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Microbial Keratitis After Penetrating and Endothelial Keratoplasty

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SI/CTR Abstract

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Microbial Keratitis After Penetrating and Endothelial Keratoplasty

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Introduction: The purpose of this study is to review the incidence, risk factors, and outcomes of bacterial and fungal keratitis after penetrating keratoplasty (PK) and endothelial keratoplasty (EK).

Methods: The medical records at Wills Eye Hospital were reviewed for all cases of confirmed microbial keratitis following PK or EK performed between May 1, 2007 and September 1, 2018. Charts were examined to obtain demographic information, past ocular history, details of the microbial keratitis, and graft outcomes.

Results: A total of 2100 transplants (1269 PK and 831 EK) were performed in 1864 eyes of 1601 patients. The incidence of microbial keratitis after PK (7.5%) was significantly higher than after EK (1.3%) ($p < 0.05$). The rate of infection in eyes with two or more prior transplants (9.3%) was significantly higher than in eyes with one prior transplant (3.1%) ($p < 0.05$). Infections were due largely to gram positive bacteria (49.0%), followed by gram negative bacteria (26.5%) and fungus (10.2%). Most grafts failed after infectious keratitis (81.6%).

Discussion: ; Microbial keratitis is a relatively common occurrence in patients with prior keratoplasty, and particularly in eyes with prior PK or multiple prior transplants. Infection is an important cause of graft failure and further surgical intervention. To the best of our knowledge, this is the largest review of microbial keratitis in cases of prior PK, and the only review in eyes with prior EK.