

عنوان مقاله:

Electron microscopic comparison of corneal epithelial graft by two methods: removed mechanically and after alcohol application

محل انتشار:

نوزدهمین همایش سالانه و دومین همایش بین المللی آسیب شناسی و طب آزمایشگاه (سال: 1396)

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خلاصه مقاله:

Corneal epithelial flap used for some patients with corneal opacity. Two methods are recommended: in the first method, it is removed mechanically and in the second method epithelial corneal flap is removed after application of ethanol. The purpose of this study is to evaluate the corneal specimen of both groups by toluidine blue taining and by electron microscopic study for any microscopic or ultrastructural change. Methods In twenty eyes, the epithelial corneal flaps were removed after ethanol application and in nineteen eyes were removed mechanically. The specimens were fixed in glutaraldehyde 3% and embedded in resin blocks and processed for electron microscopy. One micron thickness sections were stained with toluidine blue and evaluated under a light microscope. 90-Nanometer thickness sections were put on copper grids and stained with uranium acetate and lead citrate and studied under electron microscopy. Results In the epithelial corneal flap which was removed after alcohol application, the cytoplasm of the cells shows marked dilatation of endoplasmic reticulum, cell membrane blebs, and separation of the hemidesmosomes of adjacent epithelial cells with the depth of about one-third of the length of the cells. The epithelial corneal flap which removed mechanically, tearing of hemidesmosomes between two adjacent epithelial cells were more severe with the extension of more than half of the cell length. In both groups the basement membrane under epithelial cells was intact. Conclusion Electron microscopic changes including tearing of hemidesmosome, dilatation of endoplasmic reticulum and cell membrane blebs in the mechanically removed epithelial corneal flap are more severe than in the group with alcohol application before epithelial corneal flap.

کلمات کلیدی:

Microscopy, Electron; Corneal Transplantation; Hemidesmosomes

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