

Management Practice for Hordeolum and Chalazion: A Survey of the Korean Society of Ophthalmic Plastic and Reconstructive Surgery (KSOPRS) Members

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Purpose: To determine the current management pattern for hordeolum and chalazion among members of the Korean Society of Ophthalmic Plastic and Reconstructive Surgery (KSOPRS).

Methods: An anonymous web-based survey was emailed to 260 current members of the KSOPRS. The survey comprised five sections: differential diagnosis, treatment strategies for hordeolum, treatment strategies for chalazion, postsurgical care, and pediatric-specific approaches.

Results: Eighty KSOPRS members participated in this study (response rate, 30.8%). Redness, swelling, and pain were the most important factors for differentiating hordeolum from chalazion. For hordeolum, topical antibiotics are preferred by 59 respondents (73.8%), with 49 (83.7%) considering them effective. Most (62 respondents, 77.6%) pursue nonsurgical treatment for 5 to 14 days before considering incision and curettage. For chalazion, treatment practices are split between conservative management and invasive methods. Intralesional steroid injections are recommended by 55 respondents (68.8%), with a preference for diluted triamcinolone acetonide. Relative to hordeolum, chalazion treatment involves less frequent antibiotic use, with only 21 respondents (26.3%) always recommending antibiotic ointments. Tissue biopsy is considered for abnormal changes in the surrounding tissues (72 respondents, 90.0%) and frequent recurrence (46 respondents, 57.5%). The practices differ between pediatric and adult cases among 38 respondents (47.5%), with 31 (81.4%) extending conservative management and delaying surgical interventions in pediatric cases. Anesthesia preferences for pediatric cases varied, with 40 respondents (50.0%) favoring local anesthesia, 19 (23.8%) opting for monitored anesthesia care, and 13 (16.2%) choosing general anesthesia.

Conclusions: This survey of the management of hordeolum and chalazion by KSOPRS members has revealed several interesting common practices that are considered valuable by current practitioners.

Key Words: Chalazion, Hordeolum, Korean Society of Ophthalmic Plastic and Reconstructive Surgery (KSOPRS), Patient care management, Surveys and questionnaires

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Hordeolum and chalazion are inflammatory eyelid conditions that are frequently encountered in ophthalmic practice. Hordeolum is a localized bacterial infection of the eyelid that typically presents as a painful, red, and swollen eyelid. It arises from obstruction and inflammation of the sebaceous glands of the eyelid. In contrast, a chalazion typically presents as a subacute or chronic tender nodule arising from an obstructed meibomian gland characterized by lipogranulomatous inflammation that is sometimes associated with blepharitis [1]. While hordeolum and chalazion are benign lesions, they can significantly impact the quality of life due to pain, ocular irrigation dysfunction, and cosmetic concerns. Larger lesions can induce mechanical ptosis and corneal astigmatism [2,3].

Both entities are typically self-limiting and resolve with conservative measures, including warm compresses [4,5] and eyelid scrubbing [6,7]. If initial therapy fails, the use of invasive approaches such as intralesional steroid (ILS) injections for a chalazion and/or incision and curettage (I&C) for either lesion type is effective [8,9]. Despite being among the most common eyelid lesions in both general and ophthalmic practice, there is no consensus on the optimal treatment algorithm [10,11]. In this context, understanding the current treatment practices of ophthalmologists is important for the future development of evidence-based practices. We therefore conducted a survey among members of the Korean Society of Ophthalmic Plastic and Reconstructive Surgery (KSOPRS) to identify the current trends in internal hordeolum and chalazion management.

Materials and Methods

Ethics statement

The Institutional Review Board and Ethics Committee of Konkuk University Medical Center determined that this study was exempt from approval (No. 2025-02-040). All participants were informed about the purpose of the study and voluntarily agreed to participate prior to completing the survey.

Study design

A survey on hordeolum and chalazion management was distributed to 260 members of the KSOPRS using the soci-

ety's email database between December 11 and 22, 2024. The email included a Google Docs (Google) hyperlink to an electronic survey that consisted of 38 questions across five main categories (Supplementary Material 1): (1) differential diagnosis of hordeolum and chalazion (1 question); (2) treatment of hordeolum (19 questions); (3) treatment of chalazion (10 questions); (4) postsurgical management and follow-up for hordeolum and chalazion (6 questions); and (5) treatment of hordeolum and chalazion in pediatric patients (2 questions). At the end of the questionnaire, respondents were given the opportunity to freely describe their current treatments or express any additional opinions.

The survey included demographic details such as subspecialty type, length of practice, and hospital setting (e.g., eye specialty, general, or university hospitals or primary clinic). The questions on hordeolum and chalazion focused on conservative and invasive treatment strategies. We additionally inquired about whether the application of these treatments differed between adults and children. Some questions were answered in the multiple-choice format, but also included an open-ended "other" option that allowed the respondents to provide information that was not covered by the survey choices. The survey was conducted anonymously, with no identifying information collected.

Statistical analysis

Data were entered into a computerized database. Statistical analyses were performed using IBM SPSS ver. 19.0 (IBM Corp). Chi-square tests were conducted to analyze differences in perceptions between the institutional groups.

