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Service (sector) Cornea and External Disease N° CEP

### **Outcome of repeated penetrating keratoplasty: A five year study**

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**Purpose:** To evaluate primary indications for and success of penetrating keratoplasty in patients with multiple corneal transplantations. **Design:** Retrospective, no comparative case series. **Methods:** Charts of patients who underwent a second or more corneal transplantation between January 1, 1995 and December 31, 1999, were reviewed. Patients with a follow-up period of less than 6 months were excluded unless a failure or rejection episode was noted. **Main outcome measures:** Clarity of corneal graft, intraocular pressure and visual acuity. **Results:** Repeated penetrating keratoplasty represents 6,9% of keratoplasties performed between 1995 and 1999 in our center. 40 patients were included with 4 of them being submitted to more than one re-graft during the study. Initial indications for grafting were keratoconus, infectious keratitis and corneal scars secondary to trauma and infections. Indications of re-grafting include primary failure in 16 cases (36,4%), followed by immune rejection and secondary failure in 13 cases each one (29,5%). At the end of follow-up period, 54% of transplanted cornea remained clear, but only 6% were with visual acuity better than 20/40. In relation to the number of grafts, 63% of those with a second keratoplasty were clear at first year decreasing to 35% at second and 10% at third. After the third graft 62% of the third graft was clear at one year but none at the second. Those with a fourth transplant only remained clear for near 8 months. Failures were due to immune rejections in 47.6% of cases followed by glaucoma with 28.9%. **Conclusions:** Success of repeated penetrating keratoplasty decreased with time and number of previous graftings. Immune rejection represents the major cause of failure.