e-ISSN: 0976-822X, p-ISSN:2961-6042

Available online on http://www.ijcpr.com/

International Journal of Current Pharmaceutical Review and Research 2026; 18(3); 1597-1599

Original Research Article

Study of Comparative Effects of Intra-Lesional Injection of Steroid in Chalazion Management in Paediatric and Adult Age Groups

Leena Saxena[1], Jitendra Kumar Jain[2], Dushyant Pal Singh[3]

[1]Assistant Professor, Department of Ophthalmology, Sudha Medical College, Kota, Rajasthan, India
[2] Assistant Professor, Department of Physiology, Sudha Medical College, Kota, Rajasthan, India
[3] Assistant Professor, Department of Dentistry, Govt. Medical College, Chittorgarh, Rajasthan, India

Received: 26-01-2026 / Revised: 25-02-2026 / Accepted: 14-03-2026
Corresponding Author: Dr. Dushyant Pal Singh
Conflict of interest: Nil

Abstract:

Chalazion usually defined as a localized continual granulomatous infection of the meibomian glands, generally affecting the upper eyelids. Intralesional Triamcinolone acetonide (TA) injection modality is especially beneficial in kids and in sufferers in which cooperation for I&C is hard because the system worried is equal to the injection of nearby anaesthesia required for I&C. in this study we have compared effects of Intralesional Triamcinolone acetonide (TA) injection in our patients with subgrouping as adult and paediatric patients. Both groups treated with same protocol and procedures and analysis compared. As a result, we found that no direct discriminative effects in comparison to adult and paediatric subgroups.

Keywords: chalazia, meibomian cyst, Intralesional, Triamcinolone.

DOI: 10.25258/ijcpr.18.3.255

Introduction

Chalazion is a localized continual granulomatous infection following blockage of the meibomian glands, greater normally affecting the higher eyelids. The variety of presentation may be from a benign, self-restricting nodule to a painful lid swelling complex by Corneal astigmatism and mechanical ptosis from the space-occupying impact of the chalazion withinside the extraordinarily restricted eyelid space. A chalazion may occur following a stye or from hardened oils blocking the gland [1]. The blocked gland is usually the meibomian gland but can also be the gland of Zeis [2]. The management of Chalazion is start conservatively with the use of heat compress and antibiotic eye ointment for the prevention of secondary infection. If it is nonhealing than incision and curettage (I&C), steroid injection, or carbon dioxide laser remedy can be considered [3]. Incision and curettage take time and can be related to surgical adverse effects such as pain, bleeding, and scarring. Intralesional steroid injection for chalazion has been pronounced to be powerful for the remedy of chalazion with good fulfilment rates [4-8]. This remedy modality is especially beneficial in kids and in sufferers in which cooperation for I&C is hard because the system worried is equal to the injection of nearby anaesthesia required for I&C.

The intention of this looks at become to research the variations in final results of the use of intralesional Triamcinolone acetonide (TA) injection for the remedy of number one chalazia in kids and adults.

Material and Method

This will be a prospective interventional study to assess the use of intralesional triamcinolone Acetonide (TA) injection for the remedy of number one chalazia in youngsters and adults. The inclusion standards blanketed consecutive topics with the prognosis of chalazion who consented for intralesional TA injection after failure of conservative remedy with lid hygiene, heat compression, and antibiotic ointment for as a minimum 1 month. The exclusion standards covered people with eyelid infection, chalazion duration < 1 month, nonpalpable chalazion, suspicion of malignancy, A records of steroid brought on accelerated intraocular pressure (IOP), or people who defaulted follow-up after the injection.

Informed consent was obtained before the procedure was carried out from the patient or the patient's legal guardian for those who are below 18years of age.

Patients were divided in two categories by age: the pediatric group (less then 18 years old) and adult

group (more than 18 years old). Both the pediatric and adult groups were compared with chalazion size, TA dose and time to resolution by using the grade correlation software. Data expressed in form of mean, standard deviation and compared by p-value. Tabulation shows data in form of means ± standard deviation. Statistical significance was defined as P-value less than 0.05.

The outcome measures will include chalazion size (length × width) in millimetres (mm), dose of TA injected, time to fully recover from the chalazion, and complications from the procedure.

Technique of Triamcinolone Injection

Topical anaesthesia (proparacaine 0.5%) eye drop was instilled in the affected eye before the injection. A volume of 0.05 to 0.15 mL of TA (40 mg/mL) was used for injection intralesionally in the out-patient procedure room according to the maximal diameter of the chalazion as follows: <1 cm = 2 mg; 1–1.5 cm = 4 mg and >1.5 cm = 6 mg TA.

The TA injected transcutaneously into the centre of the lesion with a tuberculin syringe, after disinfection of the skin with 70% isopropyl alcohol wipes. Post procedure patching was not required.

The patients were given antibiotic ofloxacin eye ointment twice a day to apply over the lesion. The patients were reviewed every 7th day after the TA injection until complete recovery from chalazion.

Results

The mean age in the pediatric and adult group was 12.5 ± 5.5 and 42.5 ± 10.5 years old, respectively. This difference is extremely statistically significant. Both the pediatric and adult groups had statistically similar baseline characteristics in terms of sex, random blood sugar, mean chalazion size, and TA dose as shown in table no. 1.