Results

Respondents

Among 260 KSOPRS members, 80 (30.8%) completed the survey (Fig. 1). The demographic information of the 80 respondents indicated that 72 (90.0%) were oculoplastic specialists and 8 (10.0%) were general ophthalmologists. In terms of experience in ophthalmology, 15 (18.8%) had 1–5 years, 12 (15.0%) had 6–10 years, 31 (38.8%) had 11–20 years, and 22 (27.5%) had >20 years (Fig. 2A). Regarding the workplace distribution, 30 (37.5%) worked in university hospitals, 36 (45.0%) in private clinics, and 14 (17.5%) in

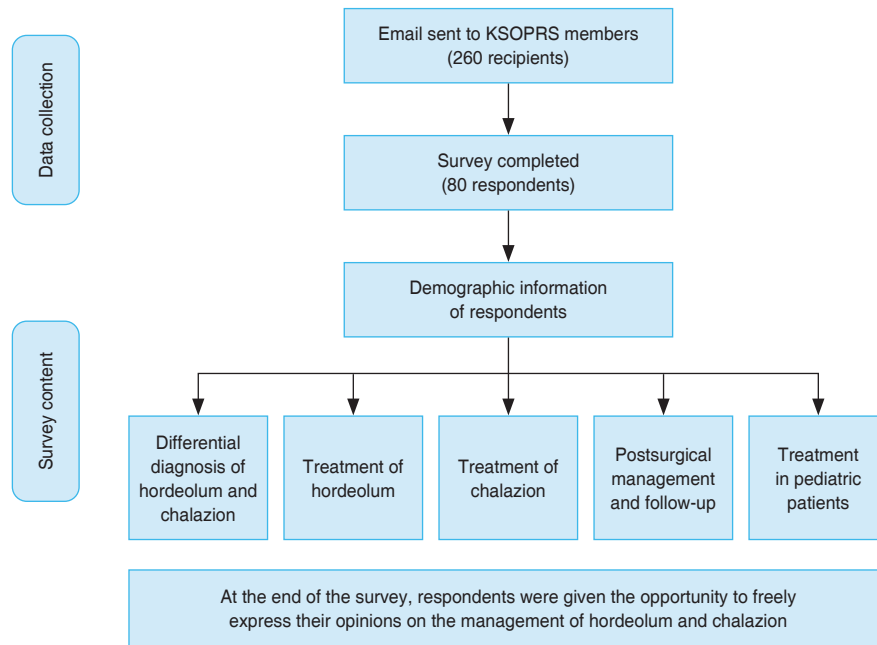


Fig. 1. Flowchart of the survey protocol. The survey was sent to 260 members of the Korean Society of Ophthalmic Plastic and Reconstructive Surgery (KSOPRS), with 80 participants completing the survey. The data collection process included demographic information, followed by questions on the differential diagnosis of hordeolum and chalazion, treatment approaches for each condition, postsurgical management and follow-up, and treatment in pediatric patients.

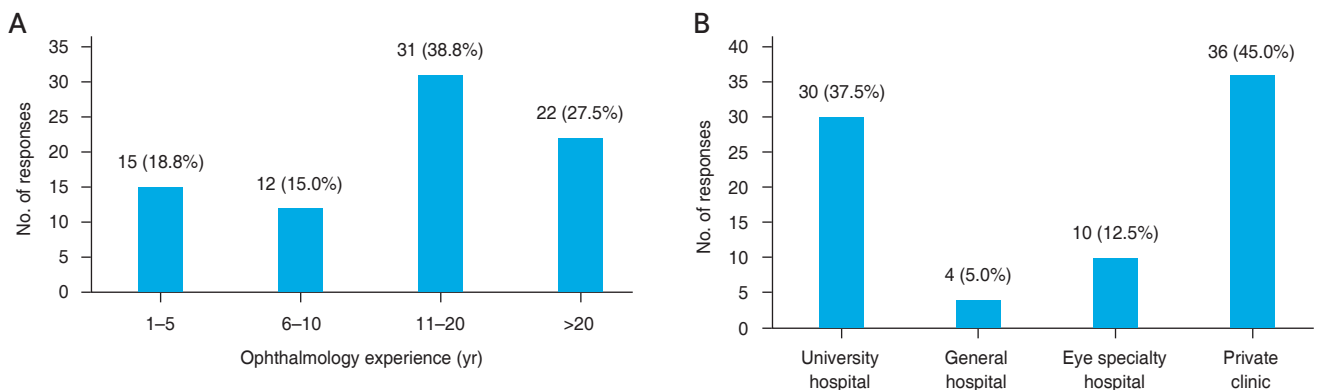


Fig. 2. Basic information of the 80 respondents. (A) Ophthalmology experience. (B) Type of institution.

general or eye specialty hospitals (Fig. 2B).

Differential diagnosis of hordeolum and chalazion

Thirty-two of the 80 respondents (40.0%) rated redness and swelling as the most important symptom and sign for differentiating hordeolum and chalazion, followed by pain. The time of occurrence (acute vs. chronic) is considered less important.

Treatment of acute hordeolum

The initial treatment of acute hordeolum predominantly involves conservative approaches, with oral antibiotics, warm compresses, eyelid scrubbing, and topical antibiotic eyedrops being the most commonly used methods (Fig. 3). Warm compresses are widely recommended, with 47 respondents (58.8%) always advising their use; these are typically administered for about 8.5 days, with two or three daily applications lasting approximately 8 minutes each.

