

Corneoplastics emerging as the newest frontier in corneal therapies

By Jorge L. Alió

Surgeons may be able to combine conductive keratoplasty or intracorneal segments with newer techniques such as UV collagen crosslinking.

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Emerging therapeutic corneal procedures such as ultraviolet collagen crosslinking are showing promise as possible adjunctive therapies to more familiar corneal shaping techniques such as conductive keratoplasty and intracorneal segments.

We have begun calling these procedures corneoplastics. Corneoplastics are a group of techniques, most of them coming from refractive corneal surgery, that try to modify the corneal shape with a therapeutic purpose, and they are quickly emerging as the next frontier in corneal therapies. We are creating a new environment for the treatment of diseases that were untreatable before.

Corneoplastic techniques allow surgeons to model the structure of the cornea without having to resort to invasive techniques such as penetrating keratoplasty or lamellar grafting.

We are in a moment in which corneoplastic techniques are modeling techniques that can be used in different ways in order to create better corneal optics, to create better corneal topography, to improve the optical performance of the cornea for refractive purposes. The first ophthalmologist to use the term corneoplastics was most likely Arun C. Gulani, MD, of Jacksonville, Fla. Now, this concept is spreading quickly, becoming a new subspecialty allied to refractive and corneal surgery.

Combining new and old techniques

Corneoplastic techniques can be broken down into biomechanical methods such as intracorneal segments or incisional techniques, elastic methods including ultraviolet collagen crosslinking and conductive keratoplasty (CK) and mixed methods such as excimer laser ablations or intracorneal lenses.

UV collagen crosslinking can be combined with CK for enhanced results. The ideal result of combining these procedures would be to marginalize procedures such as corneal grafts. The most desirable situation is to find an alternative to corneal grafting.

Obstacles to overcome

While these techniques are showing promise, there is much to be learned and modified.

The advent of these new corneoplastic and imaging techniques will hopefully give rise to many new therapeutic possibilities down the line. In my opinion we are combining these techniques, and we are beginning to understand much more what we can offer to our patients.

For more information:



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