



Consider evaluation of corneal endothelial cell count in pseudoexfoliation patients undergoing surgery

The Science behind the Tip

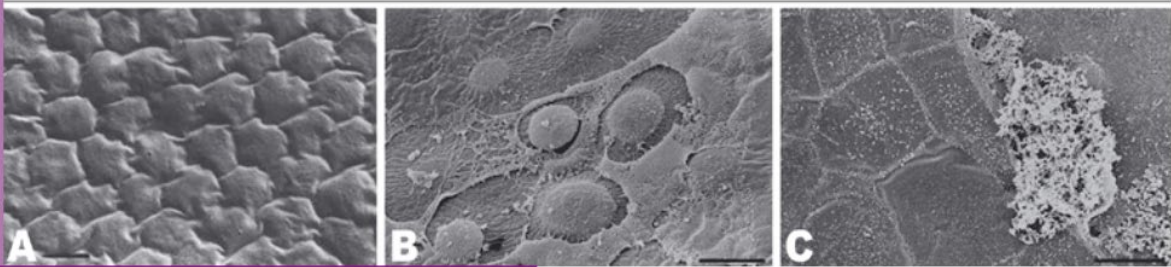
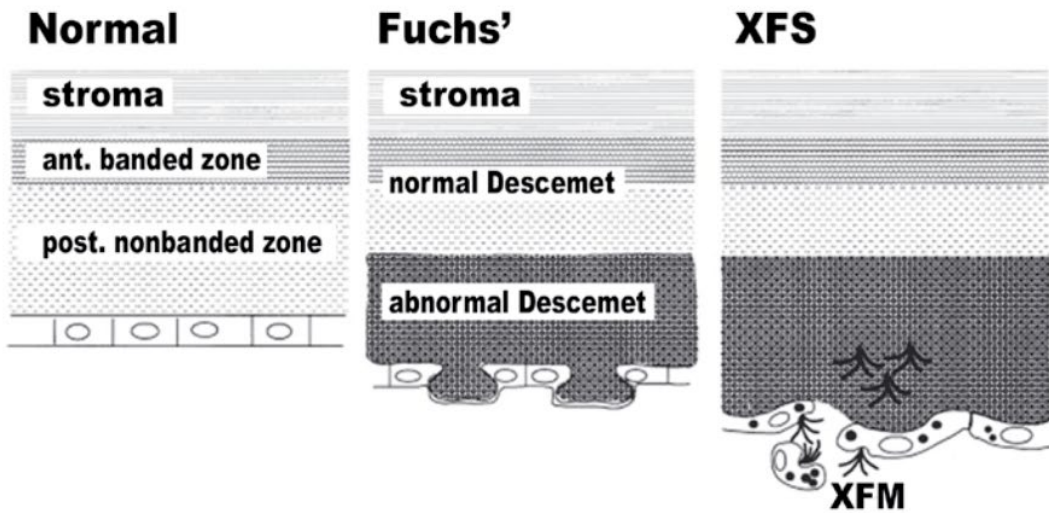
Corneal endothelial cell loss may lead to corneal decompensation with loss of vision, which may necessitate future endothelial transplantation for the rehabilitation of vision. Numerous etiologies relevant to glaucoma are associated with reduced endothelial cell density, including pseudoexfoliation, Fuchs' endothelial corneal dystrophy, surgical trauma, iridocorneal endothelial syndromes and chronic uveitis.

In pseudoexfoliation patients, endothelial cell counts are shown to be lower than in primary open angle glaucoma (1,2). The preoperative evaluation of the corneal endothelium in pseudoexfoliation patients may be relevant in assessing the impact of surgical interventions. A corneal endothelial cell count below 1200 cells/mm² may lead to postoperative edema and corneal decompensation. This is particularly important in glaucoma tube implant surgery, which can lead to increased endothelial cell loss and corneal decompensation.

References

- 1) Sarowa S, Manohar J, Jain K, Singhal Y, Devathia D. Qualitative and quantitative changes of corneal endothelial cells and central corneal thickness in pseudoexfoliation syndrome and pseudoexfoliation glaucoma. *Int J Med Sci Public Heal.* 2016;5(12):1.
- 2) Kocabeyoglu S, Mocan MC, Irkec M, Karakaya J. In Vivo Confocal Microscopic Evaluation of Corneas in Patients With Exfoliation Syndrome. *J Glaucoma.* 2016;25(2):193–197.

Figure 3



Schematic representation of the electron microscopic differential diagnosis between Fuchs' corneal dystrophy and exfoliation keratopathy as compared with normal posterior cornea. The corresponding scanning electron micrographs of the posterior corneal surface show typical guttata formations of Descemet's membrane in Fuchs' dystrophy (B) and a clump of exfoliation material in association with a defect in the endothelial layer in exfoliation keratopathy (C) as compared with the regular corneal endothelium of a normal control specimen (A) (DM Descemet's membrane; EN endothelium; bar = 10 μ m). (Reproduced from Naumann & Schlötzer-Schrehardt, 20003, with permission).