HORDEOLUM AND CHALAZION

The role of meibomian disease and contemporary management.

BY BEN GADDIE, OD

In a 2008 Mattson Jack survey of 5019 US adults regarding their history of ocular surface symptoms, more than 33% of respondents reported having experienced crusting of the eyelashes upon waking during the previous 12 months. Another 15% and 28% reported stuck-together or red eyelids, respectively, upon waking during that time period.[1] Almost all of those interviewed who stated that their eyelids stuck together when they awoke had also experienced itching and burning of the eyelids as well as ocular dryness and irritation.

Based on this survey, Lemp and Nichols extrapolated the percentage of the US population 18 years of age and older to approximate a population-based prevalence of eyelid and ocular surface diseases. The data indicated a surprisingly high prevalence of these conditions. For example, more than 32% of those reporting one or more symptoms during at least half of the past 12 months equated with up to 74 million adults.[2] A closer look at symptoms revealed that 4.5% (or 10 million based on 182 million US adults) developed "bumps" on their eyelids and that 17.8% or 41 million adults reported a history of styes during the past year. These figures translate to a 51 million adults in the United States reporting some type of problem with bumps, styes, hordeola, and chalazia within the past year.

I surmise that, from a clinical standpoint, the routine examination of patients' eyelids has historically been cursory at best for most clinicians. Prevalence data, however, indicate that this aspect of the clinical visit should not be ignored. Unfortunately, effective and enduring treatment options have eluded eye care practitioners for decades. The chronic nature of meibomian gland–related disease may present an additional obstacle from the standpoint of practicality. This article reviews some common causes of meibomian-related problems of the eyelid and provides guidance for their long-term management.

FROM THEN TO NOW

Advanced Ocular Care debuted in 2010. Here, we revisit an article by Ben Gaddie, OD, from that year's May/June issue, which demonstrates that, despite how far optometry has come in certain respects, options for some conditions remain stagnant.

BLEPHARITIS

Overview

Led by Kelly Nichols, OD, PhD, of the Ohio State University College of Optometry, a consensus group has been formed to look into the incidence, prevalence, and causes of blepharitis as well as its subtypes. This exhaustive examination of blepharitis is long overdue: Practitioners currently lack a concise and accepted system of nomenclature for the disease. I suspect that many subtypes of blepharitis will be delineated, including anterior, posterior, seborrheic, atopic, psoriatic, and rosacea-related. A major challenge is that many of these subtypes coexist and overlap.

Some of the most common causes of or contributors to blepharitis and the sequelae of hordeolum and chalazion include acne rosacea, hyperimmunoglobulin E (Job syndrome), poor ocular hygiene, and generalized seborrheic disease.[3,4] Although not reported in the literature, I have noticed an increased frequency or severity of blepharitis coinciding with an individual's peak allergy season.

Treatment

The treatment for blepharitis is often empirical, because there are currently no medications approved by the US Food and Drug Administration (FDA) for this indication. A conservative approach addresses eyelid hygiene with commercial lid scrubs and hot compresses. Vertical massage of the meibomian gland channels is also helpful after the application of

heat to reestablish the flow of sebum. Erythromycin ointment is the traditional topical treatment of blepharitis, although recent shortages of this product have forced many practitioners to seek alternatives. Theoretically, an ointment may not be the optimal treatment for an oil gland–related problem because this substance can smother the meibomian orifices and further hinder the flow of oil from the glands. Oral treatments including doxycycline and tetracycline are additional leading off-label treatments for blepharitis. The presumed mechanism of action is an antiinflammatory effect on matrix metallopeptidase 9 (MMP-9) activity within both the gland and meibum itself.[5,6] Because oral doxycyline can cause gastrointestinal distress and induce phototoxicity, it may be of limited use in some patients.

Recently, topical azithromycin (Azasite; Inspire Pharmaceuticals) has emerged as an alternative topical off-label treatment for blepharitis due to the agent's proposed antiinflammatory (MMP-9) and antiinfective effects.[7] In addition, the Durasite base (InSite Vision) of Azasite increases the drug's residence time on the glands without the need for an ointment-like viscosity.[8] The optimal protocols for and length of treatment with Azasite are the subject of controversy.

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Diagnosis

Once blepharitis reaches an advanced stage, the patient's risk of developing hordeolum and chalazion increases. The clinical presentation of these pathologic conditions differs significantly, as does their management. The signs of hordeolum and chalazion include an acute or subacute swelling of the eyelid that can mimic preseptal cellulitis, mucopurulent discharge, blocked or plugged meibomian orifices, and pointing of the eyelid margin without the features of an abscessed gland. A crucial sign is the localized loss of eyelashes in an area of presumed recurrent chalazion or hordeolum. It is imperative that the clinician evert the lid in these cases to inspect for malignancies in the affected area. Of particular concern is sebaceous gland carcinoma, in which recurrent chalazion, chronic unilateral blepharitis, and older age are factors. Women may have a slightly higher incidence of sebaceous gland carcinoma than men.[9] Additional differential diagnostic considerations include pyogenic granuloma and papilloma of the eyelid margin.

Distinguishing between hordeolum and chalazion is generally straightforward. The former presents acutely with a tender nodule, lid erythema and often a visible purulent head on the meibomian orifice. Many times, the condition occurs on the palpebral side of the lid such that eversion is necessary to visualize the infection and inflammation.

Treatment

The management of hordeolum is similar to that for posterior blepharitis: topical antibiotics or the combination of an antibiotic/steroid and oral doxycycline/tetracycline. The puncturing and drainage of an acute hordeolum is often quick and successful. Over time, the acute inflammatory phase resolves and often transitions to a chalazion.

Essentially, the management of chalazion has not changed during the past 2 decades. If the lump becomes large enough to interfere with the patient's vision, or if it becomes cosmetically unacceptable, the options for treatment are either an intralesional steroid injection or an incision and curretage. The former can be successful but often requires repetition. Surgery can cause localized scarring and bruising, and the removal of the nodule may be incomplete.

In general, lesions requiring more than two injections should be surgically removed and monitored for squamous cell carcinoma. The seminal study on the subject indicated that more than 80% of patients experienced a resolution of the chalazion within 2.5 weeks and that more than 50% of those individuals responded to a single injection.[10] Complications of intralesional steroid injections include elevated intraocular pressure, localized depigmentation of the skin, and fat necrosis.

Recently, botulinum toxin A has been suggested as a treatment for recurrent chalazion, but more work in this area is indicated.[11]

CONCLUSION

Treating blepharitis can prevent the development of hordeolum and chalazion. Despite the availability of new, off-label topical options, minor surgical intervention will unfortunately continue to play a role in the long-term management of this anterior segment problem. ■

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