

The influence of donor and recipient factors in Allograft Rejection of the Human Cornea

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摘要

Abstract

The health of the corneal endothelium is essential in maintaining the clarity of the transplanted human cornea. Immune-mediated endothelial rejection is a complex series of events, which may culminate in the decompensation of the donor button. It is the commonest instigator of failure in penetrating corneal transplantation.

Methods This retrospective case note review of 203 penetrating keratoplasties with adequate follow-up data during a 5-year study period from 1 January 2000 to 31 December 2003 at Manchester Royal Eye Hospital, were used for analysis.

Results Forty-three of the 203 donor grafts underwent at least one single episode of immune-mediated endothelial rejection, an incidence of 21% over a 5-year follow-up. Recipient's age was inversely associated with the risk of rejection. The average age for the cohort of 58.7 years and average age for rejecting patients of 47.6 years were strongly significantly different ($P=0.009$). Rejection in keratoconic patients accounted for 30% of cases. Death to enucleation time ($P=0.03$) was also associated with an increased risk of rejection.

Conclusion Although penetrating keratoplasty is an effective long-term treatment option for improving visual function, the endothelial rejection rate in our study was 21% over a mean follow-up of over 5 years. Host vascularisation, regrafts, younger recipient age group, and donor factors were found to be significantly associated with a risk of rejection. Rejection in keratoconic recipients was more common than expected.