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| **Program#/Poster#:** | 4017/B473 |
| **Abstract Title:** | **Keratocyte Dynamics With Confocal Microscopy After Penetrating Keratoplasty** |
| **Presentation Start/End Time:** | Wednesday, May 03, 2006, 11:15 AM - 1:00 PM |
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| **Reviewing Code:** | 195 imaging methodology: in vivo and in vitro - AP |
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| **Keywords:** | 479 cornea: stroma and keratocytes, 460 clinical (human) or epidemiologic studies: systems/equipment/techniques, 587 microscopy: confocal/tunneling |

**Purpose:** To observe dynamic of keratocytes after penetrating keratoplasty (PK) by confocal microscopy.
**Methods:** A prospective, longitudinal, observational and descriptive study was made. Patients who underwent penetrating keratoplasty, no infeccion or inflammatory pathology were required. Donor corneas with cell count higher than 2,500 cells/mm2, without folds, or un-epithelialization, no more than 3 days of optisol preservation, were included. Postoperative evaluation with confocal microscopy (ConfoScan 3 Nidek tec.) was made during days 1, 15, 30, 60, 90 and 120. We observe cellular behavior in epithelium, stroma and endothelium. Presence of nerves were looked intentionally. Slit lamp examination were correlated with confocal findings
**Results:** Three cases were included. Complete re-epithelialization was present at day 15 in all cases, a lot of superficial epithelial cells were seen at day 30, elongated epithelial cells seen at day 60. Transitory scar tissue in the anterior stroma at first day. Microlacunae separate stromal collagen lamellae in stromal postsurgical edema was present at day 30 and continues during the follow up period. Increasing of number of keratocytes since the first days of postoperative period, more activated keratocytes between day 30 to day 60, hyporeflective stromal striae related with sutures were seen. Pleomorfism and polimegatism observed since the first day postoperative. No bright sub-basal nerve fibers were seen in any case. In average all cases had 560 µ of thickness with crystal cornea and edema was present by confocal.
**Conclusions:** Epithelialization depends on many factors not only reinnervation, keratocyte density is increased after PK, but activation is not intense.

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-- Indicates International Multi-Country Collaboration