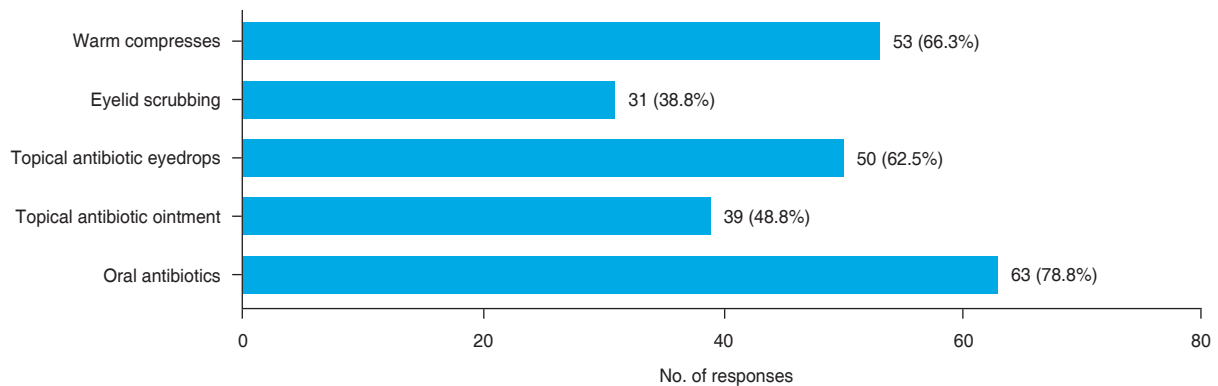


Fig. 3. Response among the 80 participants regarding the initial treatment of acute hordeolum without palpable lump (respondents could select multiple options).

This treatment is generally perceived to be effective: 54 respondents (67.6%) consider warm compresses somewhat or very effective, although 21 (26.2%) view their effectiveness as uncertain. While eyelid scrubbing is perceived as less effective than warm compresses, it is still frequently recommended, with 61 respondents (76.3%) advising its use either always (17 respondents, 21.3%) or sometimes (44 respondents, 55.0%), and only 19 respondents (23.8%) not recommending eyelid scrubbing at all. Regarding effectiveness, 39 respondents (48.8%) consider eyelid scrubbing somewhat effective, while 28 (35.0%) are uncertain about its efficacy. Forty-two respondents (52.5%) indicated that approximately half of acute hordeolum cases can improve through conservative management alone.

Regarding the use of topical antibiotics, 59 respondents (73.8%) indicated that they always prescribe either antibiotic eyedrops or ointment, or both together. A significant majority (67 respondents, 83.7%) believe topical antibiotics to be effective: somewhat effective by 53 (66.2%) and very effective by 14 (17.5%). Oral antibiotics are a preferred treatment for acute hordeolum, with 47 practitioners (58.8%) reporting that they always prescribe them and 30 (37.5%) prescribing them sometimes. Cephalosporins are the most commonly prescribed class of oral antibiotics (66 respondents, 82.5%), followed by quinolones (13 respondents, 16.3%). Short-term courses lasting 4 to 5 days are typically recommended. The perceived efficacy of oral antibiotics is high, with 76 practitioners (95.0%) considering them either somewhat effective (50 respondents, 62.5%) or very effective (26 respondents, 32.5%). Steroid use is less favored, with 42 respondents (52.5%) avoiding steroids altogether, though a minority of practitioners occasionally

employ topical forms (eyedrops: 24 respondents, 30.0%; ointment: 7 respondents, 8.8%).

Most respondents (77.6%) reported pursuing nonsurgical treatment for 5 to 14 days. On average, they proceed with I&C when a palpable mass persists for 12.8 days. However, 28 (35.0%) stated that they perform I&C immediately upon detecting a palpable mass. The treatment approaches differ when the hordeolum persists long enough to cause skin damage. In such cases, two-thirds of respondents reported proceeding with I&C without further delay, while one-third prefer to maintain conservative methods, including warm compresses and topical ointments.

Treatment of chalazion

Approximately half of the respondents reported initiating treatment with conservative management, including warm compresses, eyelid scrubbing, and antibiotic and/or steroid ointments. However, the other half indicated that they employ invasive methods such as ILS injections and I&C from the outset (Fig. 4). As noninvasive treatments, 61 respondents (81.3%) reported recommending warm compresses and eyelid hygiene either always (33 respondents, 41.3%) or sometimes (28 respondents, 40.0%), while 19 respondents (18.8%) did not recommend them at all. Among those who recommended these treatments, 46 respondents (57.5%) considered them effective—34 (42.5%) found them somewhat effective and 12 (15.0%) found them very effective.

Antibiotic and steroid ointments are always recommended by 21 (26.3%), sometimes recommended by 44 (55.0%), and not recommended by 15 (18.8%). These ointments are

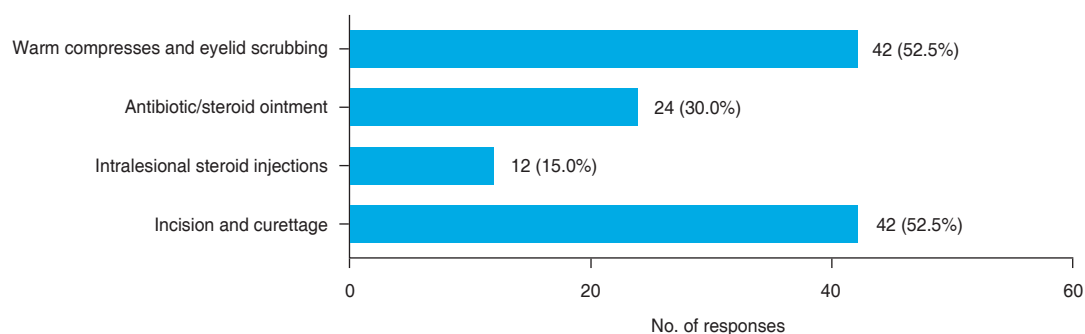


Fig. 4. Response among the 80 participants regarding the initial treatment of chalazion patients (respondents could select multiple options).

