Photorefractive Keratectomy and LASIK After Conductive Keratoplasty: Case Series

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Introduction

• Study question: Is LASIK or PRK safe and effective for patients who underwent prior conductive keratoplasty (CK)?

• Why perform LASIK or PRK following CK
  – The effect of CK regresses over time
  – LASIK or PRK offers a more permanent solution
  – Patient with remote history of CK now presenting for distance vision enhancement (astigmatism, post-IOL enhancement, etc.)

• Previous research on this topic
  – 1 case series of 20 eyes in the Philippines\(^1\)
  – 2 case reports \(^2,3\)
  – Both the case series and case reports suggest safety and efficacy of performing PRK or LASIK following CK
Methods

• Study type
  – Retrospective, noncomparative case series
  – Chart review

• Patient population
  – Charts of patients at a single clinic and single surgeon were examined
  – Patients who underwent CK from 2003-2012 were identified
  – Those who subsequently underwent LASIK or PRK for improvement of near vision were selected for inclusion in the study

• Primary outcomes examined
  – Visual acuity
  – Complications
Results

• 300 eyes received CK
  Mean time between last CK and PRK/LASIK: 1.2 years

• 12 eyes received subsequent PRK or LASIK
  – Average number of CK treatments performed on this subset of 12: 2.85
  – 10 PRK, 2 LASIK
  – 6 right eyes, 6 left eyes
  – 5 male, 7 female
  – Average age at PRK/LASIK: 54
  – Average target of LASIK/PRK: -1.78
Results

• Follow-up time following PRK or LASIK: 5.2 months
• Major complications: No reported incident
• Ectasia: No reported incident
• Visual acuity
  – Improvement in uncorrected near vision visual acuity: 11 of the 12 eyes
  – No change in near vision visual acuity: 1 of the 12 eyes
  – Mean change in near vision visual acuity: -0.30 logMAR units
Conclusions

• Since no major complications were observed and visual acuity improved for all but one patient, the results suggest that PRK/LASIK is safe and effective following CK
• These results are consistent with prior research
• Limitations
  – Small sample size
  – No control group
  – Retrospective study
  – Short follow-up time
Citations

