Efficacy of Intralesional Triamcinolone Acetonide Injection for Primary Chalazion in Adults: A Retrospective Study

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Type of Publication: Original Research Paper
Conflicts of Interest: Nil

ABSTRACT
Context: The study was undertaken to access the efficacy of intralesional triamcinolone acetonide injection for primary chalazion in adults.Aim: To assess the resolution of primary chalazion after intralesional injection of Triamcinolone Acetonide in adults at tertiary care hospital in Punjab, India.Settings and Design: This was a retrospective, interventional and tertiary hospital-based study. Material and Methods: A retrospective study was done in 60 eyes of 60 patients using intralesional injection of triamcinolone acetonide in adult patients with primary chalazion from September 2018 to August 2019. The size of the chalazion was measured by using measurement rings of different sizes. Resolution of chalazion after intralesional injection of triamcinolone acetonide at 2 weeks was noted. Statistical Analysis Used: Proportions and percentages were used for statistical analysis. Results: Forty-nine (81.67%) patients showed complete resolution of the lesion with single injection of triamcinolone acetonide. Conclusion: Intralesional triamcinolone acetonide injection is very useful in resolving chalazion of different sizes, so this treatment can be used as a convenient treatment option for chalazion.

Keywords: Chalazion, Intralesional, Triamcinolone acetonide

INTRODUCTION
Chalazion is a hard, painless nodule of an eyelid caused by chronic inflammation of meibomian glands. Histologically, a zonal lipogranulomatous inflammation is centred around spaces previously filled with lipid, but dissolved during tissue processing. Polymorphonuclear leukocytes, plasma cells, lymphocytes, and multinucleated giant cells can be found in the lesion.1 Chalazia are initially managed conservatively using warm compress and antibiotic eye ointment for the prevention of secondary bacterial infection. For persistent lesions, incision and curettage (I&C), steroid injection, or carbondioxide laser treatment may be considered.2,3 Intralesional corticosteroid therapy of chalazion is not a new procedure.4 Intralesional triamcinolone acetonide injection of chalazion is an effective, easy and a safe method.5 This study will give an effective alternative option for chalazion in patients with allergy to local anaesthetics and in those who have fear for operation theatre environment and surgery.

Material & Methods
The study was a hospital-based, retrospective, interventional study conducted over one year period at a tertiary hospital in Punjab, India. Written informed consent was taken from all the study patients. 60 patients fulfilling the inclusion and exclusion criteria were included in the study. Patients with age more than 18 years with primary chalazion were included in the study. Patients with...
acutely infected chalazion with preseptal cellulitis, prior treatment to the chalazion, recurrent chalazion, any small chalazion \((\leq 2 \text{ mm})\), and with a history of steroid-induced elevated intra-ocular pressure (IOP). were excluded from the study. Cases were sub-grouped on the basis of duration and size of chalazion. The patients were categorized with respect to the duration of the lesion into 3 categories i.e. less than 2 months, between 2 and 3 months and more than 3 months. The patients were also categorized with respect to size of the lesion in to 2 groups, i.e. less than 5 mm (Image 1) and 5 or more. Sizing of the lesion was done using measurement rings of different sizes. A detailed history and ocular examination of each patient were recorded. Informed written consent was taken after explaining the purpose and procedure of the study. The conjunctiva was first anaesthetized with proparacaine HCL eye drops. Triamcinolone acetonide 0.1 ml diluted with lignocaine to a concentration of 5mg/ml was injected through the conjunctiva into the lesion with the 30-gauge needle and tuberculin syringe (Image 2). Patients were followed up 2 and 4 weeks later and the size of the chalazia and complications were recorded. On examination, if there was no palpable mass on the eyelid, it was considered as complete resolution of chalazion after 2 weeks(Image 3).

### Results

The present study based on 60 cases of primary chalazion attending at the department of Ophthalmology at Government Medical College, Patiala, Punjab during a period of one year who underwent treatment with intralasional triamcinolone acetonide injection.

Out of 60 patients, 28 were male (46.67 %) and 32 were female (53.33 %) **Figure 1:** **Figure 2** defines the age group, most of the patients were between 30 to 39 years of age that is 41 %.

![Image 1](image1.png) ![Image 2](image2.png) ![Image 3](image3.png)

**Figure 1:**
**Gender Distribution**

- **Female:** 53%
- **Male:** 47%
Duration of chalazion was 2 to 3 months in 35 (58.33%) patients, above 3 months in 15 (25%) and below 2 months in 10 (16.77%) patients as shown in Table 1. Similarly size of chalazion was less than and equal to 5 mm in 40 (66.67 %) cases while greater than 5 mm were observed in 20 (33.33%) cases as shown in figure 3.

Table 1: Distribution based on duration of chalazion:

<table>
<thead>
<tr>
<th>Duration of chalazion</th>
<th>No. of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 2 months</td>
<td>10</td>
</tr>
<tr>
<td>2-3 months</td>
<td>35</td>
</tr>
<tr>
<td>More than 3 months</td>
<td>15</td>
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</tbody>
</table>

Fourty nine (81.67%) patients showed complete resolution of the lesion with single injection of triamcinolone acetonide while remaining 11 patients exhibited no response to the treatment.

Discussion

Chalazion is a common eye disease encountered by both ophthalmologists and general practitioners. One study indicated that approximately 25% of chalazia resolve spontaneously.\(^6\) Conservative treatment including lid hygiene, warm compresses, and topical antibiotics have been used widely. However, results can be unsatisfactory. Our study showed that intralesional sub conjuntival triamcinolone injection
was effective and provides an alternative to undergoing surgical incision and curettage.

There are several advantages of steroid injection over other forms of treatment. Steroid injections do not rely on patient compliance, require no special instruments, involve a quick and simple procedure with minimal bleeding, eliminate the risk of damaging eyelid structures, and do not require eye patching after injection, allowing bilateral cases to be treated at the same patient visit.

Ben Simon et al were evaluating the efficacy of intralesional triamcinolone acetonide injection in primary and recurrent chalazions in patients. Success was defined as at least an 80% decrease in size with no recurrence. Triamcinolone acetonide may be considered as the first which was confirmed in our study. Norris JH says that the complete resolution was defined as lesion regression of 95-100%. Triamcinolone acetonide injections may be considered as alternative first-line treatment in cases where diagnosis is clear and no biopsy is required and we share this opinion.

**Conclusion**

Intralesional triamcinolone acetonide injection is very useful in resolving chalazion of different sizes, so this treatment can be used as a convenient treatment option for chalazion.

**Acknowledgment**

The authors would like to thank family and colleagues for their support.

**References**