Table 1. Comparison of hordeolum and chalazion treatments based on the survey results (80 respondents)

Category	Hordeolum	Chalazion
Primary treatment	Warm compresses, eyelid scrubbing, and topical and oral antibiotics	Warm compresses, eyelid scrubbing, ILS injections, and I&C
Use of antibiotics	Common (73.8% prescribe topical and 58.8% prescribe oral, mainly cephalosporins)	Less common (only 26.3% recommend topical antibiotics, and 51.3% consider them ineffective or their effectiveness to be uncertain)
Use of steroids	Not commonly prescribed (52.5% avoid steroids)	Widely prescribed (68.8% recommend ILS [diluted TA preferred])
Duration of conservative treatment	5–14 days before considering invasive treatment	Often progresses rapidly to invasive treatments such as ILS or I&C
Surgical intervention	On average, I&C performed if a palpable mass persists for 12.8 days (35% perform I&C immediately)	50% Initiate treatment with I&C or ILS from the outset
ILS use	Not common	Preferred (68.8% use ILS; most give a single injection, some give two or three injections)

ILS = intralesional steroid; I&C = incision and curettage; TA = triamcinolone acetonide.

most commonly used for 7 to 14 days (38 respondents, 47.5%), though treatment periods range from 3 days to >2 weeks. Practitioners generally perceive this treatment as less effective for chalazion than for hordeolum, with 36 (45.0%) finding the treatment somewhat effective, while 41 (51.3%) consider it barely effective or are uncertain about its efficacy.

ILS injections are recommended by 55 respondents (68.8%). Among ILS users, 30 (55.0%) prefer diluted triamcinolone acetonide (TA) and 6 (11.0%) opt for dexamethasone, with both choices aimed at minimizing side effects such as skin depigmentation. Most practitioners administer either a single injection (37 respondents, 46.6%) or two injections (34 respondents, 42.5%), with only 9 respondents (11.0%) performing up to three injections. The treatments for hordeolum and chalazion are compared in Table 1.

Postsurgical management and follow-up for hordeolum and chalazion

Regarding the use of ILS in conjunction with I&C, 22 respondents (27.0%) reported always administering steroid injections along with I&C, while 18 (22.0%) indicated that they never perform steroid injections, and the remaining respondents only consider steroid injections in cases where the lesion is large or when symptoms such as redness and pain are severe. Oral antibiotics (62 respondents, 77.5%) are primarily used for postsurgical care, while eyelid hygiene (76 respondents, 95.0%) and warm compresses (61 respondents, 76.3%) are recommended for preventing recurrence. For nodules that persist 1 month after I&C, ILS injections (38 respondents, 47.5%), warm compresses (35 respondents, 43.8%), repeat I&C (32 respondents, 40.0%), and using topical antibiotics and steroids (14 respondents,

17.5%) are commonly suggested. Tissue biopsy is considered for persistent nodules with abnormal changes in the surrounding tissues (72 respondents, 90%), frequent recurrence (46 respondents, 57.5%), or persistent symptoms (17 respondents, 21.3%), particularly in elderly patients.

Treatment of hordeolum and chalazion in pediatric patients

In pediatric cases, the anesthesia preferences varied, with 40 (50.0%) favoring local anesthesia, 19 (23.8%) opting for monitored anesthesia care (MAC), and 13 (16.2%) choosing general anesthesia. The treatment practices differ between children and adults among 38 respondents (47.5%), with 31 (81.4%) extending conservative management and delaying surgical interventions in children, and 11 (27.9%) scheduling procedures based on parental requests.

Institutional differences in treatment practices for hordeolum and chalazion

We compared perceptions of hordeolum and chalazion treatments between private clinics ($n = 36$) and hospital-level medical institutions (specialized, general, or university hospitals, $n = 44$). Overall, treatment practices for hordeolum and chalazion were consistent between groups. However, a difference was observed in the duration of non-surgical treatment for acute hordeolum ($p = 0.036$): private clinics tended to pursue conservative management for less than 1 week, whereas hospital-level institutions were more likely to continue nonsurgical treatment for more than 1 week before considering surgical intervention (Supplementary Fig. 1). Anesthesia methods for pediatric chalazion or hordeolum treatments also differed clearly ($p = 0.005$). Private clinics primarily used local anesthesia, whereas hospital-level institutions frequently employed general anesthesia, MAC, based on patient cooperation and lesion size (Supplementary Fig. 2).

Additional comments

The open-ended responses provided additional comments on the management strategies. For pediatric patients, the respondents emphasized the importance of preventing eye rubbing to avoid exacerbation. For adults, they recommended avoiding eye makeup and wearing contact lens. It

was particularly interesting that some respondents reported that in cases of recurrent chalazion they sometimes employed intense pulsed light (IPL) therapy as a preventive measure against future occurrences.

Discussion

Managing hordeolum and chalazion may seem simple, but it remains a controversial issue. We therefore surveyed KSOPRS members to gather information on the current practices they use to manage hordeolum and chalazion. Initial treatments for both conditions predominantly involve conservative approaches, including warm compresses, eyelid scrubbing, and antibiotics. For acute hordeolum, the respondents commonly prescribe oral antibiotics (typically cephalosporins), along with antibiotic eyedrops and ointment. Most clinicians attempt conservative treatment for 1 to 2 weeks, and reported a 40% to 60% improvement rate. For chalazion, local steroid injections of diluted TA are considered helpful by 85% of respondents, with up to three attempts recommended. I&C is considered when lesions are large, the symptoms are severe, or conservative treatments fail. For persistent nodules after I&C, ILS injections, warm compresses, and repeat I&C are common approaches. In pediatric cases, while 50% of respondents use local anesthesia, 40% opt for general anesthesia or MAC. There is a tendency to extend nonsurgical treatments in children, reflecting a more conservative approach for pediatric patients.

