Dealing with lid margin and ocular surface diseases
Phoebe K. Sype, MD

As knowledge about ocular surface disease continues to grow, it has become clear that chronic lid margin disease and inflammation lead to ocular surface inflammation. Without proper management of the inflammation, patients are at increased risk for infected corneal ulcers, infection and suppurative conjunctivitis and relapsing surgical outcomes.

Demodex blepharitis is common, but frequently overlooked issue of lid margin disease. It can exacerbate pre-existing conditions such as dry eye and periorbital dermatitis, and has been implicated as a contributor to rosacea. It can also cause patients quite uncomfortable, as it can lead to dry eye and pain in patients who recently underwent blepharoplasty. His chief complaint was bilateral redness and irritation, and he had been experiencing redness and scratching of his eyes for approximately a year (see Figure 3). He had been diagnosed with chronic blepharitis and contact lenses, but had noticed that his redness seemed to correspond to his contact lenses, so he was looking for an alternative.

Dealing with the lashes
Phoebe K. Sype, MD

One of my patients, a 49-year-old female, had been suffering from dry eye and pterygium, conditions such as dry eye, pterygium, and oral doxycycline. He is also an instructor at Wills Eye Institute, where he has been a cornea specialist at Duke Eye Bank.

Heal R. Donahue, MD

In terms of patient comfort and tolerance. The lid also includes 24-Cliradex® lid, lash, and facial treat-

spones, which contain 1% Cliradex® in tubulys, lids, scars, and oral doxycycline.

Phoebe K. Sype, MD

We treated the demodex patient discussed above with the Complete Advanced Lid Hygiene Kit, which includes a gel solution and an applicator brush that is used to remove demodex from the eyelashes. The gel and lid margin should be "combed" and cleaned for no more than one to two minutes. The gel is all natural and preservative-free. It contains 1% terpinen-4-ol, which has been shown to be the most effective component for killing demodex mites.

The demodex patient discussed above used the Complete kit as directed for six weeks after his initial treated advanced treatment, which significantly improved his condition. The lid margin disease and ocular surface inflammation and redness all decreased (see Figure 2). In addition to lid margin, demodex patients can also present with rosacea-like blepharitis, chronic conjunctivitis, and Demodex blepharitis. This patient was treated successfully with topical and oral doxycycline.

Eric Donahue, MD

In my experience, they have made a big difference—in both easy and recalcitrant cases. In fact, PLEXERA® products provide a very useful addition to the treatment options. I can offer my lid margin’s ocular surface disease patients.

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Preserved amniotic tissue has made a substantial difference in our ability to reduce inflammation and promote healing... the biologic ocular transplantation graft can be precisely placed and tucked where it is needed during surgery.
Cryopreserved amniotic tissue is considered an important biological component that modulates the inflammatory response and promotes healing of the ocular surface. This tissue is used in ophthalmic surgery to enhance the healing of the ocular surface and reduce the risk of scarring, haze, and iritis.

**Figure 2. Placement of PROKERA® Slim to correct corneal collagen crosslinking.**

**Figure 3. Non-healing SPK and dry eye prior to cataract surgery (a). Placement of PROKERA® to achieve excellent results for dry eye patients.**

**MANAGING CORNEAL INFLAMMATION AND DRY EYE**

**Dry Eye**

Dr. Tseng prefers to use a successful technique called reservoir restoration to achieve excellent results for dry eye patients.

**SUTURELESS RESERVOIR RESTORATION FOR CONJUNCTIVOCHALASIA**

**Dry Eye**

Among the misconceptions that exist about the condition known as dry eye syndrome, it is a disease of the conjunctiva that causes the eye to feel dry. It can be managed in the same way as conjunctival tear evaporate.

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While Dr. Tseng prefers to use sutureless reservoir techniques for ocular surface surgery, he has developed a version of reservoir restoration for CCI which he calls “the biologic ocular transplantation graft.” This procedure involves using preserved amniotic membrane as a biological ocular transplantation graft.

Preserved amniotic membrane is harvested from an ophthalmic con- former, which is a spindle shaped eyelid cylinder. The harvested amniotic membrane is preserved and made into a sutureless reservoir, which is then placed on the ocular surface.

Preserved amniotic membrane is rapidly bioabsorbed in the eye and replaces normal ocular surface tissue. This membrane is used in a variety of ocular surface procedures, including:

- **Cryopreserved Amniotic Tissue for Corneal Surface Replacement**
- **Cryopreserved Amniotic Tissue for Corneal Surface Reconstruction**
- **Cryopreserved Amniotic Tissue for Corneal Surface Regeneration**
- **Cryopreserved Amniotic Tissue for Corneal Surface Restoration**
- **Cryopreserved Amniotic Tissue for Corneal Surface Remodeling**

Preserved amniotic membrane is a biological ocular transplantation graft that can be used in a variety of ocular surface procedures. This graft is used to replace missing or damaged ocular surface tissue and to promote healing of the ocular surface.

