Author(s)

Principal: Changwon Kee
Presenting: Changwon Kee, M.D.
Contributing: J. Hwang M.D.

Abstract Title:

Injection of Cultured Autologous Fibroblasts into the Subconjunctival Space of Rabbits Treated with Mitomycin C

Purpose:
To investigate whether cultured autologous fibroblasts injected into the subconjunctival space of rabbit may be used as a new treatment modality for conjunctival and subconjunctival atrophy caused by mitomycin C (MMC).

Design:
Experimental study

Main Outcome Measures:
Morphological and histological observation

Methods:
Thirty New Zealand white rabbits were divided into three groups of 10 animals. Similar situation to bleb leakage after trabeculectomy with MMC was prepared by injecting 0.1 cc of 0.05% MMC weekly for 3 weeks into the subconjunctival space of 30 eyes of these 30 rabbits. The animals were then divided into control, autologous blood injection, and cultured autologous fibroblast injection groups. Conjunctiva changes were then observed, and eyes were enucleated for histopathologic study at 1, 2, 4, 6, and 8 postoperative weeks in each of the 3 groups.

Results:
In control group, the conjunctiva was thin and transparent, and subconjunctival fibroblasts were hardly visible with coarsely arranged collagen fibers. In contrast, the autologous fibroblast injection group

showed a thickened and less transparent conjunctiva along with packed fibroblasts and collagen fibers. In the autologous blood injection group, the transparency of the conjunctiva and the density of fibroblast and collagen fiber arrangement lay between those of the control and autologous fibroblast injection groups.

Conclusion:
Cultured autologous fibroblast injection may be a feasible and effective treatment modality in intractable bleb leakage after trabeculectomy with MMC.