

Editorial

Corneal Collagen Cross Linking - PLUS

The management of keratoconus and post – LASIK ectasia included until recently spectacle correction, Hard - Fitted Gas Permeable Contact Lenses, Intrastromal Corneal Ring Segments. All these interventions are purely symptomatic and their only aim is the improvement of visual function of patients, without interfering with the pathophysiology of the ectatic disorders. The only actual treatment for these entities, was either Lammellar or Penetrating Keratoplasty, especially in advanced cases. Even though, corneal keratoplasty offers the only treatment approach it demonstrates several disadvantages, such as slow visual rehabilitation and graft rejection, issues which interfere with patients quality of life both in the short and long term after surgery.

Corneal collagen cross linking (CXL) with the use of riboflavin and ultraviolet – A irradiation is a new innovative technique that can increase corneal resistance and rigidity (stiffening effect) [1,2]. This minimally invasive procedure can actually stabilize corneas with keratoconus or post – LASIK ectasia [3,4] delaying or in some cases even avoiding the need for keratoplasty. It actually modifies corneal stromal structures and increases corneal strength and rigidity by inducing collagen cross - links in the corneal stroma.

The main advantage and at the same time the goal of CXL is to inhibit the progression of the ectatic disease and to increase the biomechanical rigidity of the cornea. The stiffening effect produced causes a postoperative reduction of keratometry, changing the shape of the cornea. Even so, visual outcomes are remotely improved [5] and in some cases even after CXL patients cannot achieve a functional visual acuity.

In order to optimize the result of CXL, adjuvant therapies (such as INTACS or customized ablations) have been proposed to develop a technique which can treat keratoconic patients and offer them both stability and functional vision. Several studies have been published that combine CXL and refractive surgery [6,7] targeting to both stabilization and reshaping of the corneal tissue for visual function improvement. These combined methods could improve patients visual outcomes in addition to corneal stabilization (that can be named **CXL plus**).

We are experiencing a major change in ophthalmic practice and we are providing our patients further solutions while improving their quality of life. This is certainly a new era in treating corneal ectatic disorders that changes drastically gold standard treatments (PKP) that were unquestionable for over half a century. **CXL plus** is probably the way to the future, a conflated method which might represent an actual cure for all kinds of ectatic disorders of the cornea.

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