Case report

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Simultaneous transepithelial topographic-guided laser and cross-linking to correct irregular astigmatism in a pediatric patient

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Luca Buzzonetti, Gianni Petrocelli, Sergio Petroni, Paola Valente and Giancarlo Iarossi

Abstract

Purpose: To evaluate an original approach for treating corneal ectasia and irregular astigmatism secondary to penetrating trauma in a pediatric patient.

Case report: An 11 year old patient had a penetrating trauma in right eye when he was two and the refractive error was +1.50 diopters sphere −6.00 diopters cylinder axis 95°. To correct irregular astigmatism, the patient underwent simultaneous transepithelial topographic-guided laser Central Corneal Remodeling (CCR) and Corneal Cross-linking (CXL) in the attempt to regularize corneal ectasia and to improve the quality of vision. Uncorrected and Corrected Distance Visual Acuity were measured using Efficacy and Safety indexes; objective and subjective qualities of vision were evaluated using respectively corneal morphological irregularity index and National Eye Institute Visual Function questionnaires.

Conclusions: Twelve month follow up suggests that simultaneous CCR and CXL could be effective to improve the quality of vision and to halt the progression of post-traumatic ectasia in pediatric patients.

Keywords

Refractive surgery in children, anterior segment disease, corneal procedures for astigmatism, corneal topography/imaging systems, examination techniques

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