

Original Research Article

Intralesional Triamcinolone Acetonide Injection versus Incision and Curettage for Primary Chalazion: A Prospective Randomised Study

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ABSTRACT

Purpose: To compare the clinical outcomes of intralesional triamcinolone acetonide (TA) injection and incision and curettage (I&C) for treating primary chalazion.

Methods: This was a randomised, prospective study of 62 patients with primary chalazion conducted at a single hospital over the course of a year. Upon study screening, all patients underwent a complete ophthalmic evaluation and blood investigations. Post randomisation, Group A (n=31) was administered a single transconjunctival injection of 0.1 mL of triamcinolone acetonide (40 mg/mL) and Group B (n=31) underwent lesion incision and curettage. Patients were evaluated on post operative day 7 and 14, at which point success was defined as complete clinical resolution, post operative days, and treatment success.

Results: The presence or absence of chalazion location and gender did not impact the outcome of the treatment for either group. After two weeks, 26 of the 31 patients (83.87%) in group A achieved complete resolution. This was the case for 29 of the 31 patients (93.54%) in group B. The average time for resolution of the chalazion for group A was 11 days and 8 days for group B. The occurrence of chalazion recurrence was noted in 3 patients (9.67%) of group A and 1 patient (3.22%) of group B.

Conclusion: There is a slightly higher success rate with incision and curettage compared to intralesional triamcinolone acetonide injection for the treatment of primary chalazion. Having understood it can be conintralesional TA is still an important, less invasive option when surgery would be more difficult or is less desirable.

Keywords: Chalazion, Triamcinolone Acetonide, Incision and Curettage, Intralesional Steroid Injection, Meibomian Gland.

INTRODUCTION

Chalazion is a common, chronic, sterile, lipogranulomatous cyst on the eyelid caused by blockage of the meibomian glands. It is one of the most common eyelid cysts for all ages. Chalazion presents with varying symptoms from a painless cyst to a large, swollen, and sometimes painful, eyelid.^[1,2]

There are many options to treat chalazion with the least invasive option being warm compress. Other options like corticosteroid injections and surgery (curettage), which are more invasive, provide a definitive treatment. Traditionally,

surgery (curettage) was the main option, however, as a least invasive option, intralesional injection of triamcinolone acetonide (TA) has been used, especially in the patients in which surgery is undesirable or difficult such as in the cases of cysts located close to the canalicular system or lid margin.^[3,4]

Although these two treatment options have both been studied, in the studies that have compared the two options, the results have been very different. Some studies favored surgery, and in some studies, intralesional steroid therapy resulted in similar outcomes to surgery,

depending on the size and how many cysts were present.^[1,5] The aim of this study was to compare the two treatment options of intralesional triamcinolone acetonide injection and surgery (curettage) for chalazion in a hospital setting.

MATERIALS AND METHODS

This was a one-year, hospital-based, randomized, prospective study on 62 patients with primary chalazion. The study was approved by the Institutional Ethics Committee. Written consent of the participants was collected.

All participants underwent a complete evaluation with special consideration to the visual acuity and the anterior segment of the eye, as well as measurement of the lesions, and some baseline blood investigations. After the assessments, the participants were divided into two equal groups of thirty one each at random.

Group A: Treated with one intralesional injection of 0.1 mL of transconjunctival triamcinolone acetonide (40 mg/mL) into the chalazion.

Group B: Treated with standard incision and curettage under local anaesthesia.

All patients were assessed on the 7th and 14th day post-treatment. Complete clinical resolution of the lesion by day 14 marked treatment success. Incomplete resolution was documented as partial reduction in size and recurrence was documented as reappearance of the lesion after

resolution. The demography, resolution time, incomplete resolution and recurrence of both groups were compared. SPSS 2024 of this study data. All quantitate/ numerical data were analysed by using parametric tests whereas all qualitative data analysed by using non-parametric test to find the significance level. All data has been presented in tabular and graphical presentation and p- value <0.05 was considered as significant.

RESULTS

A total of 62 patients participated in the study. 31 patients were placed in each group. The two groups pre-operative demographics are illustrated in Table 1.