While hordeolum and chalazion are sometimes used interchangeably in clinical practice, it is necessary to distinguish these two eyelid conditions to ensure that they are treated appropriately. Antibiotics are generally not indicated for chalazion, except in cases when this is infected or there is severe blepharitis or blepharitis-associated rosacea [2,11]. In contrast, antibiotics are believed to reduce the duration and severity of hordeolum, although only low-quality supporting evidence is available [2,12]. The distinction between the two conditions becomes particularly important in elderly patients, where recurrent chalazion causing changes in surrounding tissues may warrant a biopsy. Our survey found pain, redness, and swelling to be significant indicators for the differentiation, with the onset time of the lesion (acute vs. chronic) being less important. This may be due to the difficulty in determining the exact onset time of

chalazion [2,13]. The primary feature distinguishing chalazion from hordeolum is the former's lack of significant pain and suppuration.

Initial treatments for hordeolum focus on evacuating pus from the abscess, with warm compresses being widely accepted as the first-line approach [12,14]. According to our survey, 58.8% of respondents reported always using warm compresses for hordeolum, and 67.6% found them to be effective. Warm compresses are typically applied for 5 to 10 minutes two or three times daily for 7 to 10 days or until the lesion resolves. This treatment may facilitate drainage by softening the granuloma [12,15].

However, there is no evidence that warm compresses alone can eliminate the infection, since most hordeolum cases are caused by staphylococcal species. Consequently, ophthalmologists tend to prescribe combined treatments that include antibiotics [12,16]. Our survey revealed that 73.8% consistently prescribed topical antibiotics, while 58.8% routinely prescribed oral antibiotics. Although antibiotics do not significantly improve the resolution rates for chalazion or hordeolum [2,11,17], previous studies suggest that taking antibiotics improves patient satisfaction and perceived recovery [8,18]. Notably, patients treated with warm compresses alone showed reductions in lesion size similar to those taking additional antibiotics and/or steroids, highlighting the psychological impact of antibiotic prescriptions despite their low objective efficacy [2,8]. These findings underscore the complex interplay between treatment efficacy, patient expectations, and clinical practice when managing hordeolum. Additionally, while the oral antibiotics used in South Korea are predominantly cephalosporins, which are commonly used for skin and soft-tissue infections, a survey in Thailand revealed that doxycycline was the antibiotic of choice [16]. This regional difference highlights the variations in practices that may be influenced by factors such as local resistant strains.

Chalazion can primarily be managed with warm compresses and eyelid scrubbing to enhance meibomian gland function. These therapies improve drainage of the meibomian gland, and ongoing eyelid hygiene may help prevent recurrence and reduce the need for surgical intervention. Studies have found resolution rates of 25% to 50% with conservative management [5,19,20]. Relative to hordeolum, chalazion management relies less on antibiotics and more on invasive procedures [5,8]. While 73.8% of practitioners routinely prescribe topical antibiotics for hordeolum, only

26.3% do so for chalazion, with 51.3% considering them ineffective. Our survey revealed that hordeolum is typically treated nonsurgically for 5 to 14 days before invasive procedures are considered. In contrast, chalazion often progresses more rapidly to ILS injections or I&C, with nearly half of clinicians initiating invasive treatments from the outset. Wu et al. [8] suggested that physicians may consider moving directly to the use of more invasive therapies such as I&C or ILS injections for chalazion that has been present for >2 months, since longer-standing lesions are less likely to resolve with conservative therapies alone. These differences reflect the distinct pathophysiology of the conditions: hordeolum is an acute infection, whereas chalazion is a chronic, noninfectious, inflammatory lesion that often requires mechanical resolution.

ILS injections are an effective chalazion treatment option for reducing the lesion size when there is no secondary infection [7]. Our study found that 76.3% of respondents recommended ILS injections for treating chalazion. Goawalla and Lee [5] reported that their ILS group reported lower pain and inconvenience than their I&C group, indicating the former's patient-friendly nature. ILS injections may be particularly useful for chalazion near the canaliculus to minimize the surgical risk of iatrogenic injury, multiple small chalazions, or in young children who cannot tolerate prolonged procedures [21,22]. ILS injections are also suitable for adults concerned about their appearance or requiring a rapid return to daily life. Since repeat injections are simple, they can be administered two or three times before considering I&C if there is no response [22]. The most common side effect of TA injections is localized skin depigmentation [23,24]. This risk can be avoided by diluting TA, and our study found that 66.3% of respondents prescribed either diluted TA or dexamethasone. The transconjunctival route for TA injections was also found to be safe, since it reduces the risk of localized skin depigmentation and inadvertent globe penetration [5,22]. Chalazions resolved at an average of 2.5 weeks after a single TA injection [22], and so it is advisable to wait 2 to 3 weeks before considering repeat injections.

The necessity of antibiotics following I&C for hordeolum and chalazion remains debated, and is markedly influenced by the preferences of individual practitioners. Our study found that 77.5% of KSOPRS members routinely prescribe oral antibiotics after I&C. However, their use in uncomplicated cases remains controversial. Although

broad-spectrum antibiotics may be appropriate for complicated hordeolum, an infected large chalazion after I&C, or recurrent cases [2], research suggests that systemic antibiotics should be reserved for cases with significant cellulitis instead of being administered routinely [10]. While there are no reports of antibiotic-resistant bacteria following I&C with antibiotic use, practitioners should be mindful that overuse of antibiotics could lead to unintended side effects and antibiotic resistance.

