Involvement in dry eye is deeper than we think

Dry eye is a very common condition with over 5-30% of the elderly suffering from this disease. In dry eye, which is due to decreased production and/or increased evaporation of the tear, patients may have a multitude of complaints including gritty or sandy sensation, burning, redness, discharge, heavy eyelids, and blurred vision. Dry eye is known to be associated with involvement of superficial layers of the cornea, which is the transparent tissue located in front part of the eye. In this study, we showed that the deepest layer of the cornea, so-called endothelium, is also affected in dry eye. The corneal endothelium plays an important role in keeping the cornea transparent. Involvement of this layer makes the cornea prone to become cloudy, especially after eye surgery such as cataract surgery, resulting in reduced vision. In this study, we measured the density of corneal endothelium in 45 patients with moderate-to-severe dry eye and 15 healthy individuals of the same age. It was noted that the density of corneal endothelium was about 8% lower in the dry eye group. In addition, patients with more severe dry eye showed more reduction in density of the corneal endothelium. The reasons for such involvement of corneal endothelium in dry eye remain to be elucidated.

***Reza Dana**, MD, MPH, MSc and **Ahmad Kheirkhah**, MD.*
Massachusetts Eye and Ear Infirmary, Department of Ophthalmology
Harvard Medical School
Boston, USA

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