The effects of Prokera cytopreserved amniotic membrane in a patient with non-healing infectious keratitis

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Abstract: A patient with history of herpes simplex keratitis presents with infectious keratitis. After weeks of treatment, the epithelial defect remains unhealed. Use of Prokera promotes healing of the cornea and resolution of keratitis.

I. Case History: A 52-year-old white female presented to clinic complaining of pain and light sensitivity in her left eye. She had a ocular history positive for dry eye syndrome, early cataracts OU, previous contact lens wear, and Herpes Simplex keratitis in the left eye. Her medications included Allegra 180mg QD, Valtrex 1500mg per day, Zirgan 0.15% ophthalmic gel QID OS, and Pred Forte 1% ophthalmic suspension TID OS. The patient's allergies to medications included viroptic and tetracycline.

II. Pertinent findings: At this visit, the patient's distance visual acuity was 20/20 OD and 20/200 OS. Slit lamp evaluation of the left eye revealed 3+ bulbar conjunctival injection, a 4mm x 3.5mm corneal infiltrate with overlying epithelial defect with adjacent scar and corneal haze temporal. There was also 3+ cell and flare in the anterior chamber OS. Right eye findings were unremarkable. Lab cultures of the ulcer from initial visit revealed "gram positive streptococci with no signs of fungal growth" OS.

III. Differential diagnosis: The primary differential diagnosis was a large central corneal bacterial ulcer OS. Other differentials included: a corneal abrasion, fungal keratitis, HSV keratitis, or a sterile infiltrate.

IV. Diagnosis and discussion: Previously this patient had been treated for HSV keratitis OS, which was stable, and she was taking a maintenance dose of Valtrex and Zirgan. The new presentation was unique to previous findings and had characteristics of a bacterial ulcer. In this patient it is reasonable to suspect that the cornea failed to heal properly in part due to neurotrophic damage secondary to previous HSV episodes.

For large bacterial ulcers, appropriate treatment includes broad spectrum fortified topical antibiotics, commercially available topical antibiotics and cycloplegics.

V. Treatment management: Initial treatment for this patient included Besivance 0.6% ophthalmic suspension every hour, Polytrim ophthalmic solution QID, Polysporin ophthalmic ointment at bedtime, Zirgan 0.15% ophthalmic gel TID, Valtrex 500mg TID PO and the Pred Forte was stopped. Anterior segment photos were taken and corneal cultures obtained OS. After the culture results returned, the patient switched Polytrim for fortified vancomycin, which was alternated with Besivance every hour. Other medications remained unchanged. A month after initial presentation and treatment, the patient still had a large epithelial defect present. At that time a Prokera lens was placed in the patient’s left eye while continuing vancomycin TID, Pred Forte TID and Valtrex 500mg BID PO. After 3 weeks with the Prokera lens, the epithelial defect was resolved with a large stromal scar remaining.

Prokera is a cytopreserved amniotic membrane of 16mm in diameter that has unique anti-
inflammatory properties and promotes healing of the epithelium while reducing scarring. It has been shown to be effective in the treatment of infectious keratitis, recurrent epithelial erosions, filamentary keratitis and neurotrophic ulcers, among other corneal diseases.

VI. Conclusion: In patients with complicated corneal disease, the Prokera lens offers a new and unique treatment option. The amniotic membrane has specific properties that promote healing, reduce inflammation, and reduce scarring.