

Fibrin sealant in corneal stem cell transplantation.

Authors: Pfister RR, Sommers CI

Publication Date: 2005

Abstract:

PURPOSE: To determine if transplanted corneal epithelial stem cells are safely and efficiently attached to the deficient limbal niche with use of fibrin sealant. The primary outcome is measured with respect to the stability of the transplant, with secondary qualitative evaluations of inflammation, patient comfort, speed of operation, and incidence of complications.

METHODS: This retrospective case study examined a total of 114 corneal stem cell reconstructions performed in 95 patients from 1996 to 2004 using corneal stem cells primarily, with a minority of amnion alone, or both. Fibrin sealant was used as the only technique of stem cell adhesion for limbal reconstruction for primary or recurrent pterygia and various stem cell-deficient diseases from 2000 to 2004.

RESULTS: The fibrin sealant group showed 1 small recurrence of pterygium but no complications. With sutures, there were 3 recurrences in the pterygia group. After completion of all surgical procedures, all patients were free of pterygia. Miscellaneous stem cell deficiencies were included to demonstrate that corneal stem cell transplants can be used in other corneal procedures in addition to pterygia.

CONCLUSIONS: Fibrin sealant alone effectively and safely attached corneal stem cell transplants to the limbal niche. The additional qualitative observations of a reduction in operation time, postoperative pain, and inflammation augurs for more extensive use of fibrin sealants in

ophthalmology.