

Application of photoactivated chromophore for infectious keratitis-corneal collagen crosslinking for fungal phaco-tunnel infection

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Key words: Cataract, corneal crosslinking, fungal Infection, phacoemulsification

A 60-year-old female presented with progressive pain, redness and watering 7 weeks following uneventful cataract surgery. She was diagnosed elsewhere as endophthalmitis 5 weeks ago and was administered 2 intravitreal injections of vancomycin 1 mg/0.1 ml and ceftazidime 2.25 mg/0.1 ml at weekly intervals. She was also receiving topical antifungal treatment at presentation which had been started presumptively.

Ocular examination revealed dense dry looking, raised, corneal infiltrates measuring 3.5×3 mm at the site of the main port [Fig. 1a]. Although possible fungal pathology was considered, repeated corneal scrapings were negative. 2 weeks following maximal medical intervention, no clinical response was noted. A diagnostic aqueous tap was positive for panfungal genome on polymerase chain reaction. A 'targeted' antifungal therapy in the form of repeated intracameral and intrastromal injections of amphotericin B (10 micrograms/0.1 ml) as well as voriconazole (50 micrograms/0.1 ml) was administered every 72 hours over the next 2 weeks. However, the phaco-tunnel infiltrates failed to resolve [Fig. 1b]. We then subjected the eye to 'eccentric' PACK-CXL (Photoactivated Chromophore For Infectious Keratitis-Corneal Collagen Crosslinking) using the standard Dresden protocol. Under topical anaesthesia, a localized area of epithelium measuring 7 mm was debrided. The cornea was soaked with 0.1% riboflavin dye (isotonic) with 20% dextran (Collagex dye, Lightmed Corporation, California, USA) every 5 minutes, for 30 minutes, and then irradiated for 30 minutes by UV-A light (370 nm wavelength; irradiance of 3 mW/cm^2) (Vega-CBM X-Linker, Italy).

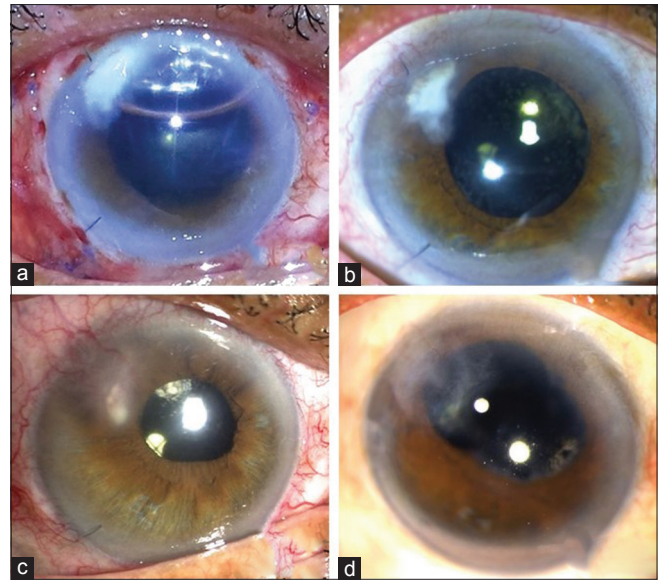


Figure 1: (a) Anterior segment photograph showing the presence of dense stromal infiltrates (3×3.5 mm) with feathery margins; (b) Stromal infiltrates with irregular borders after repeated intracameral and intrastromal injections of amphotericin B (10 micrograms/0.1 ml) as well as voriconazole (50 micrograms/0.1 ml); (c) Remarkable resolution of the fungal recalcitrant deep infiltrates 3 weeks after PACK-CXL; vascularization from the periphery can be seen; (d) Anterior segment photograph at 1 year showing healed corneal opacity with localised deep vascularization

One week following the procedure, the patient reported complete relief from symptoms. Progressive improvement was noted over the next 3 weeks, at which point there was complete resolution of the phaco-tunnel infiltrates and all treatment was stopped [Fig. 1c]. There was no recurrence of infection or inflammation of the eye at the last follow-up at 1 year [Fig. 1d].

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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