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Titel des Beitrags: Effect of exogenous keratinocyte growth factor on corneal epithelial migration after photorefractive keratectomy.

Abstract: PURPOSE: To investigate the effect of topical keratinocyte growth factor (KGF) on wound healing after photorefractive keratectomy (PRK) and laser in situ keratomileusis (LASIK). SETTING: Department of Ophthalmology, Rayne Institute, St. Thomas' Hospital, London, United Kingdom, St. Erick's Eye Hospital, Stockholm, Sweden, and the University of Regensberg, Regensberg, Germany. METHODS: In a placebo-controlled trial, 24 New Zealand white female rabbits were divided into 3 equal groups. Group 1 (n=8) had myopic PRK (6.0 diopters [D]) using the Technolas 217z laser (Bausch & Lomb). Group 2 and Group 3 had myopic LASIK (6.0 D) with a flap depth of 140 microm and 180 microm, respectively. Topical KGF (20 microg/mL) was administered to half the treated eyes in each group intraoperatively and postoperatively; the other half received placebo eyedrops. Epithelial closure, corneal haze, and keratocyte activation in the rabbit eyes were analyzed and compared with those in placebo-controlled eyes for 5 weeks postoperatively. RESULTS: In Group 1, the mean reepithelialization after PRK was 0.10 mm2/h +/- 0.02 (SD) in the KGF group and 0.33 +/- 0.05 mm2/h in the control group (P=.001). There was no significant difference in the mean backscatter between the KGF eyes (154 +/- 45.95) and the control eyes (141 +/- 38.45) after PRK.
(P=.42). Histology revealed reduced epithelial cell layers in the KGF group and comparable keratocyte density as in the control group. In Groups 2 and 3, there was no significant difference in backscatter, epithelial layers, and keratocyte density between KGF and control eyes after LASIK.

CONCLUSIONS: Topical KGF (20 microg/mL) delayed reepithelialization after PRK. It had no effect on stromal wound healing in LASIK eyes with an intact epithelial barrier.