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Rigid gas permeable contact lens as a visual sparing tool in children after traumatic corneal laceration

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Introduction & Aim: Children after traumatic corneal lacerations, suffering from irregular corneal astigmatism, spectacle best-corrected (SVA) of less than 20/20 and unilateral amblyopia in children with BCVA less than 20/40. The purpose of this study was an objective evaluation of the clinical value of Rigid Gas Permeable Contact Lenses (RGPCLs) by investigating the cornea profile, optical defects and the simulated vision functions by using the Sirius topographer.

Methodology & Theoretical Orientation: A comparative study of visual acuity correction and improvement of visual disorders as corneal aberrations as (HOAs, LOAs, PSF and with and without RGPCLs fitting in 15 children with history corneal scars after trauma or irregular corneal incision after cataract extraction operation. We compared the UCVA, Spectacle (VA) and the BCVA post while fitting RGPCLs. We used the Sirius topographer (CSO) for evaluation of aberrometric corneal analysis pre- and while fitting RGPCLs.

Findings: Our study included fifteen children were fitting RGPCLs for 6 months under specific study wear regimen. Their age range was from 5-9 years with mean 7.2 ± 1.1 SD. There was a significant improvement in the best corrected visual acuity and keratometric astigmatism while wearing RGPCLs ($P=0.001$). There was also a significant improvement in corneal aberrations as; HOAs ($P=0.008$), LOAs, RMS & PSF ($P=0.001$).

Conclusion & Significance: The optical performance of RGP contact lens has been demonstrated to be an effective tool of visual rehabilitation in children with traumatic corneal lacerations. The corneal topography was an objective tool for detecting the optical disorders other than subjective tests of visual acuity assessment.

Biography

Dr. Rabab Mohamed Elseht, Assistant professor of ophthalmology, M.D ophthalmology, 2005", Tanta University, Egypt. The sub-specialty is pediatric ophthalmology, pediatric cataract surgery and orthoptic therapy" Faculty of medicine, Tanta University, Egypt". Assistant professor in ophthalmology department (10 august at 2011 till now), Tanta University Hospital, Egypt.

Instructor in: Special courses in pediatric cataract surgery at Tanta university conference at 2010. Ultrasound Bio-microscopy (UBM) courses at Tanta university 2011, 2013, 2015 and 2016. Principal investigator in a project for early diagnosis and treatment of congenital ocular anomalies. Visual screening programs of school children. Improving the techniques and the end result outcome of congenital & traumatic cataract surgery and amblyotherapy in children.

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