

## Original Article

# A Study of Efficacy of Intralesional Injection Triamcinolone Acetonide in the Treatment of Chalazion

Anuja Arun Kandle<sup>1</sup>, Suhas Shamrao Sarawade<sup>2</sup>, Sharad Sanjay Jadhav<sup>3</sup>

**Purpose :** To determine the effectiveness of intralesional injection triamcinolone acetonide in treatment of chalazion.

**Material and Methods :** All patients meeting the inclusion criteria were included in the study through OPD irrespective of their Age and Gender. Chalazion was diagnosed on the basis of presence of painless and nontender nodule in the eyelid. Under strict aseptic technique 0.1 to 0.2 ml of Triamcinolone Acetonide (40mg/ml) was injected intralesionally. Follow up visit was done at 1 week, 2 weeks and 4 weeks to determine effectiveness in term of reduction in size of chalazion.

**Results :** overall success rate of the study was 97.50% with complete resolution while 2.5% lesions failed to show any response.

**Conclusion :** Intralesional injection of Triamcinolone Acetonide is quick, safe, cheap, convenient highly effective and acceptable method in treatment of Chalazion. Most lesions resolve with one or two injections and higher effectiveness is seen in chalazia of size less than 6mm.

[J Indian Med Assoc 2023; 121(5): 32-5]

**Key words :** Chalazion, Intralesional Triamcinolone Acetonide, Meibomian Glands.

Eye lid being one of the important ocular component subserves the protective function for the globe. Focal swelling of the eyelid is a common complaint that is seen in Out Patient Department (OPD). Actual meaning of chalazion is a hail stone. Chalazia are the most common inflammatory lesions of the eyelid. They are focal non infective chronic lipogranulomatous inflammatory lesion of the Meibomian Glands, caused by retained Sebaceous<sup>1</sup>. Meibomian glands are modified Sebaceous Glands present in the tarsal plate of upper and lower eyelids. These glands secrete the outer lipid layer of the tear film. Chronic inflammation of these glands causes retained secretions inside the ducts and cause Chalazion.

It is a common condition of lids affecting Males and Females equally<sup>2</sup>, presenting as chronic gradually enlarging painless rounded nodule over the lid. The chief effects are cosmetic disfigurement and discomfort to a variable degree. The diagnosis of Chalazion is usually done with the help of history and clinical examination.

The standard treatment of this lesion has been incision and curettage, which although a minor

### Editor's Comment :

- Intralesional Triamcinolone Acetonide is an effective and safe method for the treatment of Chalazion.
- Intralesional injection of Triamcinolone Acetonide can be used as first line therapy for primary Chalazion without any significant complications.

procedure often causes some distress and discomfort to the patient.

However, intralesional corticosteroid therapy has been described as more convenient and less expensive alternative method of treatment. This method was found to be safe and effective alternative to incision and curettage<sup>3</sup>.

The purpose of the present study was to evaluate the safety and efficacy of Intralesional Triamcinolone Acetonide in 40 cases.

### MATERIALS AND METHODS

This study was conducted at OPD of Ophthalmology, Tertiary Care Center, during the period of September, 2019 to October, 2021. Patients coming with complaints of swelling over eyelid or mass lesion over eyelid irrespective of their age and gender were thoroughly examined noting the detailed history and examination.

### Exclusion Criteria :

- Patients with Infected Chalazion
- Multiple chalazia
- Those with a history of prior treatment for

Department of Ophthalmology, Dr. Vaishampayan Memorial Government Medical College, Solapur, Maharashtra 413003

<sup>1</sup>MS (Ophthalmology), Resident and Corresponding Author

<sup>2</sup>MS (Ophthalmology), Professor and Head

<sup>3</sup>MS (Ophthalmology), Assistant Professor

Received on : 13/05/2022

Accepted on : 22/05/2022

chalazion whether surgical or corticosteroid injection intralesionally

- Uncontrolled diabetes mellitus
- Immunocompromised patients

Chalazion was diagnosed on the basis of presence of painless and non tender nodule in the eyelid. The size of nodule was measured with Castrovejo's caliper. The purpose and benefits of the study were explained to all patients.

In the present study total 40 patients of Chalazion were examined and treated with intralesional injection of Triamcinolone Acetonide after taking their consent.

In this study Triamcinolone Acetonide suspension was used for the intralesional injection. It is manufactured and sold under the market name of "KENACORT". It is available in the concentration of 40 mg/ml vial (1ml).

**Method :** Under strict aseptic conditions, 0.1-0.2 ml of injection Triamcinolone Acetonide 40mg/ml was used for intralesional injection on conjunctival side.

Patient was kept under observation in the OPD for 30 minutes. Antibiotic eye drops installed into the conjunctival sac. Bandage or eyepatch was not applied in any patient following injection. Patients were re examined at 1 week, 2 weeks and 4 weeks interval.

If Chalazion has not decreased significantly in size ie, half of its original in 2 weeks, a second injection was given. Patients were photographed during each visit. During follow up special attention was paid to note size of Chalazion, any pigmentation and white subcutaneous deposits at the site of injection and for infection (Figs 1-4).

