

Bloody tears: a case of bilateral ulcerative blepharitis

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Abstract

Chronic blepharitis leading to bilateral ulceration is rare to encounter. A 49-year-old African American female presents with bloody tears, severe pain, and photophobia in both eyes. Clinical presentation called for ulceration on the upper lid margins with excavated wound which bled on gentle rubbing. A systemic health review in combination of the symptoms and clinical picture led to the diagnosis of severe ulcerative blepharitis. Immediate oral antibiotics were started along with topical antibiotic cream. Ulcerative blepharitis can be easily misdiagnosed with sebaceous cell carcinoma. The pathophysiology of ulcerative blepharitis points to synergy between infectious entity and inflammatory aetiology, with either bacterial or fungal microorganisms as the trigger agents. Almost all cases of ulcerative blepharitis should include a dermatological evaluation given there is a strong association between ulcerative blepharitis and atopic dermatitis.

Keywords: atopic dermatitis, blepharitis, ulcerative blepharitis

Introduction

Blepharitis is a very common condition encountered in our daily clinic. However, ulcerative blepharitis can be a clinical dilemma to diagnose and treat. Typically, blepharitis involves both inflammatory and infectious entities. The most common infectious agent for causing blepharitis is Staphylococcus Sp. However, many other common species have also been isolated in recent years.^{1,2} In a clinical setting of ulcerative blepharitis, one has to evaluate the dermatological status of the patient. Almost all cases of ulcerative blepharitis are associated with atopic dermatitis.³ A close clinical resemblance of lid margin ulceration with sebaceous cell carcinoma should not be neglected. In cases where systemic oral antibiotics fail to contain the disease, a biopsy is warranted.

Case report

49-year-old African American female presents with mucousy bloody tears, severe pain, and photophobia in both eyes. Other symptoms included itchiness and burning sensation on the eye lids for more than a month. Her medical history is

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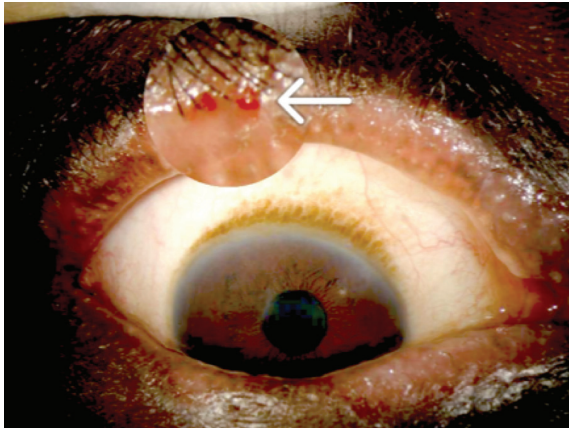


Fig. 1. Ulcerative lesions at the lid margins.

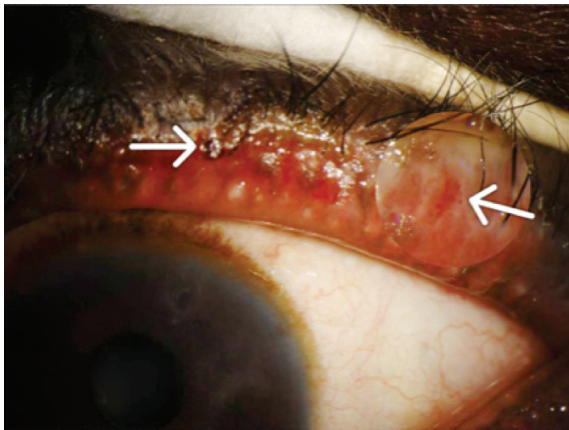


Fig. 2. Hypervascularisation at the ulceration site.

positive for hysterectomy, asthma, hypertension, and several flare up episodes of atopic dermatitis. On examination she was 20/25 OD and OS with very slow reading on Snellen acuity. Her pupils, confrontation field, and muscle motility were unremarkable. Intraocular pressure was measured 17 mmHg in the right eye and 17 mmHg in the left eye using iCare. Slit lamp exam revealed severe excavated wounds that were bleeding on both upper lid margins and a few erosive ulcerations on the lower lids (Figs. 1 and 2).

The eyelash bases were loaded with greasy scales that were thickened and hard. Needless to say, conjunctiva in both eyes were injected (Fig. 3) and the palpebral conjunctiva had mucous strands with inflamed papillae. There were areas of

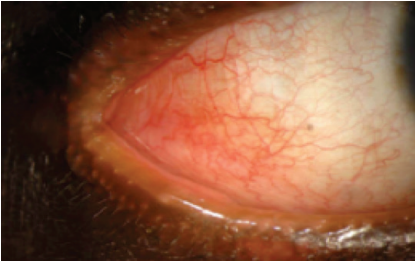


Fig. 3. Conjunctival injection and inflamed papillae.

thinned eye lashes and several collarettes with loose epithelial scales bilaterally. Trace nuclear sclerotic cataracts was noted and the posterior segment exam was unremarkable.

Discussion

Clinically, blepharitis can be categorized under Staphylococcal blepharitis, seborrheic blepharitis, and mixed forms of primary blepharitis.⁴ These can be further classified into anterior and posterior blepharitis, where anterior affects the anterior lid margins and eyelash base, and posterior involves the posterior lid margin, commonly associated with abnormalities of the Meibomian glands. In most cases, patients are diagnosed with a mix of both anterior and posterior blepharitis, and present with chronic inflammation of the lid margins.⁵ The presentation of our patient was ulcerative blepharitis, perhaps as a consequence of long-term untreated seborrheic infection. Importantly, our patient had two recent episodes of flare up of atopic dermatitis and was treated with oral and topical antibiotic combinations.

