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CORRESPONDENCE

Early-onset severe donor-related *Candida* keratitis after Descemet stripping automated endothelial keratoplasty

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Donor-related keratitis is a rare complication in cornea transplantation. Only a few cases of *Candida* keratitis after Descemet stripping automated endothelial keratoplasty (DSAEK) have been reported, with varying onsets and outcomes.[1–3] We report a case of early-onset severe *Candida albicans* interface keratitis and endophthalmilitis after DSAEK.

A 45-year-old woman had bilateral corneal edema and a cataract with 20/200 vision in her right eye. She underwent uneventful DSAEK, phacoemulsification, and implantation of a posterior intraocular lens in her right eye. Infiltrates at the lenticular edge and a strong anterior chamber reaction were observed on postoperative Day 1. Anterior chamber paracentesis for cultures and an intracameral injection of 0.1 mL of 0.5% moxifloxacin were performed. Infiltrates developed at the graft–host interface on Day 3 (Fig. 1A). Cultures from the donor corneal rim and paracentesis both yielded *C. albicans* (+2). Topical voriconazole (1%) hourly and systemic fluconazole (400 mg daily) were administered on Day 3. Removal of the donor lenticule, anterior chamber irrigation with 0.2% fluconazole, and intravitreal injection of voriconazole (100 μg) were carried out on Day 4. Histological examination of the lenticule revealed fungal spores in the stroma near the interface and Descemet's membrane (Fig. 1B). The corneal infiltrates continued to worsen and multiple stromal abscesses developed (Fig. 1C). Because of corneal perforation and endophthalmitis, emergency therapeutic penetrating keratoplasty (PKP) with an anterior lamellar graft and pars plana vitrectomy (PPV) were performed on Day 8. Candidiasis was then under control and the inflammation subsided. The anterior lamellar graft was clear enough to perform a PPV and to monitor the anterior chamber infection in a short period of time. Histological examination of the patient's cornea revealed multiple microabscesses with numerous yeasts at the posterior of the stroma (Fig. 1D and E). A regraft was performed on Day 20. She developed secondary glaucoma with 360° peripheral anterior synechia and an Ahmed valve was implanted 3 months later (Fig. 1F). Five months after regrafting, the corneal graft was clear and the patient had 20/100 vision.

Despite an early diagnosis of candidiasis and prompt treatment with intraocular and systemic antifungal agents, our patient still developed corneal perforation and endophthalmitis. Corneal interface infiltrates appeared earlier and were more severe than in previously reported cases, possibly because of a greater amount of *Candida* in our donor corneal button. When a corneal button is

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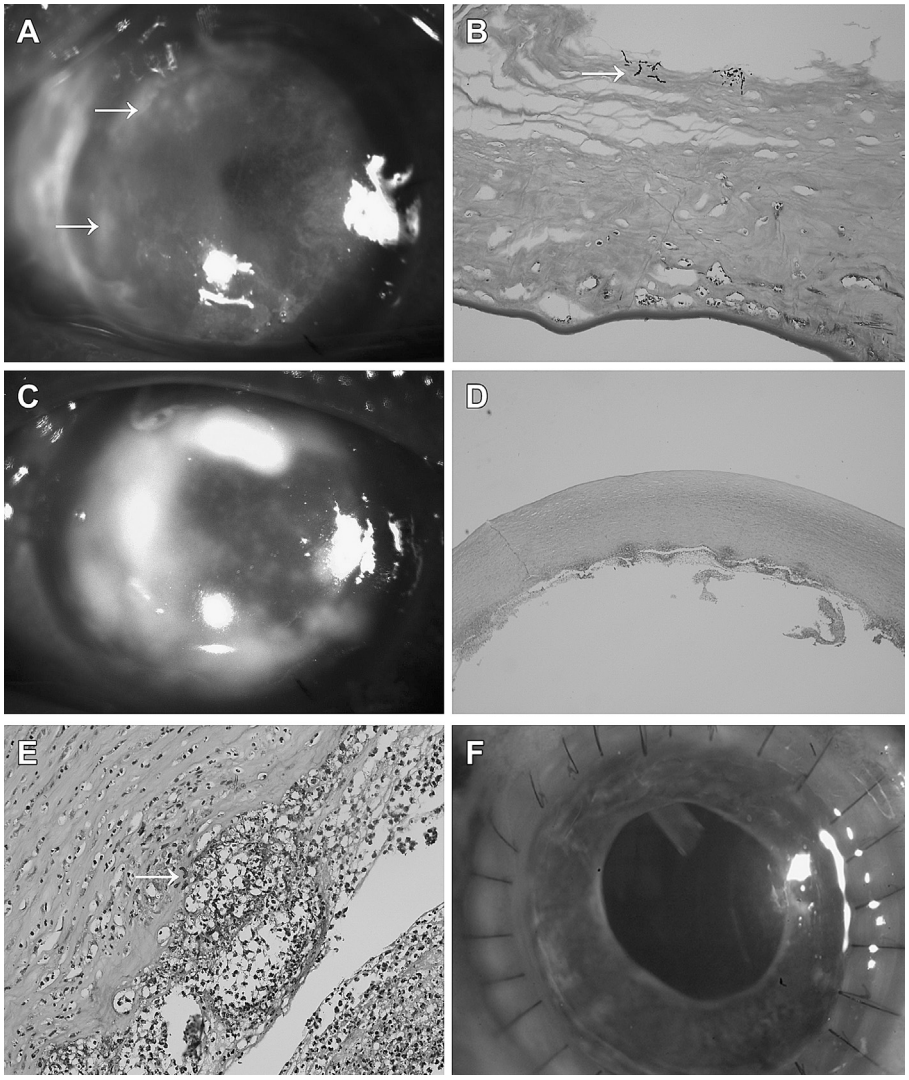

Figure 1 (A) On Day 3 after the DSAEK procedure, corneal infiltrates appeared at the graft—stromal interface, especially at the lenticular edge (arrow). (B) Histology of the lenticule showed numerous fungal spores and pseudohyphae (arrow) in the stroma near the graft—host interface and focal necrosis in the deep stroma near Descemet's membrane (original magnification 200×). (C) On Day 6, infiltrates became denser with multiple stromal abscesses in the recipient cornea. (D) The patient's cornea revealed numerous neutrophil infiltrates in all layers of the cornea and multiple microabscesses in the deep stroma (original magnification 40×). (E) A few yeasts and pseudohyphae (arrow) were found in microabscesses, along with dense neutrophil infiltrates (original magnification 400×). (F) Three months after regraft transplantation, the tube of an Ahmed valve was placed behind the iris and the graft remained clear.

unavailable for an emergency therapeutic PKP, an anterior lamellar graft can be used temporarily to help control infection. A regraft can then be delayed until the infection is controlled.

Endophthalmitis occurs more often in recipients of culture-positive donor corneas, especially with fungus.[4] In our patient, the donor corneal button was stored in hypothermic storage without an antifungal agent, which may have increased the risk of *Candida* contamination. Addition of voriconazole to the corneal storage medium has been suggested for prevention of donor-related fungal infection.[5]

Donor-related *Candida* infection can cause severe interface keratitis and endophthalmitis after DSAEK. The intraocular location of the infected graft makes diagnosis and treatment difficult and may require surgical intervention with PKP and PPV if medical therapy fails.

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