

ACCELERATE TRANSEPITHELIAL CORNEAL COLLAGEN CROSSLINKING FOR PROGRESSIVE KERATOCONUS

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PURPOSE

- To evaluate the safety, efficacy, and stability of accelerate transepithelial corneal collagen crosslinking in progressive keratoconus.

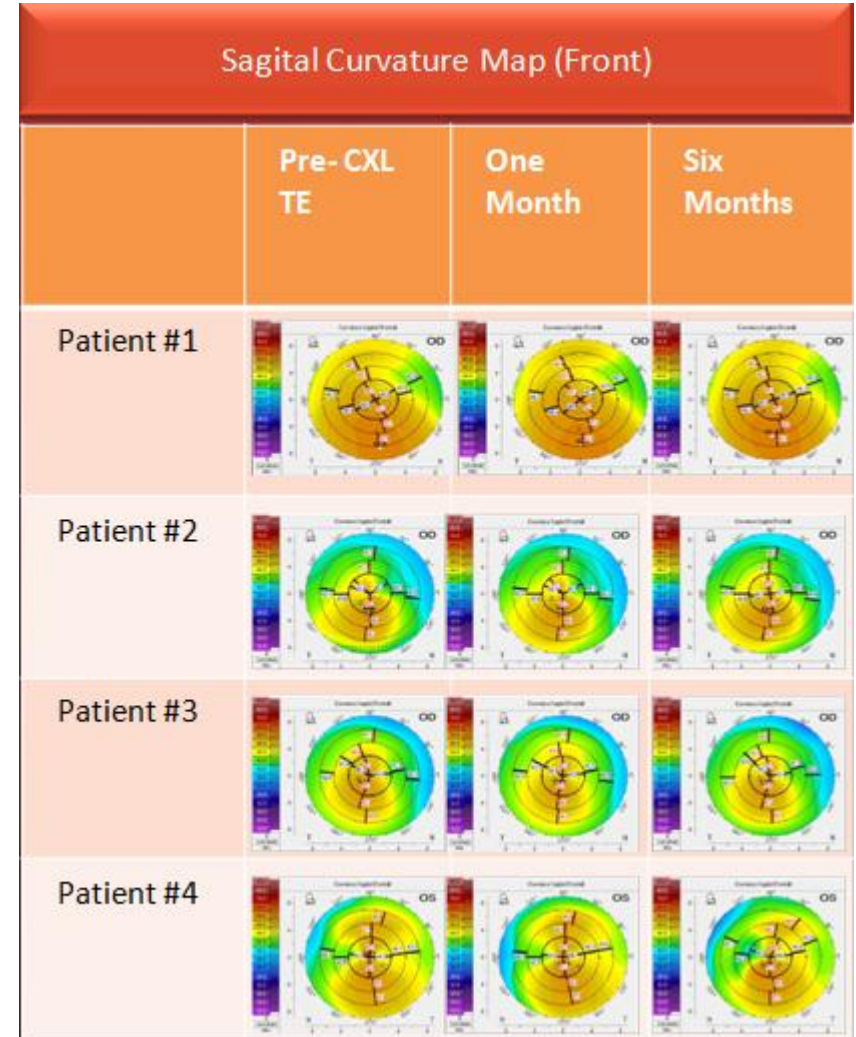
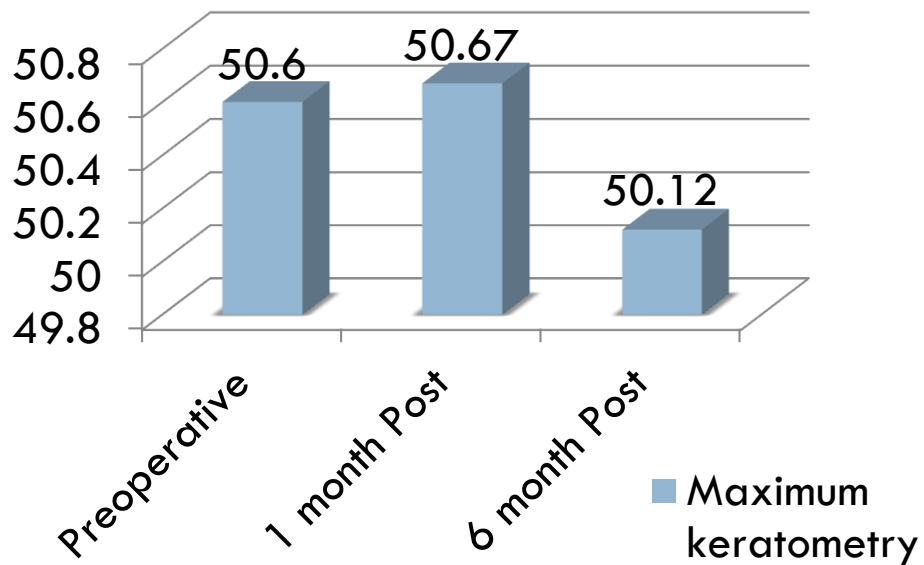
METHODS