Hordeolum and chalazion tend to occur more frequently in younger subjects, who may have a significant psychological aversion to invasive procedures. Consequently, there is often a preference for conservative management and delayed surgical interventions in pediatric cases. ILS injections offer a less invasive alternative but may not be well tolerated by pediatric patients, particularly when administered via the palpebral conjunctival surface [5]. Anesthesia is selected according to age, with local anesthesia preferred for older children and general anesthesia being considered more for younger patients to minimize psychiatric stress [25]. The selection of treatment method should be tailored to each child's specific situation, taking into account factors such as age, lesion characteristics, and the ability of the child to cooperate during the procedure.

The responses to this survey indicated that IPL is a potential treatment for hordeolum and chalazion. This is consistent with previous reports that IPL therapy is beneficial for chronic hordeolum and chalazion and for preventing recurrence [25,26]. The putative therapeutic mechanism of IPL is that it shrinks small vessels around the eyelid margins, thereby reducing local inflammation and decreasing the levels of inflammatory factors. IPL also inhibits bacterial and parasite growth while providing a temporary local warming effect through selective photothermolysis. These effects combine with its ability to improve meibomian gland function, enhance the secretory ability, and reduce ocular surface inflammation [25,27].

This study had several limitations that should be considered when interpreting the results. Selection bias is an inherent limitation of survey-based research, and the restriction of the present responses to KSOPRS members potentially excludes the perspectives of primary care physicians and other specialists. The findings suggest that ophthalmologists, particularly those in subspecialty clinics such as oculoplastics, favor surgical or invasive therapy earlier in treatment or as initial management for

long-standing lesions. Another limitation is that the study relied on self-reported practice preferences rather than randomized clinical trials, meaning that the results illustrate common trends rather than definitive clinical guidelines. Therefore, interpretations should be restricted to understanding more common practices, without indicating that less common behaviors are necessarily wrong.

In conclusion, this survey of the management of hordeolum and chalazion by KSOPRS members has revealed several interesting common practices that are considered valuable by current practitioners. The survey highlights a preference for conservative management as the initial treatment for both conditions, with warm compresses and eyelid scrubbing being widely recommended. For hordeolum, antibiotics are commonly prescribed despite only low-quality evidence being available for their efficacy. Chalazion management often includes ILS injections, which have high reported success rates. Further studies aimed at achieving a consensus on optimal treatment practices and the role of antibiotics will be of value to the ophthalmology community.

Conflicts of Interest: None.

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Supplementary Materials

Supplementary Material 1. Management of hordeolum and chalazion: a survey of KSOPRS members.

Supplementary Fig. 1. Comparison of nonsurgical treatment duration for acute hordeolum between private clinics and hospital-level institutions (n = 80).

Supplementary Fig. 2. Comparison of anesthesia methods used for pediatric hordeolum and chalazion treatment according to institution type.

Supplementary materials are available from <https://doi.org/10.3341/kjo.2025.0024>.

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Supplementary Material 1. Management of hordeolum and chalazion: a survey of KSOPRS members.

Introduction

Dear colleagues,

This survey aims to gather your perspectives and treatment methods regarding hordeolum and chalazion. It will take approximately 10 minutes to complete. We appreciate your participation and valuable input.

I. Respondent Information

Specialty

1. Ophthalmologist
2. Oculoplastic specialist
3. Other subspecialty (if no specific subspecialty, please select ophthalmologist)

Years of experience in ophthalmology

1. 1–5 years
2. 6–10 years
3. 11–20 years
4. >20 years

Type of workplace

1. University hospital
 2. General hospital
 3. Specialized hospital
 4. Private clinic
 5. Other (please specify)
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II. Differential Diagnosis of Hordeolum and Chalazion

According to your clinical experience, what are the most important signs for differentiating hordeolum from chalazion?

Please rank the following factors in order of importance (1 = most important, 4 = least important).

- Pain ()
- Redness and swelling ()

- Localized tenderness ()
 - Onset of the lesion (acute vs. chronic) ()
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III. Treatment of Hordeolum

1. What initial treatment do you apply for acute hordeolum when no palpable lump is present? (*multiple selections allowed*)

1. Warm compresses
2. Eyelid hygiene (eyelid scrubbing)
3. Topical antibiotic eyedrops
4. Topical antibiotic ointment
5. Oral antibiotics
6. Observation only

2. Do you recommend warm compresses for patients with acute hordeolum?

1. Always
2. Sometimes
3. Never

3. Based on your clinical experience, how effective do you think warm compresses are for treating acute hordeolum?

1. Very effective
2. Somewhat effective
3. Uncertain
4. Barely effective
5. Ineffective

4. If you recommend warm compresses, what is the typical frequency, duration, and treatment period?

- () times per day, () minutes per session, for () days
(*e.g., 10 times per day, 10 minutes per session, for 10 days*)

5. Do you recommend eyelid hygiene (eyelid scrubbing) for patients with acute hordeolum?

1. Always
2. Sometimes
3. Never

6. Based on your clinical experience, how effective do you think eyelid scrubbing is for treating acute hordeolum?

1. Very effective
2. Somewhat effective
3. Uncertain

4. Barely effective
5. Ineffective

7. Do you prescribe topical antibiotics (eyedrops or ointment) for patients with acute hordeolum?

1. Always
2. Sometimes
3. Never

8. If you prescribe topical antibiotics, which formulation do you use?

1. Eyedrops
2. Ointment
3. Both eyedrops and ointment

9. Based on your clinical experience, how effective do you think topical antibiotics are for treating acute hordeolum?

1. Very effective
2. Somewhat effective
3. Uncertain
4. Barely effective
5. Ineffective

10. Do you prescribe oral antibiotics for patients with acute hordeolum?

1. Always
2. Sometimes
3. Never

11. If you prescribe oral antibiotics for hordeolum, which class do you mainly prescribe?

1. Cephalosporins
2. Tetracyclines (e.g., doxycycline, tetracycline)
3. Quinolones (e.g., ciprofloxacin, ofloxacin)
4. Macrolides (e.g., erythromycin, azithromycin)
5. Other (please specify)

12. Based on your clinical experience, how effective do you think oral antibiotics are for treating acute hordeolum?

1. Very effective
2. Somewhat effective
3. Uncertain
4. Barely effective
5. Ineffective

13. How long do you typically prescribe oral antibiotics for acute hordeolum?

1. 3 days
2. 4–5 days
3. 6–7 days
4. 1–2 weeks
5. >2 weeks
6. Do not prescribe oral antibiotics

14. Do you prescribe steroids in combination with antibiotics for the initial treatment of acute hordeolum? If so, which form do you prefer?

