

ORIGINAL RESEARCH ARTICLE**Non-Operative Management of Chalazion: Experiences at Tertiary Health Care Centre**

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Abstract:

Chalazion is a localized chronic granulomatous inflammation with blockage of the meibomian glands in eyelid. The chief effects of chalazion are cosmetic disfigurement with variable discomfort. The standard treatment of chalazion is by incision and curettage. This study was undertaken to investigate outcome of intra-lesional triamcinolone acetonide injection for primary chalazia. Eighty six patients with 100 chalazia were treated by intra-lesional injection of Triamcinolone acetonide. Subcutaneous injection of triamcinolone acetonide in primary and recurrent chalazion appears to be a simple and efficacious therapeutic option for chalazion in small health care centres.

Keywords:

Chalazion, Non invasive method, Triamcinolone injection

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Introduction:

Chalazion is a localized chronic granulomatous inflammation with blockage of the meibomian glands^(1,2). The most common site is the upper eyelids. It can be present as benign, self-limiting nodule to a painful lid swelling complicated by corneal astigmatism and mechanical ptosis⁽³⁾. Persons who frequently touch their eyelids such as rubbing or applying make-up, increases the likelihood of developing a chalazion. Patients with blepharitis, rosacea and acne develop chalazion more rapidly⁽⁴⁾. The chief effects of chalazion are cosmetic disfigurement with variable discomfort. Although spontaneous resolution may take place in a few patients, the standard treatment of chalazion is by incision and curettage (IC)⁽²⁾. This surgical procedure, although minor, distress and discomfort to the patient often necessitates the use of pad and bandage after the surgery⁽⁵⁾. In chalazia management, most common conservative method is by using warm compresses and antibiotic eye ointment⁽⁶⁾. Persistent lesion is managed by IC, steroid injection or carbon dioxide laser treatment⁽⁷⁾. IC may cause pain, bleeding, and scarring. Chalazion is also managed by intra-lesional steroid injection⁽⁸⁾. It is reported to have high success rates⁽⁵⁾. This study was carried out in a tertiary care centre with an objective to assess

the outcome of intra-lesional triamcinolone acetonide (TA) injection in management of chalazia. This study was also carried out to investigate predisposing factors responsible for chalazion and to assess the efficacy of intra-lesional injection of long acting steroid in the treatment of chalazion.

Material & Methods:**The Treatment Protocol:**

Initially, Primary conservative therapy like hot fomentation, lid massage and local antibiotic ointment were given. If primary therapies do not give recovery or failed then intra-lesional therapy was attempted. This involved trans-cutaneous TA injections with 26-G needle without any local anaesthesia with slow massage over site was carried out following the injection and then eye patched for 10-15 minutes only. In this procedure there is no need of chalazion clamp. The patients were followed up for examination every week, up to 4th week. The study was initiated only after approval of institutional ethical committee. Informed consent of each patient was taken before starting the treatment. All the treatment was given in outpatient department.

Technique of Triamcinolone Injection:

The site of lesion cleaned with betadine swab. Topical anaesthesia (Proparacaine 0.5%) eye drops were instilled in the affected eye before the injection. 0.05 to

0.15 mL of TA (40 mg/mL) was injected intra-lesionally. The amount of TA injected was

decided depending on the chalazion size (Table-1).

Table-1: Criteria for amount of Triamcinolone according to size⁽³⁾.

Chalazion Size	Amount Of Triamcinolone Acetonide (TA)
<1 cm	2 mg/0.05 mL
1–1.5 cm	4 mg/0.1 mL
>1.5 cm	6 mg/0.15 mL

The eyelid was inverted and the TA was injected trans-conjunctivally into the centre of the lesion with a 26-G needle. When it was not possible to invert the eyelid due to extensive swelling, the injection was given trans-cutaneously into the chalazion after disinfection of the skin with 70% isopropyl alcohol wipes. Eye patch is given for 10-15 min after procedure. The patients were given chloramphenicol 1% eye ointment three times per day to apply over the lesion and advised to continue warm compression for 4 to 6 times per day for 10 minutes each. The patients were reviewed every 2 weeks after the TA injection until complete resolution of the chalazion. For uncooperative or very young children,

sedation with oral chloral hydrate (50 mg/kg) was given for 30 minutes before the procedure.

