

A Combined Procedure Of Intrastromal Corneal Ringraft Insertion And Transepithelial Photorefractive Keratectomy In A Patient With Keratoconus

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Abstract : Introduction : refractive surgery in an ectatic cornea is associated with a cost of further worsening biomechanical instability. Therefore, strategies using a combination of the Intrastromal Corneal ring supported graft ; RinGraft insertion and transepithelial Photorefractive Keratectomy; RinGraft/tPRK method have been designed. Patient and clinical findings :A 41-year-old woman with severe keratoconus had transepithelial Photorefractive Keratectomy (tPRK) 15 months after RinGraft implantation. Diagnosis, intervention, and outcomes: Six months after surgery, there was an improvement in the uncorrected distance visual acuity(UDVA) from 0.2 to 0.5 on the decimal scale and in the corrected distance visual acuity(CDVA) from 0.4 to 0.8. The residual refractive error reduced from $-4-4 \times 40^\circ$ to $-1 \times 140^\circ$. Corneal topography significantly improved in keratometry and remained stable during the follow-up of 6 months. Additionally, corneal aberrometry data revealed a significant decrease. Conclusions : In case of ectatic cornea which performing refractive surgery is associated with a cost of further deterioration of biomechanical instability, using the combination of the RinGraft/ tPRK approach could enhance the final outcome in keratoconus patients.

Keywords : keratoconus, rinGraft, intrastromal corneal ring, tPRK

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