Effect of topical anti-transforming growth factor-β on corneal stromal haze after photorefractive keratectomy in rabbits

J Cataract Refract Surg 1997;23:1324-30

Steven B. Thom, Jonathan S. Myers, Christopher J. Rapuano, Ralph C. Eagle Jr., Steven B. Siepser, José Alvaro Pereira Gomes

Purpose: To determine the relationship between anti-transforming growth factor-β (anti-TGF-β) antibodies and the amount of corneal stromal haze after excimer laser photorefractive keratectomy (PRK).

Setting: Wills Eye Hospital, Philadelphia, Pennsylvania, USA.

Methods: Nineteen rabbits had bilateral PRK. Dichlorotriazinyl fluorescein was used to stain the exposed stroma; all rabbits were then treated with antibiotic ointment for 4 days. Ten rabbits were randomized to treatment with topical anti-TGF-β1, -β2, and -β3 antibody 50 µg three times a day for 4 days; the others received diluent three times a day for 4 days. Stromal haze was graded weekly for 8 weeks on a 0 to 4+ scale. At the end of the study, all corneas were examined histopathologically.

Results: All treated eyes developed appreciable haze. Seven control rabbits and one antibody-treated rabbit had an epithelial erosion (P = .00001). Antibody-treated rabbits had significantly less, haze at 3, 4, and 5 weeks (right eyes) and 3, 4, 5, 7 and 8 weeks (left eyes) (P < .05). Histopathology and fluorescence microscopy showed subepithelial collagen deposition consistent with clinical haze.

Conclusions: Topical anti-TGF-β antibody reduced stromal haze after PRK in the rabbit model and may be clinically beneficial in humans.

Cataract formation after posterior chamber phakic intraocular lens implantation

J Cataract Refract Surg 1998;24:1661-3

Fernando Trindade, Frederico Pereira

Posterior chamber phakic intraocular lens (PCP IOL) implantation is an emerging refractive procedure. We report a case of cataract formation 6 months after uneventful implantation of a Staar PCP IOL to correct high myopia. Visual recovery was achieved after explantation of the phakic IOL and phacoemulsification with implantation of a foldable IOL through the same unenlarged self-sealing corneal incision.