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PIBIC Last Name - Mascaro First Name - Vera Middle - Lucia D. M.

Service (sector) Cornea and External DiseaseN° CEP

**The results of penetrating keratoplasty for keratoconus: Is there any predictor of graft success?**

Authors: Mascaro VLDM, Scarpi M, Sousa

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**Purpose:** This study was designed to identify factors that could influence the success of penetrating keratoplasty performed for keratoconus as the donor age, the experience of the surgeon, the surgery characteristics and follow-up.

**Methods:** Seventy patients with penetrating keratoplasty (PK) for keratoconus, performed in the Cornea and External Diseases Service - UNIFESP and in the private service of two surgeons, were examined and their charts were reviewed retrospectively for long-term results after all sutures had been removed (graft clarity, refraction error, visual acuity, complications). The patients were divided into two groups: group I was performed by skillful surgeons and group II by surgeons in training. The results were compared. **Results:** The mean follow-up was 7, 9 years with a range of 1, 6 - 20 years. There were 35 females and 35 males. The mean age at corneal transplantation was  $29, 3 \pm 10, 4$  years in the group I and  $27, 2 \pm 11, 5$  years in the group II. Each group was formed by 35 eyes. The donor age was different between the two groups, but no relationship was found with graft clarity. The type of the suture was the same and the number of sutures was different, but none have influenced in the final results of refraction and visual acuity. The preoperative mean log MAR visual acuity was low in the two groups ( $1, 25 \pm 0, 37$  and  $1, 63 \pm 0, 25$  in groups I and II respectively), but with statistic difference. At the time of exam, 77, 1 % of eyes achieved 0, 30 log MAR (20/40) or better in group I and 74, 3% in group II. The log MAR visual acuity improved in the postoperative period (mean  $0, 24 \pm 0, 31$  and  $0, 35 \pm 0, 52$  in groups I and II respectively) without statistic difference. Mean spherical equivalent values of the refractive error was  $-3,22 \pm 3,70$  for group I and  $-4,38 \pm 6,22$  for group II without statistic difference ( $p= 0,826$ ). The main complication observed was rejection reaction (41, 4%). Endothelial rejection was more frequent in group II. Only three grafts lost clarity, two after rejection and one after primary failure. Those patients belong to group II.

**Conclusion:** The visual results after PK for keratoconus, were similar in a corneal training service to those performed by expert surgeons, although the patients were presented more advanced disease and the surgeons performed the PK were in training. No significant predictors of post graft visual acuity and refraction were found.