- Twenty keratoconic eyes were subjected to partial topography-guided ablation and high-fluence cross-linking with riboflavin.
- We investigated postoperative epithelial healing (thickness and topographic thickness distribution) with anterior-segment optical coherence tomography (AS-OCT), in comparison to a control non treated, age-matched keratoconic population.



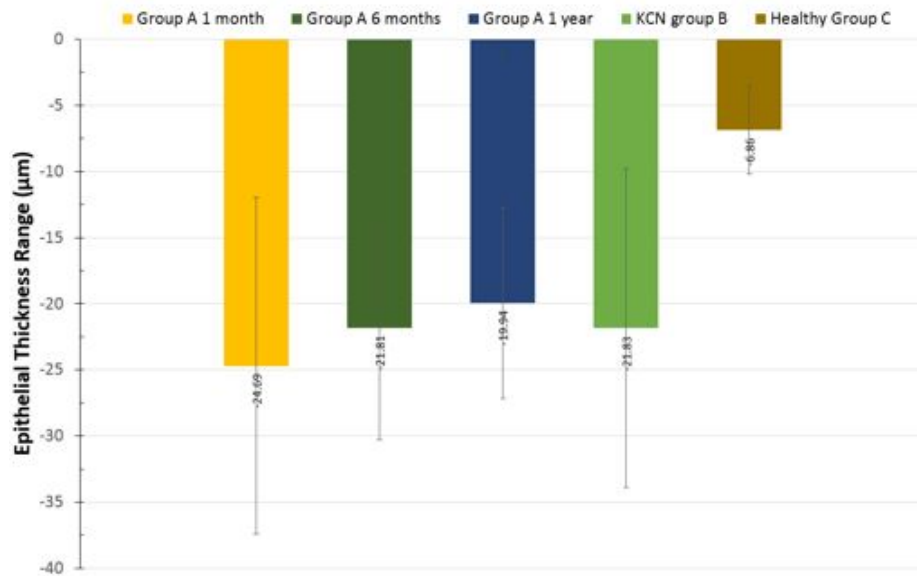
Results

- The epithelium thickness showed an overall three month postoperative reduction. Specifically,
- Mean thickness was preoperatively $55.65 \pm 1.22 \mu\text{m}$, and postoperatively, $40.60 \pm 1.22 \mu\text{m}$.
- Topographic epithelial thickness variability was also reduced, from $9.80 \pm 0.41 \mu\text{m}$, preoperatively to $5.37 \pm 0.40 \mu\text{m}$ postoperatively.
- Statistically significant differences were observed when compared to the control group.

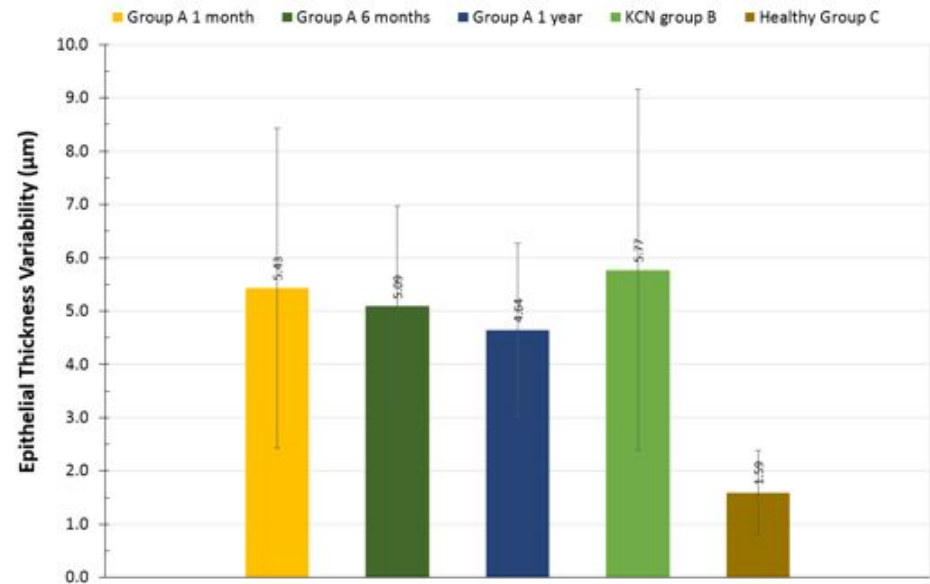


Results

Epithelial thickness change



Thickness variability change



Conclusions

- AS OCT imaging also supports a
 - thinner and
 - more homogeneous epithelium in cross-linked eyes,
 - as introduced by a previous study of ours based on a different imaging modality.
- The ease of use and the increased predictability offered by AS-OCT, may be a significant advantage.