1. Do not prescribe steroids
2. Steroid eyedrops
3. Steroid ointment
4. Oral steroids
5. Intramuscular steroid injections

15. How long do you continue nonsurgical treatment (e.g., warm compresses, antibiotics) before considering incision and curettage?

1. ≤3 days
2. 4–5 days
3. 6–7 days
4. 7–14 days
5. >2 weeks

16. Based on your clinical experience, what proportion of acute hordeolum cases improve with nonsurgical treatment alone?

1. 0–20%
2. 21–40%
3. 41–60%
4. 61–80%
5. 81–100%

17. Based on your clinical experience, how effective is continuing nonsurgical treatment for >1 week?

1. Very effective
2. Somewhat effective
3. Uncertain
4. Barely effective
5. Ineffective

18. After how many days do you decide to perform incision and curettage if the lump persists?

- () days
- Perform incision and curettage regardless of duration if a palpable lump is present

19. If hordeolum persists for >1 month and causes skin damage with residual swelling, how do you treat it? (*multiple selections allowed*)

1. Warm compresses and eyelid scrubbing
 2. Antibiotic/steroid ointment
 3. Intralesional steroid injections
 4. Incision and curettage
 5. Other (please specify)
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IV. Treatment of Chalazion

1. What initial treatment do you prescribe for chalazion? (*multiple selections allowed*)

1. Warm compresses and eyelid scrubbing
2. Antibiotic/steroid ointment
3. Intralesional steroid injections
4. Incision and curettage
5. Other (please specify)

2. Do you recommend warm compresses and eyelid scrubbing for chalazion?

1. Always
2. Sometimes
3. Never

3. Based on your clinical experience, how effective do you think warm compresses and eyelid scrubbing are for treating chalazion?

1. Very effective
2. Somewhat effective
3. Uncertain
4. Barely effective
5. Ineffective

4. If you recommend warm compresses and eyelid hygiene, what is the typical treatment period?

- () times per day for () days (*e.g., 5 times per day for 10 days*)

5. Do you recommend antibiotic and steroid ointments for chalazion patients?

1. Always
2. Sometimes
3. Never

6. How long do you usually prescribe antibiotic and steroid ointments for treating chalazion?

1. 3 days
2. 4–5 days
3. 6–7 days
4. 1–2 weeks

5. >2 weeks
6. Do not prescribe antibiotic or steroid ointment

7. Based on your clinical experience, how effective do you think antibiotic and steroid ointments are for treating chalazion?

1. Very effective
2. Somewhat effective
3. Uncertain
4. Barely effective
5. Ineffective

8. Do you recommend intralesional steroid injections for chalazion patients?

1. Always
2. Sometimes
3. Never

9. Based on your clinical experience, how effective do you think intralesional steroid injections are for treating chalazion?

1. Very effective
2. Somewhat effective
3. Uncertain
4. Barely effective
5. Ineffective

10. If you administer intralesional steroid injections, what type and how many times do you use them?

1. Dexamethasone injections
2. Undiluted triamcinolone acetonide injections
3. Diluted triamcinolone acetonide injections

10-1. If you administer intralesional steroid injections, how many times do you perform them? (for those who select “intralesional steroid injections”)

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Intralesional steroid injections are performed up to ____ times (please enter the number in the parentheses)

10-2. At what percentage do you dilute triamcinolone acetonide for the injections?

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Please enter the dilution percentage in the parentheses (for those who select “diluted triamcinolone acetonide injections”)

V. Postsurgical Management and Follow-Up of Hordeolum and Chalazion

1. Under what conditions do you administer intralesional steroid injections after incision and curettage of hordeolum or chalazion? (*multiple selections allowed*)

1. When symptoms such as redness and pain are severe
2. When the lesion is large
3. Always perform steroid injections
4. Do not perform steroid injections
5. Other (please specify)

2. Do you administer additional treatments after incision and curettage of hordeolum or chalazion? (*multiple selections allowed*)

1. Antibiotic eyedrops
2. Antibiotic ointment
3. Oral antibiotics
4. Observation only
5. Other (please specify)

3. What preventive measures do you recommend for patients with recurrent hordeolum or chalazion? (*multiple selections allowed*)

1. Warm compresses
2. Eyelid hygiene (eyelid scrubbing)
3. Topical antibiotic eyedrops
4. Topical antibiotic ointment
5. Oral antibiotics
6. Other (please specify)

4-1. If you prescribe topical antibiotics, how long is this for?

Please enter the number of days in the parentheses

- **Topical antibiotics (eyedrops and ointment):** () days

4-2. If you prescribe oral antibiotics, how long is this for?