Patients were followed up at the end of 1st week, 2nd week, 3rd week and 4th week. Chalazion was said to be treated if there was no visible lesion, no palpable swelling at site of lesion and when the patient expressed it as completely resolved. If there is no improvement in size of lesion after two weeks the procedure was repeated and the patient was again followed up at weekly intervals for two weeks. If there is no response even after second time intra-lesional injection of TA then it is considered as treatment failure and then lesion is treated by IC method.



Figure 1: Before Procedure

Figure 2: After Procedure

Observations and Results:

The present study was carried out in the Department of Ophthalmology at Government Medical College and Hospital, Aurangabad during period from February

2002 to February 2005. Eighty six patients with 100 chalazia were treated by intralesional injection of TA. All the chalazia were devoid of secondary infections.

Table-2: Age distribution of the patients.

Age Groups (in Years)	No. of Cases	Percentage
00-10	01	2.27
11-20	42	47.72
21-30	28	31.81
31-40	14	15.91
More than 41	01	2.27

Out of 86 patients, 42 (47,72%) cases were from 11-20 age group, followed by 28 (31.81%) of cases were from 21-30 age group. It is seen from the table-2 that nearly 80% of the cases were from the age group of 11-30

years; 16 (18.18%) patients were above the age of 31 years and only 2 (2.27%) patients were below the age of 10 years. Thus majority of patients were from 2nd and 3rd decade of life.

Table-3: Sex Distribution of the Patients.

Sex	No. of Cases	Percentage
Male	40	45.45
Female	46	54.55
Total	86	100

Out of 86 patients, 40 (45.45%) patients treated with intra-lesional steroid were male and 46 (54.55%) were female. Thus there was no gender difference in the incidence of chalazia in the study group.

Table-4: Lid involvement of Chalazia.

Lids	No. of chalazia	Percentage
Right upper	30	30
Right Lower	26	26
Left Upper	34	34
Left Lower	10	10
Total	100	100

Out of 100 chalazia, 30 (30%) were in right upper lid, 26 (26%) in right lower lid, 34 (34%) in the left upper lid and 10 (10%) in left lower lid. Right side was affected in 56 (56%) and left side was affected in 44 (44%) cases. Thus, the incidence of the chalazia was near about equal on both sides.

Table-5: Predisposing Factors.

Predisposing factors	No. of cases	Percentage
Refractive errors	16	18.18
Blepharitis	14	15.91
Over crowding	10	11.36
Malnutrition	10	11.38
Diabetes	02	2.28
No cause	34	40.91
Total	86	100.00

Out of 86 patients, refractive error was present in 16 (18.18%) patients. Blepharitis was present in 14 (15.91%) patients, history of overcrowding and malnutrition was present in

10 (11.36%) patients each. Diabetes was present in 2 (2.28%) patients, no predisposing factor was found in 36 (40.91%).

Predisposing factors in Chalazia

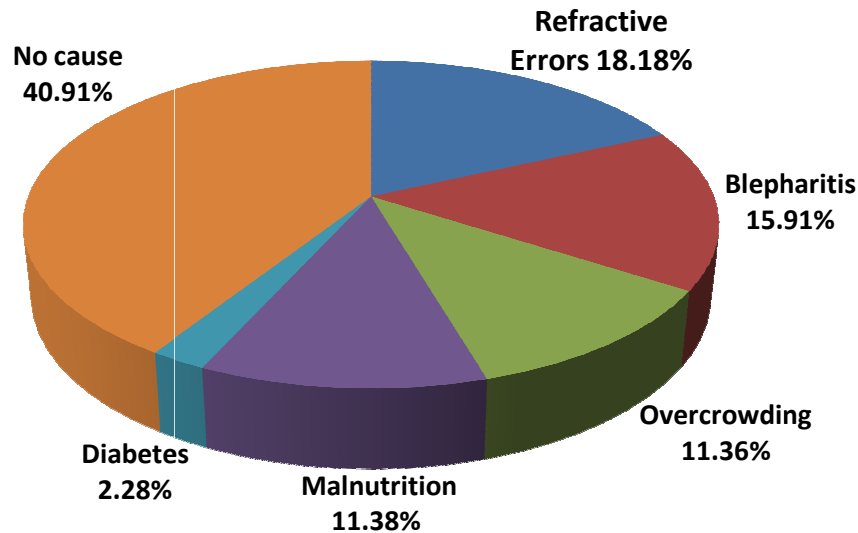


Figure 3: Predisposing factors in Chalazia

Discussion:

Chalazion is a common cause of eye lid inflammation and is self-limiting with conservative warm compress in 29–80% of cases⁽²⁾. For persistent lesions, IC and intralesional steroid injection are used in 62–92% of cases respectively^(2,3). While IC seems to offer a more consistent success rate⁽²⁾, intralesional steroid injection has the potential advantages of not requiring additional anesthetic injection⁽⁹⁾. We found that it is less bleeding, and with no scarring risk. It can be performed in the simple-setting and may be used for multiple chalazia⁽¹⁰⁾ and even for lesions that are close to the lacrimal punctum^(2,11). It is also suitable in cases where

cooperation is compromised like in children or adults with mental incapacities, dementia, or anxiety⁽¹¹⁾.

It is seen from the table-2 that nearly 80% of the cases were from the age group of 11-30 years. Thus maximum patients were from 2nd and 3rd decade of life. There was no gender difference in the incidence in the study group (Table-3). We observed that the incidence of the chalazia was near about equal on both sides (Table-4). In the present study we found refractive error as the predisposing factor in the patients which was highest among the known causes, while in majority of the cases (41% of the total) no definite cause as the predisposing factor for development of

the chalazia could be found among the patients.

Triamcinolone acetonide is used for intra-articular injection in condition like rheumatoid arthritis and for intra-dermal injection in conditions including acne cysts, alopecia, lichen planus, and psoriatic plaques⁽¹²⁾. Intra-lesional corticosteroid method is considered as most acceptable one in majority of patients. TA is the acetonide salt form of triamcinolone, a synthetic glucocorticosteroid with immunosuppressive and anti-inflammatory activity⁽¹³⁾. TA binds to specific cytosolic glucocorticoid receptors and subsequently interacts with glucocorticoid receptor response element on DNA and alters gene expression⁽¹³⁾. This results in an induction of the synthesis of certain anti-inflammatory proteins while inhibiting the synthesis of certain inflammatory mediators⁽¹³⁾. Consequently, an overall reduction in chronic inflammation and autoimmune reactions are accomplished. It works by suppressing immunity and blood pressure may be raised along with weight gain. All the side effects of TA can be seen in long term use. However, we did not find such side effects in our cases as the dose and duration of TA treatment was very short. Intra-lesional corticosteroid method is considered as most acceptable one in majority

of patients⁽¹¹⁾. In this study, we found that it is most suitable and convenient approach for the treatment of chalazia as it is quick and outdoor patient procedure, less painful, economical, does not require much skill or any kind of anesthesia. Cases like multiple chalazia and chalazia close to the lacrimal punctum can be treated without danger of damage to the lacrimal passages. In this study, for majority of cases one injection was sufficient for complete resolution of chalazion within a period of a week's time. Injection was repeated after a week in cases having residual swelling. Our results are in conformity with the other reported^(14,15).

It appears to be ideal treatment method in patients with chalazia which do not resolve by conservative therapies like local antibiotics eye-drops and systemic antibiotics drugs and in chronic conditions with unknown predisposing factors. It is most suitable procedure in small centres like primary health-care centre. It is simple, economical and patient can be treated without hospitalisation. Therefore, it is recommended that this approach in the treatment of chalazia will give proper benefits to the patients in small setup centres.

Summery & Conclusion:

This was a prospective study of Non-operative management i.e. intra-lesional

steroid injection in treatment of chalazion carried out in the Department of Ophthalmology, Government Medical College and Hospital, Aurangabad, during period from February 2002 to February 2005. This study included 86 patients with 100 chalazia who were injected with intra-lesional TA. Intra-lesional injection of TA cured chalazion in all of the cases. In majority of cases one injection was sufficient for complete resolution of the chalazion within a period of a week's time. Injection can be repeated after a week in cases having residual swelling. Subcutaneous injection of the steroid TA in primary and recurrent chalazion appears to be a simple and efficacious therapeutic option for chalazion in small healthcare centres. The main advantage of this procedure is its simplicity and non-operative nature of treatment in chalazion.

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