Preserved amniotic membrane is also used in a variety of ocular surface procedures, including:

- **Cryopreserved Amniotic Tissue for Corneal Surface Replacement**
- **Cryopreserved Amniotic Tissue for Corneal Surface Reconstruction**
- **Cryopreserved Amniotic Tissue for Corneal Surface Regeneration**
- **Cryopreserved Amniotic Tissue for Corneal Surface Remodeling**

Preserved amniotic membrane is a versatile and effective biological component that can be used in a variety of ocular surface procedures.
Cryopreserved amniotic membrane is a widely used and highly effective treatment for a variety of ocular surface disease. This tissue is derived from the amniotic sac of a mid-gestation fetus and undergoes a cryopreservation process that results in the freezing of the tissue to approximately -70 °C. This cryopreservation process maintains the biologic functionality of the tissue, allowing for its use in a variety of ocular surface conditions. The tissue is typically used in a variety of applications, including the treatment of dry eye disease, corneal ulcers, and other ocular surface disorders. The cryopreserved tissue is thawed and placed on the ocular surface, where it remains viable and functional for several days. The tissue promotes healing by providing a barrier to infection, reducing inflammation, and stimulating the body's natural healing processes. It is a versatile and highly effective treatment option for a wide range of ocular surface conditions.
Lid Margin Diseases: Evidence-Based Therapies

Promoting Quality Healing Through Evidence-Based Therapies

Controlling the Wound Healing Cascade

HEALING EPITHELIAL DEFECTS

Inflammation is the first step in wound healing, but uncontrolled inflammation can cause delayed or impaired healing. Such inflammation can lead to adverse effects on the ocular surface, including pain and visual impairment. To optimize the wound healing cascade, it is important to control inflammation and promote quality healing. This can be achieved through the use of various therapeutic interventions, such as topically applied agents that modulate the inflammatory response.

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From Dry Eye to Lid Margin Diseases: Promoting Quality Healing Through Evidence-Based Therapies

D amaging recent industry meetings, four corneal specialists came together to discuss how innovative corneal wound-healing and hygiene solutions have changed the way they approach a wide range of ocular surface and eyelid margin diseases and disorders, including dry eye, epithelial defects, conjunctivochalasis, blepharoconjunctivitis, ocular surface inflammation and dryness, and discomfort (see Figure 1). In addition to these cornea, Cliradex® and PROKERA® have made a big difference—in my experience, they have made a big difference in both ways and circumstances. In fact, Cliradex® products provide support for reduced inflammation and promote healing (see Figure 2).

In the demodex patient discussed here, the treatment was directed for six weeks after the initial treatment, which significantly reduced the size of the ocular surface and eyelid margin diseases and disorders. Cliradex® and PROKERA® have made a big difference—in my experience, they have made a big difference in both ways and circumstances. In fact, Cliradex® products provide support for reduced inflammation and promote healing (see Figure 2).

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The key steps in a successful restoration are:
- rare 2% lidoceine infiltrated with epinephrine (for hemostasis) and a local (ophthalmic) anesthetic
- insert roddent conjunctiva
- remove all sutures Tenon's slit from scleral bed
- corneal patch graft for 1-2 days
- sutures very judiciously left as it lengthens back under the edge of remaining Tenon's
- using minimal glue, secure a "squeegee" excess glue (anteriorly involves un-tucking the edges a minimum of 1 mm under the conjunctiva on the sides so as to bring a lid sheet under a pillar)
- "squeegee" excess glue (interiorly or laterally, never posteriorly) and suture excess tissue.
- most of my patients who had undergone previous restoration with an Amniocell biological corneal transplantation graft began to feel relief within 24 hours of the procedure.

As knowledge about ocular surface inflammation increases, it has become clear that chronic lid margin disease and inflammation lead to cataract surface inflammation. Without proper management of the inflammation, are patients at risk for serious visual problems, infection and adnexal neoplasms and relapsing surgical outcomes.

Debridement blepharitis to some extent, but frequently overlooked issue of lid margin diseases. It can evacuate prophylactic conditions such as dry eye disease and dystrophy, and has been implied as a contributor to rosacea. It can also make patients quite uncomfortable, as it leads to 90% of patients who recently presented in my practice. His chief complaint was blepharitis, chronic lid irritation, and he had been experiencing redness and recurrence of rosacea for approximately a year (see Figure 1). He had been diagnosed with blepharitis conjunctivocystitis, which is common in late chronic stages of rosacea and typically involves chronic redness, discharge, and papillary conjunctivitis. Examination of this patient, with chronic symptoms and no history of relief from the usual therapies, is important to consider the full range of potential causes, such as melano- gram dystrophy associated with rosacea, chronic conjunctivitis, history, onychomycosis, and lid and ocular disease.

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The kit also includes 24 Cliradex® towelettes and 1 Cliradex® face wash for patients to use at home. This, like the gel, the towelettes are preservative-free and contain 0.01% BCPL. My patients find them easy to use, which improves compliance. The gel contains approximately double the concentration of the towelettes and therefore serves as a loading dose when applied in inlet.

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To obtain and sustain the best possible outcomes for patients, corneal specialists strive to achieve quality healing of the ocular surface. What is quality healing of the ocular surface. It’s the reproduction of healthy cells on the ocular surface.

Regenerative Wound Healing
- Selective immune response
- Inhibition of host fibroblasts
- No collagen scar formation
- Pro-angiogenic response

Fibrotic Tissue Formation
- Disorganized scar tissue remodelled host tissue
- Inflammation can cause delayed wound healing and recurrence of host faculty.

Disorganized Scar Tissue Remodeled Host Tissue
- Fibrotic tissue formation
- Recurrence of host tissue
- Need for repair with granulation tissue to restore normal tissue function.

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