Variations of the Normal Human Limbal Stem Cells Detected by In Vivo Confocal Microscopy

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Background

To report normal variations of the limbal structures using in vivo laser scanning confocal microscopy.

Methods:

This was a retrospective study of fourteen eyes from 11 healthy individuals. Confocal imaging of cornea and limbus was performed using Heidelberg Retina Tomograph III Rostock Corneal Module.

Results:

The typical structure of the palisades of Vogt (POV) was detected in 57% of eyes (8 cases). Four structures and patterns in the normal limbus were detected and three had not been reported previously. Whorl-like distribution of limbal epithelial cells was present in two eyes. Mixed corneal and conjunctival epithelial cells in a mosaic pattern were detected at the posterior limbus in two eyes. A large number of bright dots in the wing cell and the basal layers were present in five eyes. The forth structure, "limbal lacuna" which was detected in two of our subjects consisted of deep stromal lacuna filled with normal limbal epithelial cells.

Conclusions:

There are microstructural variants in the normal limbus. Absence of the POV does not necessary indicate limbal stem cell deficiency.

Keywords: in vivo confocal microscopy; limbus, cornea; palisades of Vogt.

Poster Presentation

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