### RESULTS

In this study, 40 patients with Chalazion had been included, in which 18 (45%) were Male and 22 (55%) were Females. Patients age was divided in different categories out of which most presented in age group of 11-30 years (42.50%) (Table 1).

In the study, 72.50% of chalazia were of moderate size (3-5mm), 17.50% were of small

size (upto 2mm)(Table 2).

31 out of 40 chalazia had the duration less than 6 months. Out of which 19 chalazia showed resolution after 1 st injection while 12 chalazia resolved after 2 nd injection (Table 3).

Overall success rate of the procedure is 97.50% while failure rate was found to be 2.50% (Table 4).

### DISCUSSION

Present study was conducted in Tertiary Care Center in the period of September, 2019 to October, 2021.

All patients coming to OPD with complaints of painless swelling over eyelid or mass lesion of one or more eyelid were thoroughly examined. The detailed history was noted and thorough external examination including slit lamp biomicroscopy was done.

Diagnosis of Chalazion was made on clinical examination differentiating it from other lid swellings. Patients with infected , recurrent and multiple chalazia were excluded from this study.

Each patient was examined and studied as per proforma. In this study, we have studied a series of



Fig 1 — Left Upper Lid chalazion before administration of intralesional Triamcinolone acetonide injection



Fig 2 — Resolution of left upper lid chalazion after 4 weeks of intralesional Triamcinolone acetonide injection



Fig 3 — Right upper lid chalazion before administration of intralesional Triamcinolone acetonide injection



Fig 4 — Resolution of Right upper lid chalazion after 2 weeks of intralesional Triamcinolone acetonide injection

Age in years	No of patients	Percentage
1-10 years	5	12.50%
11-20 years	7	17.50%
21-30 years	10	25%
31-40 years	6	15%
41-50 years	8	20%
51-60 years	3	7.50%
61-70 years	1	2.50%
Total	40	100%

Size of Chalazion	No of Chalazion	Percentage
Upto 2 mm	7	17.50%
3-5 mm	29	72.50%
6mm or more	4	10%
Total	40	100%

proved in treatment of chalazion.

Total number of patients studied in this study was 40 and total no. of chalazia studied were 40. In this study, 5 (12.50%) patients were in the age group of 1 to 10 years, 7 (17.50%) patients were in the age group of 11 to 20 years, 10 (25%) patients were in 21 to 30 years age group, 6 (15%) in 31 to 40 years, 8 (20%) in 41 to 50 years, 3 (7.50%) in 51 to 60 years, 1 (2.50%) in 61 to 70 years respectively. It was found that incidence of Chalazion is more in the age group of 11 to 40 years (Table 2)

Similarly, according to Pizzarello, mean age for the patients with Chalazion was 36 years with a range of 20 to 54 years<sup>4</sup>.

A cross sectional observational multicentric study conducted by AV Das and TV Dave between 2010 and 2019 also showed that the commonest age group affected with Chalazion was the third decade of life<sup>13</sup>. Similarly, To Otulana, *et al* found that most of the cases of Chalazion in their study were in the age group of 21-30 years<sup>14</sup>.

We have found that 29 out of 40 (72.50%) chalazia

Duration of Chalazion	Resolution after 1 week	Resolution within 2-4 weeks	No resolution after 4 weeks
1-3 months	11	8	0
4-6 months	8	5	0
7 month - 1 year	2	3	1
>1 year	2	0	0
Total	23	16	1

	0-2mm 3-5mm 6mm			Percentage
	7	28	4	
Complete resolution at 4 weeks	7	28	4	97.50%
Unresolved chalazion	0	1	0	2.50%
Total	7	29	4	100%

patients of chalazion. Their Age, Sex, duration of Chalazion, size of Chalazion, site of Chalazion was noted.

Triamcinolone acetonide drug was chosen as the drug of choice for reasons that it is insoluble in nature and there by is able to remain at the local site for longer duration. Also, its effectiveness is

were of moderate size, 7 out of 40 (17.50%) were of small size and 4 out of 40 (10%) were of larger size.

Majority of the cases had the chalazia for 1 to 3 months duration ie, in 19 out of 40 (47.50%) patients. 13 out of 40 (32.50%) patients had a history of 4 to 6 months, 6 out of 40 (15%) patients had a history of over 6 months and 2 out of 40 (5%) patients were having history of 1 year or more.

In the present study, it was observed that chalazia which were of short duration ie, less than 6 months responded well to the treatment with a resolution rates of nearly 100% after 1 month of intralesional Triamcinolone injection.

Similarly, in the study done by Pizzarello, *et al*, in all cases the lesion had lasted from six weeks to one year with a mean duration of 6 months<sup>4</sup>.

40 cases of chalazia were treated by intralesional injection of 0.1-0.2 ml of 40 mg/ml suspension of Triamcinolone Acetonide. The same concentration of Triamcinolone Acetonide was used in previous studies by MYY Wong, Gordon SK, *et al*<sup>5</sup>, Guy J Ben Simon, Lynn Huang, *et al*<sup>6</sup> and Nabie R, *et al*<sup>7</sup>.