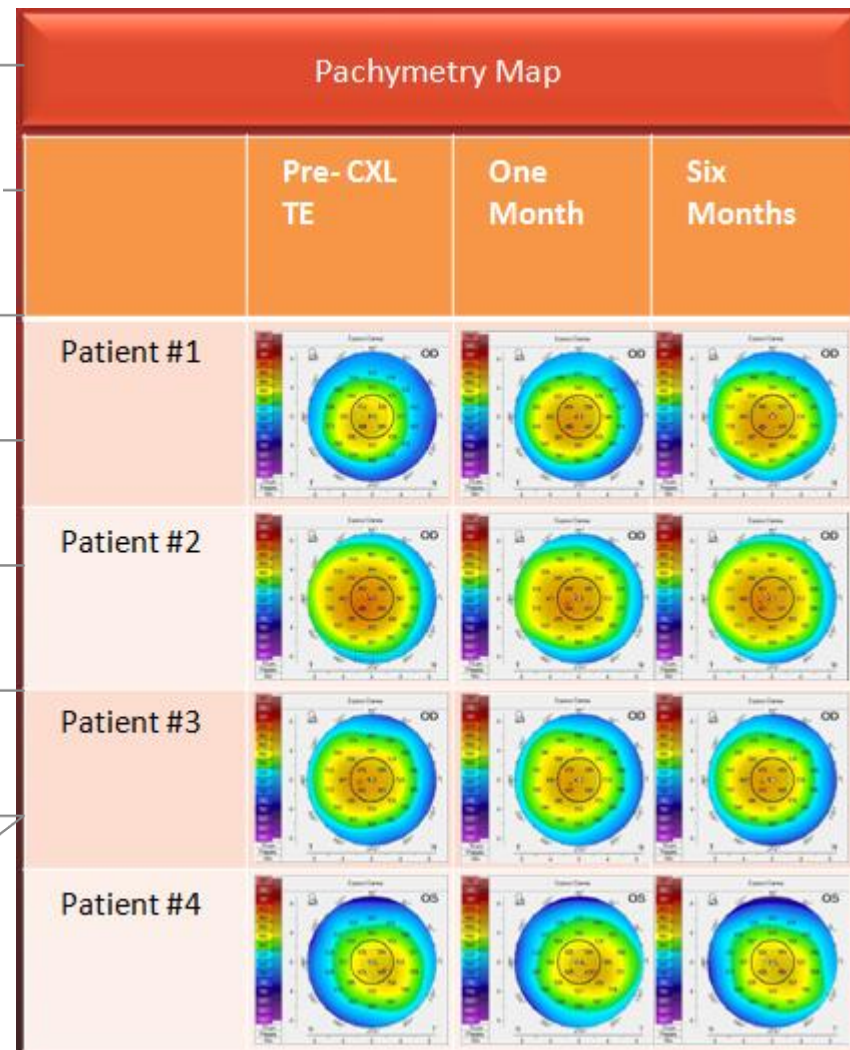
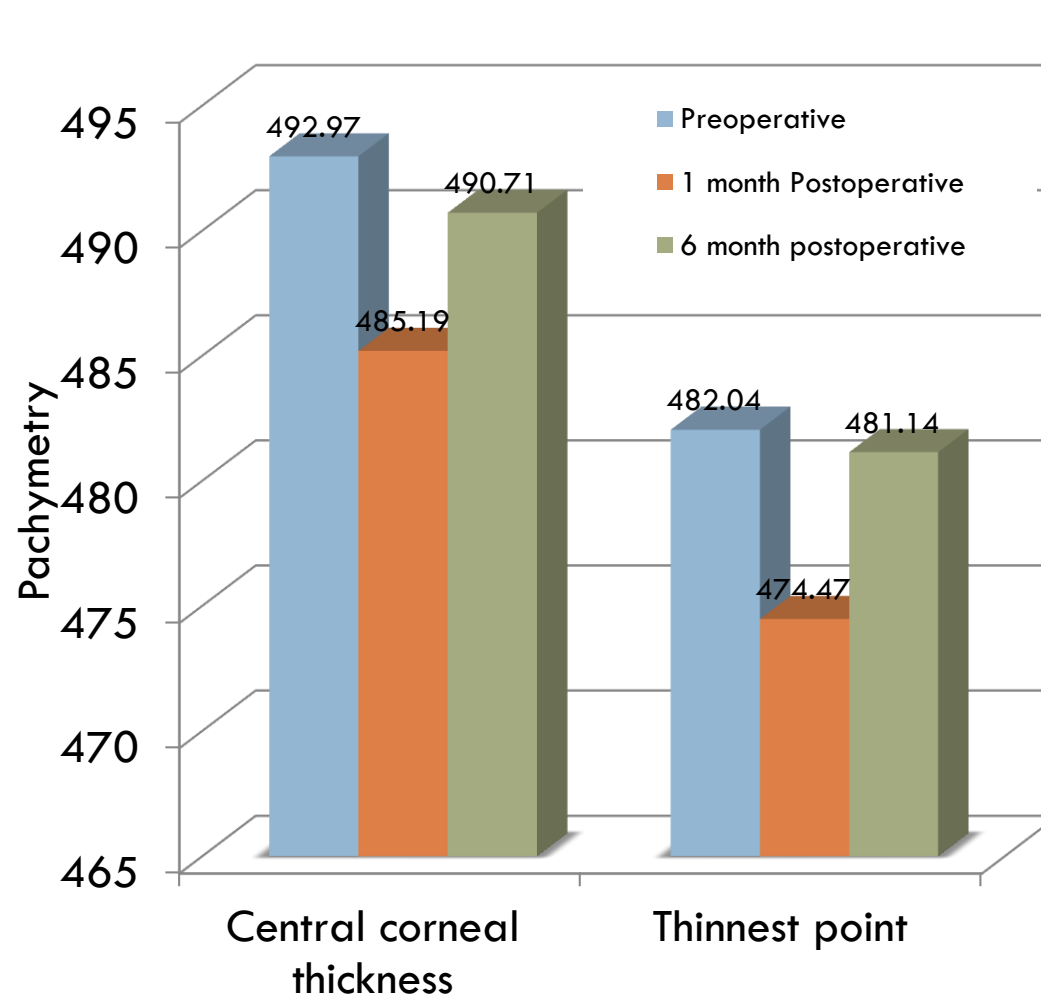
- This prospective study included 27 eyes of 27 patients with progressive keratoconus diagnosis whom underwent corneal collagen crosslinking between January 2013 and September 2013.
- The Ultraviolet-A treatment was performed with CCL-VARIO (Peschke Ltd, Germany) with 5 minutes of irradiation (18mW) and 30 minutes of impregnation.
- The solution used was TE-riboflavin (Peschke Ltd, Germany)
- Uncorrected visual acuity (UCVA), best corrected visual acuity (BCVA), manifest refraction, demarcation line using anterior segment OCT (optical coherence tomography), and Scheimpflug imaging parameters were evaluated at pre and postoperatively day one, and 1, 3, 6 and 9 months.