All patients were of same ethnicity. There was no significant difference between the time taken for complete resolution of the chalazion between the pediatric (14 ± 6 days) and adult (16 ± 10 days) groups (P = 0.362) (Table 1). There were no significant adverse event from the TA injection in both groups.

Table 1: Differences in baseline and outcome in children versus adults

	Pediatric (n = 27)	Adult (n = 35)	P value
Mean age (years)	12.5 ± 5.5	42.5 ± 10.5	<0.0001
Sex (M/F)	15/12	20/15	
Random Blood Sugar	112 ± 12.5	121.5 ± 14.5	0.0087
Mean chalazion size: length × width (mm^2)	0.85 ± 0.4	1.1 ± 0.5	0.0377
Mean TA dose (mg)	3.2 ± 1.3	3.7 ± 1.1	0.0475
Time to resolution (days)	14 ± 6	16 ± 10	0.3620

*Statistically significant p-value <0.005.

There was no significant correlation of time to resolution in both the pediatric and adult group (p-value= 0.362). This made us to understand that despite beneficial effects of TA injection in both groups; there was no significant difference in effect of TA injection in both groups.

Discussion & Conclusion

Chalazion and hordeolum are common cause of lid inflammation and both are self-limiting with conservative treatments; rarely chalazion needs surgical intervention like incision and curettage. For persistent lesions, Incision & Curettage is the most common procedures; followed by intralesional steroid injection. Incision & Curettage has more consistent success rate than intralesional steroid injection. But Incision & Curettage has the potential disadvantages of requiring additional anesthetic injection, bleeding, and scarring risk and thus required proper OT setups. Where else intralesional steroid injection may be used for multiple chalazia and even for lesions which have surgical difficulties like close to the lacrimal punctum. Also, intralesional injection can be used for those patients who are uncooperative like in children or adults with mental differently abled patients, patients with dementia, depression or anxiety.

In our study, the pediatric and grownup age groups had statistically comparable baseline traits other than age. Despite the age variations and hence, length of the eyelids, each the pediatric and grownup populations offered with a median chalazion length of round 0.8 sq.mm and eventually acquired a comparable dose (round 3.5 mg) of TA injection. TA injection becomes similarly powerful in each the pediatric and person populations with a statistically comparable recuperation price of a bit greater than 2 weeks in each group (P = 0.326).

In our study, we referred to that the time taken for chalazion resolution in both the group was not considerably significant. Hance there is no comparison between these groups with respect of effect of TA injection in both the groups.

Nevertheless, this look at served its cause in addressing that an unmarried injection of intralesional TA for the remedy of primary chalazion was similarly powerful in youngsters and adults, with no considerable complications. There are findings suggesting that the reaction to steroid injection can be impartial of the lesion length and won't be dose-dependent [9]. TA injection is an easy and powerful remedy for chalazion in each youngster and adults and it is upto clinicians' judgement to understand the situations wherein TA injection can be used. There is a need of similar study on large scale with control group to better understand the situation wherein TA injection can be used.

References

1. Carlisle, RT; Digiovanni, J (15 July 2015). "Differential Diagnosis of the Swollen Red Eyelid". American Family Physician. **92** (2): 106–12. PMID 26176369
2. Deibel, JP; Cowling, K (May 2013). "Ocular inflammation and infection". Emergency Medicine Clinics of North America. **31** (2): 387–97. doi:10.1016/j.emc.2013.01.006.
3. J. Palva and P. E. J. Pohjanpelto, "Intralesional corticosteroid injection for the treatment of chalazia," ActaOphthalmologica, vol. 61, no. 5, pp. 933–937, 1983.
4. G. J. Ben Simon, N. Rosen, M. Rosner, and A. Spierer, "Intralesional triamcinolone acetonide injection versus incision and curettage for primary chalazia: a prospective, randomized study," The American Journal of Ophthalmology, vol. 151, no. 4, pp. 714.e1–718.e1, 2011.
5. J. Pavicic-Astalos, R. Ivekovic, T. Knezevic et al., "Intralesional triamcinolone acetonide injection for chalazion," ActaClinicaCroatica, vol. 49, no. 1, pp. 43–48, 2010.
6. G. J. Ben Simon, L. Huang, T. Nakra, R. M. Schwarcz, J. D. McCann, and R. A. Goldberg, "Intralesional triamcinolone acetonide injection for primary and recurrent chalazia: is it really effective?" Ophthalmology, vol. 112, no. 5, pp. 913–917, 2005.
7. D. KaimboWaKaimbo and M. C. Nkidiaka, "Intralesional corticosteroid injection in the treatment of chalazion," Journal Francaisd' Ophtalmologie, vol. 27, no. 2, pp. 149–153, 2004.
8. T. A. Mustafa and I. H. Oriafage, "Three methods of treatment of Chalazia in children," Saudi Medical Journal, vol. 22, no. 11, pp. 968–972, 2001.
9. Jacky W. Y. Lee, Gordon S. K. Yau, Michelle Y. Y. Wong, Can Y. F. Yuen ScientificWorldJournal. 2014; 2014: 413729. Published online 2014 Oct 15. doi: 10.1155/2014/413729.