Please enter the number of days in the parentheses

- **Oral antibiotics:** () days

5. If a palpable lump remains 1 month after incision and curettage, how do you manage it? (*multiple selections allowed*)

1. Warm compresses and eyelid hygiene
2. Prescribe antibiotic/steroid eyedrops or ointment

3. Prescribe oral antibiotics/steroids
4. Intralesional steroid injections
5. Repeat incision and curettage
6. Other (please specify; e.g., LipiFlow)

6. Under what conditions do you perform a biopsy when a lump is palpable on the eyelid? (*multiple selections allowed*)

1. Persistent symptoms after treatment
 2. Abnormal changes in surrounding tissue
 3. Frequent recurrence
 4. At the patient's request
 5. Other (please specify)
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VI. Treatment of Hordeolum and Chalazion in Pediatric Patients

1. What type of anesthesia do you prescribe for treating chalazion and hordeolum in pediatric patients?

1. Local anesthesia only (as for adults)
2. Sedation or monitored anesthesia care
3. General anesthesia
4. Other (please specify)

2. Other than anesthesia method and antibiotic type and dosage, do you apply different treatment protocols for children and adults?

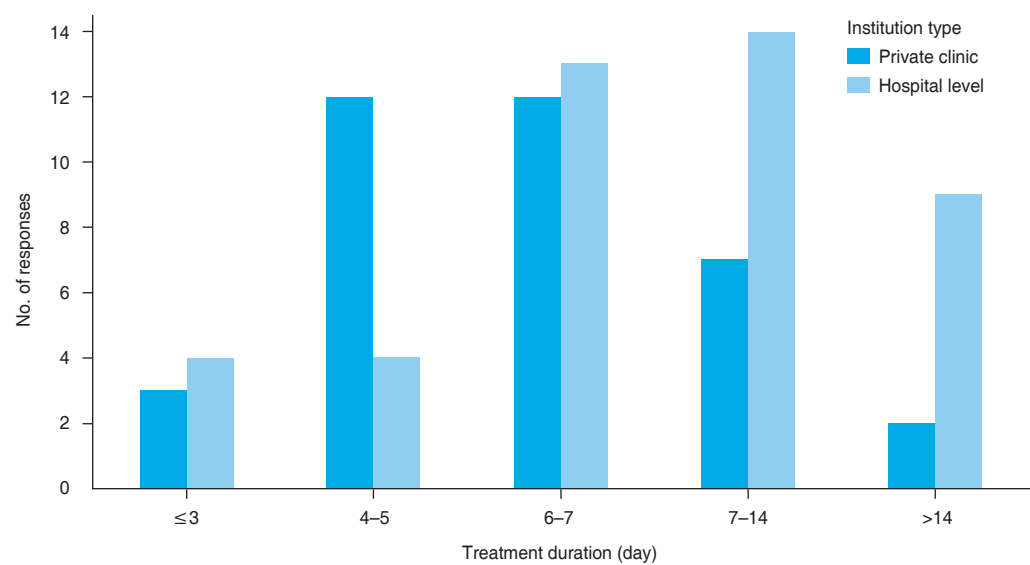
1. Yes, I apply different protocol for children than for adults ()
2. No, I do not apply a different protocol for children ()
3. Other ()

2-1. If you answered “Yes” above, what aspects of the treatment protocol do you modify? (*multiple selections allowed*)

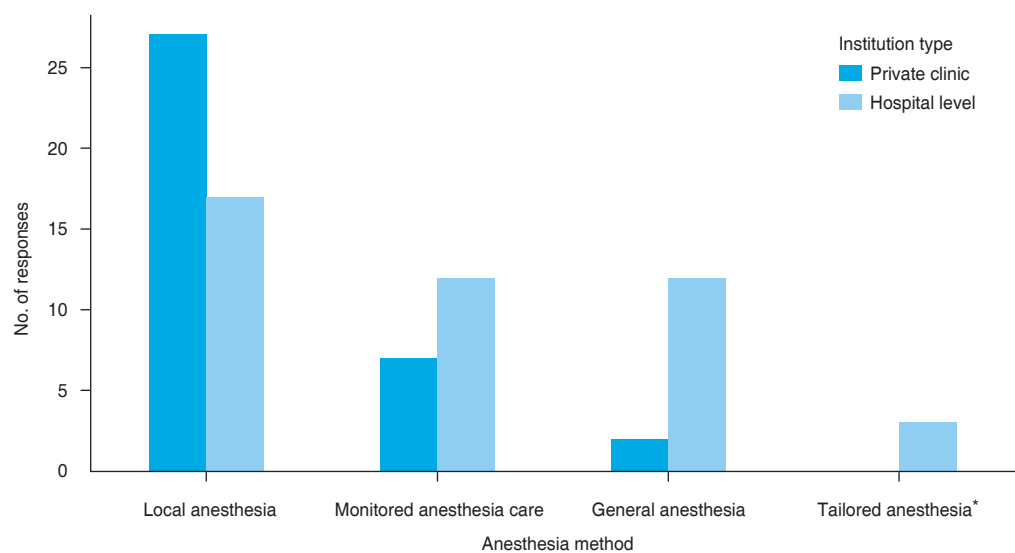
1. Nonsurgical treatment is prolonged, and incision and curettage are delayed in pediatric cases
 2. Nonsurgical treatment is shortened, and incision and curettage are performed earlier in pediatric cases
 3. Incision and curettage timing is determined based on parental preferences
 4. Other (please specify)
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VII. Additional Comments

If you have any additional experiences or opinions regarding the treatment of chalazion and hordeolum, please feel free to describe them (*e.g., experiences with side effects, circumstances in which blood tests are performed*)



Supplementary Fig. 1. Comparison of nonsurgical treatment duration for acute hordeolum between private clinics and hospital-level institutions (n = 80).



Supplementary Fig. 2. Comparison of anesthesia methods used for pediatric hordeolum and chalazion treatment according to institution type (n = 80). *Selected based on the child's age, cooperation level, and lesion characteristics.