CROSSLINKING FOR KERATOCONUS AND OTHER CORNEAL DISEASES

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Actuality: Corneal collagen crosslinking with riboflavin and Ultraviolet-A is a technique of corneal tissue strengthening that combines the use of riboflavin as a photo sensitizer and UVA irradiation. The major indication for the use of CXL is to inhibit the progression of corneal ecstasies, such as keratoconus. Most recent studies demonstrate the beneficial impact of CXL for iatrogenic ecstasies, pellucid marginal degeneration, infectious keratitis, bullous keratopathy and ulcerative keratitis.
Purpose of the study: Assessing the effectiveness of Corneal collagen crosslinking in keratoconus and other corneal diseases.
Methods: Clinical prospective study, that included 281 eyes with moderate or advanced progressive keratoconus (K: 48 – 72 D) and 64 eyes with other corneal diseases: pellucid marginal degeneration, iatrogenic ecstasies, infectious keratitis, bullous keratopathy and ulcerative keratitis. CXL epi-on is performed without desepitalization of the cornea with balanced solution of riboflavin instilled for 20 minutes and UVA exposure (365 nm, 18mW/cm2) for 5 minutes. Postoperative examinations were carried over the course of 1 day,1 week, 1, 3 and 6 months, 1 year, including visual acuity, biomicroscopy, corneal topography, pachymetry, refractometry, keratometry.
Results: In all treated eyes, the progression of keratoconus and pellucid marginal degeneration was stopped. In eyes with bullous kerathopaty corneal thickness was reduced by 71.54±14.02 micron and visual acuity was significantly improved. In all cases with infectios melting keratitis the progression of corneal melting was halted.
Conclusions: Application for CXL is attractive in that it offers the potential to reduce the need for corneal transplantation in a condition other than keratoconus. It may also offer another means of controlling pain in patients with bullous keratopathy who are either unsuitable for or awaiting keratoplasty. The results follows that many corneal infections may be controlled with a single treatment.