Back to Basics: Non-Surgical Therapies for Recurrent Corneal Erosions
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One of the most common complications of corneal dystrophies is recurrent corneal erosions (RCE). Although surgical procedures may become necessary for recalcitrant cases, there are a variety of non-surgical therapies available at our disposal.

- **Lubrication and Hyperosmotics**: The prophylactic regimen of lubrication and hyperosmotic agents (5 percent sodium chloride ointment) at bedtime can be used for patients with an intact cornea. Lubrication protects the epithelium from the shearing effect of the eyelids upon awakening, while reducing nocturnal edema can promote epithelial adherence.\(^1\,^2\) This conservative management has been shown to be successful; however, patients with anterior basement membrane dystrophy are more likely to fail with prophylaxis than patients with RCE from trauma.\(^3\)

- **Bandage Contact Lenses**: Bandage lenses protect the cornea from friction by the eyelid during blinking. In the case of acute erosions, they offer immediate pain relief. When using bandage lenses for extended wear, a minimum of 6 weeks is recommended to allow for re-adhesion of the epithelium to the basement membrane.\(^3\,^4\)

- **Anti-inflammatories**: Patients with RCE have been shown to have increased levels of matrix metalloproteinase-9 (MMP-9), which functions to degrade the epithelial basement membrane and anchoring fibrils.\(^1\,^2\,^5\) Concomitant dry eye or Meibomian gland dysfunction promote the release of bacterial lipases, interleukins, and other inflammatory mediators which further inhibit epithelial healing.\(^1\,^2\) In addition to its anti-inflammatory properties, oral doxycycline has been shown to inhibit MMP-9. The combination of 50 mg doxycycline twice daily for two months, and a topical corticosteroid three times daily for three weeks has been successful at providing both resolution and prevention of recurrences of RCE.\(^5\) Topical cyclosporine A 0.05 percent (Restasis, Allergan) does not target MMPs, but can be useful in reducing the inflammatory state of the eye in patients with dry eyes.

- **Autologous Serum**: Made from the patient’s own blood sample, this topical preparation provides the eye with nutrients including fibronectin and vitamin A, which promote epithelial wound healing.\(^6\) For patients who fail with more conservative management, studies show good long term prevention of recurrences.\(^5\,^7\)

References:

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