In all patients the injection was given from conjunctival side to avoid the complication like pigmentation which was found to occur when injection was given from skin side. Jain and Misuria<sup>8</sup>, Jacob, *et al*<sup>9</sup> and Watson, *et al*<sup>2</sup> had given injections by same approach.

Thus the percentage of number of chalazia which resolved with one or two injections was 97.50% which is consistent with the results of Nilawar<sup>10</sup> 97.5% , 95.83% in the study done by Iradier, *et al*<sup>12</sup> and 95% in the study done by Yagu and Mentis<sup>11</sup>.

One Chalazion did not resolve in spite of reinjection had history of more than 6 months duration. Percentage of no. of chalazia which did not resolve inspite of reinjection was 2.50%. in study done by Pizzarello<sup>4</sup> two lesions out of 17 did not subside at all. While in the study done by Jain and Misuria<sup>8</sup> it was 12%.

In our study, 2 out of 40 chalazia showed recurrence after complete resolution following steroid injection. 2.22% chalazia recurred after complete resolution in the study done by Nilawar<sup>10</sup>. Pizzarello<sup>4</sup> in his study has mentioned that two lesions out of 17 which subsided after injection either recurred or a second neighbouring lesion occurred.

Complications like yellow deposits, tissue atrophy, hypopigmentation and increased intraocular pressure were not noted in any case. This is in agreement with the study conducted by Harminder Singh Dua, *et al*<sup>10</sup> who observed no complications in their study of 90 cases of chalazia which were treated with Intralesional

Triamcinolone acetonide injections. No complication have been reported by Jain and Misuria<sup>8</sup>.

### CONCLUSION

The study was designed to determine the efficacy of intralesional triamcinolone acetonide injection in the treatment of Chalazion. The study proved that the Intralesional Triamcinolone Acetonide is an effective and safe method for treatment of Chalazion. It is highly effective among patients with Chalazion of size <6mm and duration of <6 months. So from this study the conclusion can be drawn that for primary Chalazion <6mm size, the intralesional injection of Triamcinolone can be used as first line therapy without any significant complications.

### REFERENCES

- 1 Sahu SK, Sen S, Poddar C — Sebaceous gland carcinoma of lid: Masquerading as a recurring chalazion. *International Journal of Applied and Basic Medical Research* 2021; **11(2)**: 117.
- 2 Watson AP, Austin DJ — Treatment of chalazions with injection of a steroid Suspension. *Br J Ophthalmol* 1984; **68**: 833-5.
- 3 Mohan K, Dhir SP, Munjal VP, Jain IS — The use of intralesional steroids in the treatment of chalazion. *Annals of Ophthalmology* 1986; **18(4)**: 158-60.
- 4 Pizzarello, Fredrick Hofeldt, A.J. : *Amer J Ophthal* 1978; **85**: 818.
- 5 Wong MY, Yau GS, Lee JW, Yuen CY— Intralesional triamcinolone acetonide injection for the treatment of primary chalazions. *International Ophthalmology* 2014; **34(5)**: 1049-53.
- 6 Simon GJ, Huang L, Nakra T, Schwarcz RM, McCann JD, Goldberg RA — Intralesional triamcinolone acetonide injection for primary and recurrent chalazia : is it really effective? *Ophthalmology* 2005; **112(5)**: 913-7.
- 7 Nabie R, Soleimani H, Nikniaz L, Raoufi S, Hassanpour E, Mamaghani S, *et al* — Aprospective randomized study comparing incision and curettage with injection of triamcinolone acetonide for chronic chalazia. *Jr of Current Ophthalmology* 2019; **31(3)**: 323-6.
- 8 Jain PK, Misuria V — Recent non surgical approach in the treatment of chalazion. *Ind Jr of Ophthal* 1988; **36**: 34.
- 9 Jacobs, Thaller and Wong. *British Jr of Ophthalmology* 1984; **68**: 836-37.
- 10 Dua H, Nilawar DV — Non surgical therapy of chalazion. *Amer J Ophthal* 1982; **94(3)**: 424-5.
- 11 Yagu, Mentis : *Turk ophthalmol, Gaz* 17,9-13, Jan-March 1987.
- 12 Iradier M, Strada C, Quinzamos AG — *Arch Soc Esp ophthalmol* 54: 399-409 Feb 1988.
- 13 Das AV, Dave TV. Demography and clinical features of chalazion among patients seen at a multi-tier eye care network in India: *Clinical ophthalmology (Auckland, NZ)*.2020;14:2163
- 14 Otulana TO, Bodunde OT, Ajibode HA. Chalazion, a benign eyelid tumour- the sagamu experience. *Nigerian Journal of Ophthalmology* 2008; 16(2).

## Disclaimer

The information and opinions presented in the Journal reflect the views of the authors and not of the Journal or its Editorial Board or the Publisher. Publication does not constitute endorsement by the journal.

JIMA assumes no responsibility for the authenticity or reliability of any product, equipment, gadget or any claim by medical establishments/institutions/manufacturers or any training programme in the form of advertisements appearing in JIMA and also does not endorse or give any guarantee to such products or training programme or promote any such thing or claims made so after.

— Hony Editor