

PHOTOREFRACTIVE KERATECTOMY AFTER DESCMET MEMBRANE ENDOTHELIAL KERATOPLASTY

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Introduction: A 26 year old female ,who had undergone descemet membrane endothelial keratoplasty(dmek) a yer ago on her left eye, was evaluated for photorefractive keratectomy(prk) due to residual refractive errors.

Purpose: To evaluate the efficacy of prk for refractive errors in a patient who had undergone dmek surgery a year ago

Methods: Prior to surgery a total ophthalmic examinations was conducted. Corneal topography, specular microscopy and optical coherence tomography for macular evaluation was evaluated. Prk was performed with 26 micron total ablation depth and 236 pulses. All ophthalmic examinations were repeated after surgery at post operatively

Results: The uncorrected visual acuity (UCVA) was 0.2 and best corrected visual acuity (BCVA) was 0.7 (with 2.75 – 4.00 *90) before surgery. The K1-K2 values were 37,5 - 41.2 D and the axis was 179 and the calculated astigmatism was 3.7D . The pre surgical keratometry was 560 microns (thinnest).The corneal endothelial values with specular microscopy was 1901.8 (maximum size) μm^2 and cell density was 1155 (/mm²) preoperatively. After surface ablation was performed, the calculated thinnest keratometry was decreased to 498 microns at first month and increased to 560 microns at 5th month. The K1 – K2 values were 39.2- 40.0 D and the axis was 154 at first month. The UCVA was 0.5 and BCVA was 0.8 (with -1.00- 0.75 *16) After 30 days ,endothelial specular values were 1870.3 μm^2 (max size) and 1102(/ mm²) (cell density) The central macular thickness was measured 231 microns preoperatively and 256 microns after first month.

Conclusion: Surface ablation procedures seems to be safe and effective for correcting refractive errors in patients those had dmek surgery for other reasons. Precise pre operative measurements and careful ophthalmic examination is a must. Further long follow time included studies need to be done.