Early donor (graft) corneal ectasia developed after penetrating keratoplasty in a patient with advanced keratoconus

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Introduction: Corneal hydrops is a condition that causes corneal Descemet's membrane rupture and corneal edema. Surgical treatment is available in patients who do not benefit from medical and contact lens treatment.

Aim: Our aim is to present the donor corneal ectasia (CE) after penetrating keratoplasty (PK) applied in the right eye with clinical findings and imaging methods in bilateral corneal hydrops.

Case: We present a case of a patient who came to our clinic accusing severe decrease in visual acuity. The patient's visual acuity were right eye hand motion and left eye 30 cm finger count. The biomicroscopic examination included the right eye mature cataract, corneal hydrops, left eye mature cataract, and corneal hydrops sequelae. The patient's anterior segment optic coherence tomography (AS-OCT) was documented. Extracapsular cataract extraction combined with PK and intraocular lens (IOL) implantation were planned and applied to the right eye of the patient. On postoperative day 1, the patient's right eye visual acuity 1 m finger count, slit lamp examination of the patient's graft mild edema, corneal sutures intact, anterior chamber forme, IOL centralized. The patient's AS-OCT was documented. At 1 month follow-up, right eye visual acuity was hand motion. Slit lamp examination of the patient's cornea graft edema and corneal ectasia and thinning in superior region. The patient's AS-OCT, front segment photographs were documented.

Conclusion: Ectasia in the graft in the early period after penetrating keratoplasty is rarely seen. Studies have shown that allograft reactions after penetration keratoplasty in eyes with and without corneal hydrops are more common in hydropsic eyes and it is predicted that the intraocular inflammation is more prevalent in cases with corneal hydrops. The cause of early donor corneal ectasia, which occurs early in our case, may be this intraocular inflammation.

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