Most patients with ulcerative blepharitis present with a history of severe atopic dermatitis, which includes symptoms of long standing dry itchy skin, asthma, and allergic rhinitis. It is very important to take a detailed history of the patient, as these findings can be crucial in diagnosing and treating this condition. In the absence of these co-morbidities, the differential diagnosis of sebaceous cell carcinoma needs to be strongly considered. Our patient had a positive history and recent flares of atopic dermatitis that helped lead to her diagnosis and consequent treatment. Atopic dermatitis was diagnosed in almost all of the patients that presented with severe ulcerative blepharitis in a study conducted on 407 consecutive cases of chronic bilateral blepharitis. *Candida* species predominantly infected atopic patients with ulcerative lid margins.^{3,6,9} Atopic patients exhibit a defect in their cell-mediated immunity and possibly also a defective IgA antibody response. These immunological changes may contribute to the development of a localised inflammation of the lids that is initiated by a variety of microorganisms.⁶ Sporadic case reports have also surfaced on the involvement of *herpes simplex* in erosive ulcerative blepharitis, and underlying eczema can be a predisposing risk factor.^{7,8} Therefore, cultures from the lids and lashes for fungal or herpetic aetiology should not be ruled out when there is no noted improvement after

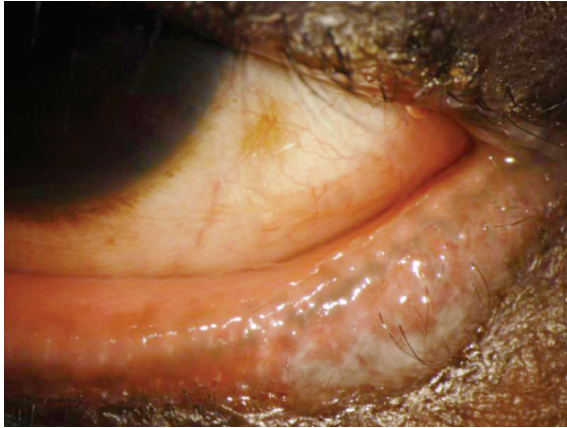


Fig. 4. Loose epithelial scaling and lid thickening, thinned lashes with mucous discharge.

compliant treatment.

The distinguishing sign of seborrheic blepharitis is the combination of yellowish, greasy scales that loosely attach to the base of the follicles (Fig. 4). Without treatment, chronic seborrheic blepharitis can evolve into ulcerative blepharitis, which is characterized by hard, thickened, and matted crusts along the base of the cilia and lid margins that can result in bleeding. The transformation into ulcerative blepharitis can typically be prevented with treatment of the underlying seborrheic blepharitis. However, the simple treatment relies on patient compliance and long-term commitment. A frank and healthy discussion with the patient is the crucial first step, where we educate on the importance of keeping the lids and lashes clean using hypoallergenic baby shampoo or lid scrub. In uncontrolled cases, a topical antibiotic is recommended; however, one has to be mindful that long-term use and abuse of topical antibiotics can result in resistant bacteria.⁵ Our patient improved on an oral dose of doxycycline for ten days with antibiotic ointment twice daily with extensive lid hygiene.

Conclusion

Ulcerative blepharitis is a clinical challenge to diagnose and treat effectively. The causative agents can be bacterial, fungal, or viral, thus making it difficult to initiate a treatment. However, there are certain tell-tale signs that can provide clues to the correct diagnosis. The presence of hardened matted crusts with dry thick scales of dry skin attached to the base of cilia can give away signs for quick management. One should consider culturing the specimens in cases of recalcitrant blepharitis. Also, a consultation with a dermatologist is highly recommended for patients who present with ulcerative blepharitis due to its strong association with atopic dermatitis.

References

1. Dougherty JM, McCulley JP. Comparative bacteriology of chronic blepharitis. *Br J Ophthalmol.* 1984;68(8):524-528.
2. McCulley JP, Dougherty JM. Bacterial aspects of chronic blepharitis. *Trans Ophthalmol Soc U K.* 1986;105(Pt 3):314-318.
3. Huber-Spitz V, Baumgartner I, Bohler-Sommeregger K, et al. Blepharitis--a diagnostic and therapeutic challenge. A report on 407 consecutive cases. *Graefes Arch Clin Exp Ophthalmol.* 1991;229(3):224-227.
4. Thygeson P. Etiology and treatment of blepharitis. *Arch Ophthal.* 1946;36(4):445-477.
5. McCulley JP, Shine WE. Changing concepts in the diagnosis and management of blepharitis. *Cornea.* 2000;19(5):650-658.
6. Huber-Spitz V, Bohler-Sommeregger K, Arockar-Mettinger E, et al. Ulcerative blepharitis in atopic patients--is *Candida* species the causative agent? *Br J Ophthalmol.* 1992;76(5):272-274.
7. Egerer I, Stary A. Erosive-ulcerative herpes simplex blepharitis. *Arch Ophthalmol.* 1980;98(10):1760-1763.
8. Beck RW. Conjunctival, corneal involvement accompanying erosive-ulcerative blepharitis. *Arch Ophthalmol.* 1981;99(3):512.
9. Dasari K, Kasetty HK. Ulcerative blepharitis in an atopic child caused by *Candida*. *Ind J of Ped Ophthalmol.* (2015) 16(1):42-44..