PRE AND POSTOPERATIVE SCHEIMPFLUG IMAGING PARAMETERS

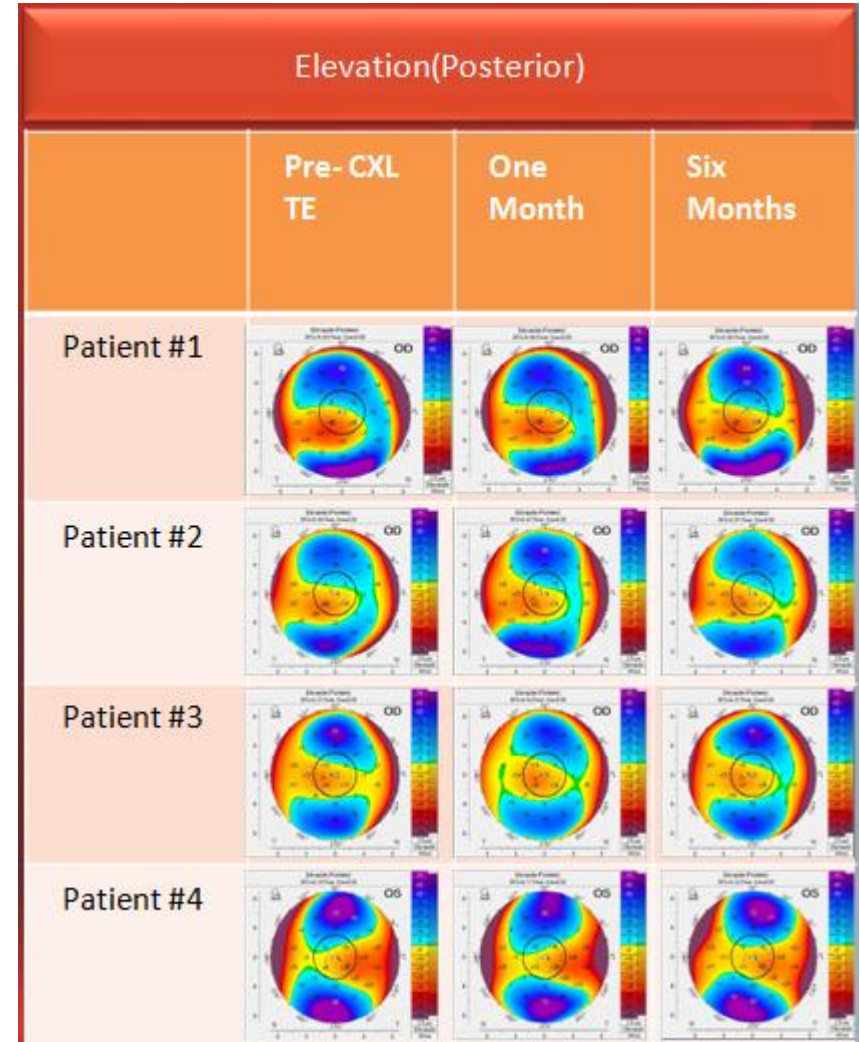
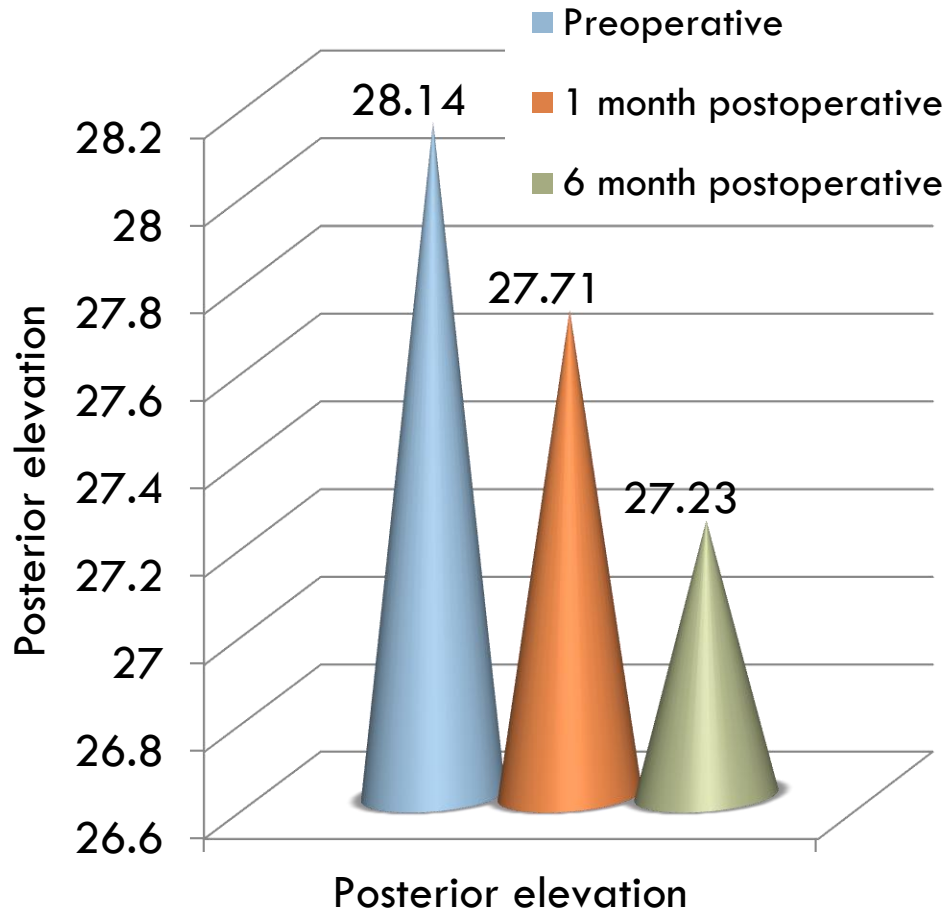
Maximum keratometry



PRE AND POSTOPERATIVE PACHYMETRY MAPS

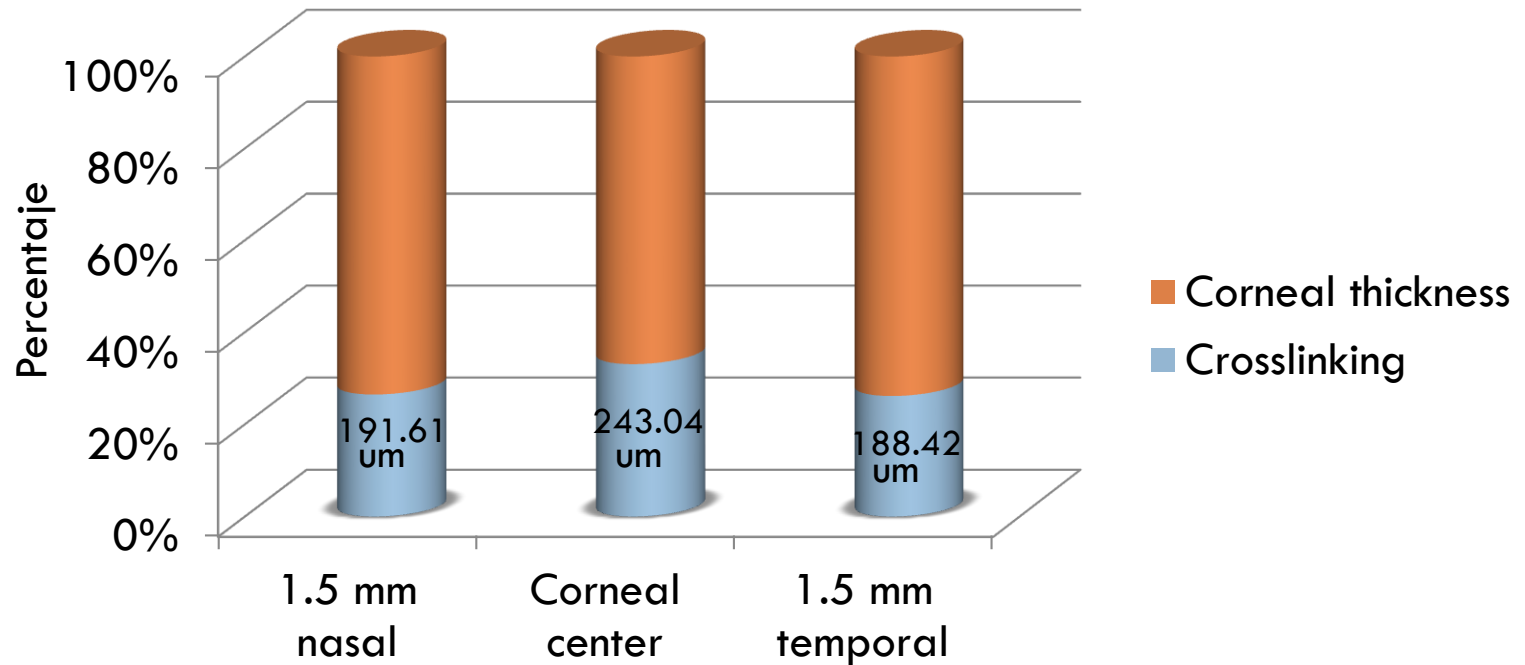


PRE AND POSTOPERATIVE POSTERIOR ELEVATION



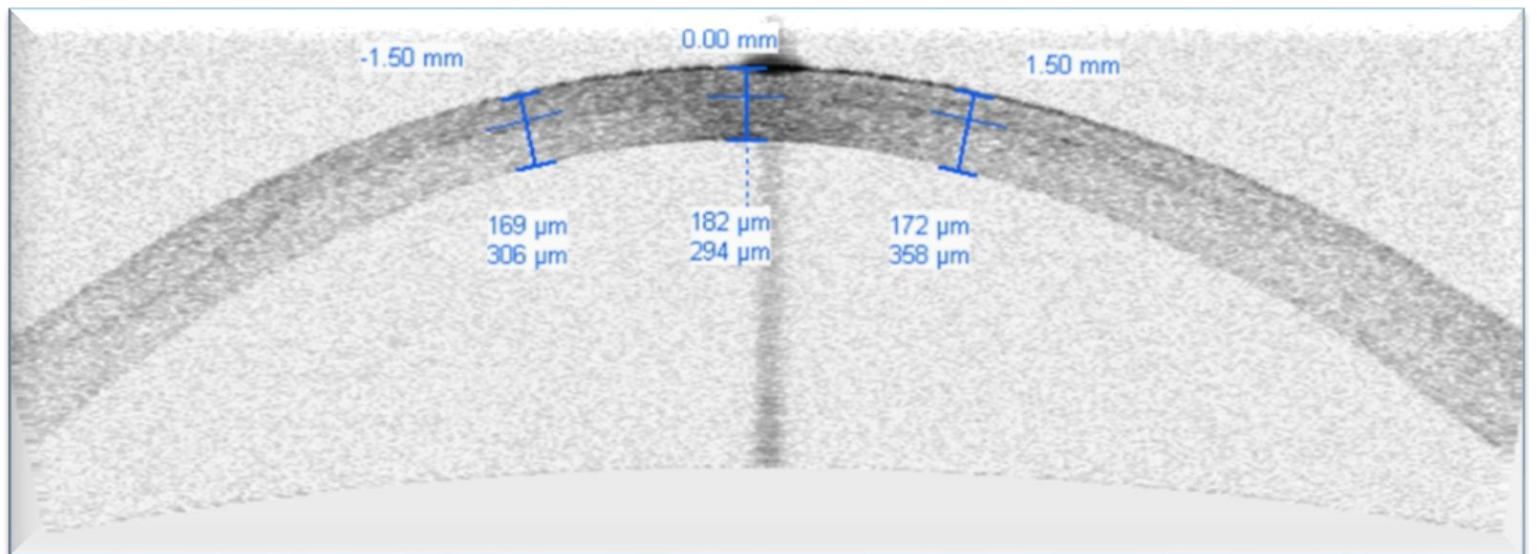
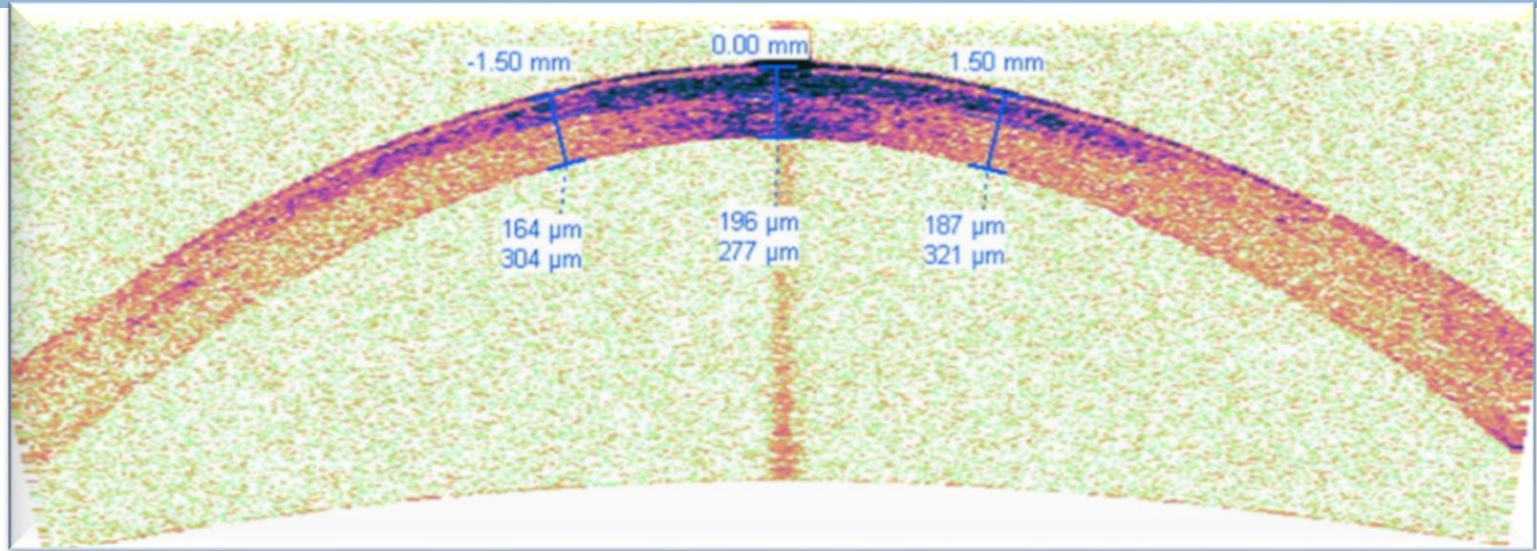
Mean posterior elevation decrease from 28.14 um to 27.23 um at 6 monts postop ($p = 0.09$).

Crosslinking deep & Demarcation line



- The mean crosslinking deep was 190.15 um at 1.5 mm from the center of the cornea, compared with 243.04 um at the center of the cornea.
- The mean diameter of the crosslinking was 3.63 mm visualized by AS-OCT.

DEMARCATIION LINE



CONCLUSIONS

- Accelerate transepithelial crosslinking is safe, however longer follow up is necessary to confirm the efficacy to stop the progression of the keratoconus.
- AS-OCT images showed that the intended depth of crosslinking is achieved within the central area of the cornea.