The gender and location of chalazion did not appear to influence treatment success in either group. At 2 weeks, 26 of 31 (83.87%) patients of Group A showed complete resolution after treatment with intralesional triamcinolone acetonide, while complete resolution was noted in 29 of 31 (93.54%) patients of Group B after incision and curettage. The mean time to complete resolution was longer in Group A (11 days) as compared to Group B (8 days). Incomplete resolution was noted in 5 (16.12%) patients of Group A and in 2 (6.45%) patients of Group B. Recurrence was noted in 3 (9.67%) patients of Group A and in 1 (3.22%) patient of Group B.

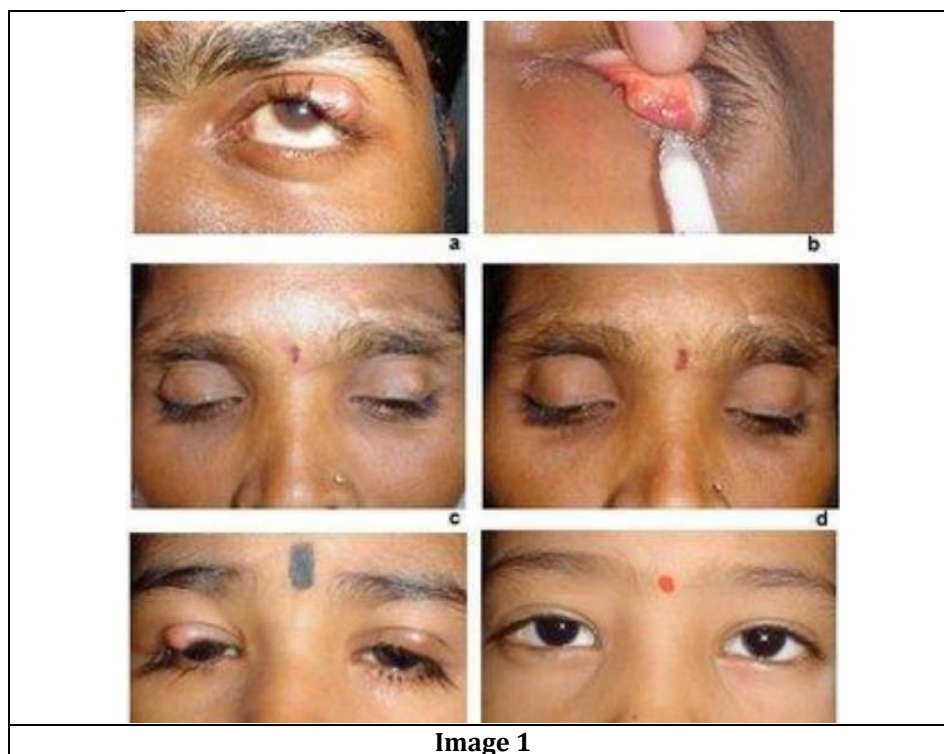


Image 1

Parameter	Group A (Intralesional TA) (n=31)	Group B (Incision & Curettage) (n=31)
Mean age (years)	26.2	24.6
Male	22	19
Female	9	12
Mean size of chalazion (mm)	4.8	5.0

Table 1: Pre-Operative Demographic Profile of Patients

Outcome	Group A (TA) (n=31)	Group B (I&C) (n=31)
Mean time to resolution (days)	11	8
Incomplete resolution, n (%)	5 (16.12%)	2 (6.45%)
Recurrence, n (%)	3 (9.67%)	1 (3.22%)
Overall success, n (%)	26 (83.87%)	29 (93.54%)

Table 2: Post-Operative Outcome Profile of Patients

DISCUSSION

In this study, we found that intralesional triamcinolone acetonide injection and incision and curettage achieved comparable results in the management of primary chalazion, with the latter technique achieving a success rate of 93.54% compared to 83.87% for the former. Incision and curettage also achieved resolution in a shorter time. These results confirm the finding of other studies that gender and the location of the lesion is not likely to influence the results for either treatment.^[6,7]

Khurana et al. suggested that small, multiple, and marginal chalazia, respond equally well to intralesional steroid injections and incision and curettage, but for larger chalazia, incision and curettage is superior.^[1] In agreement, Dhaliwal and Bhatia also suggested that although all sizes of chalazia are well treated with incision and curettage, in cases where surgery is refused by the patient or is difficult to perform due to the proximity of the lesion to the canalicular system or the lid margin, intralesional triamcinolone acetonide may be injected as an alternative.^[3] We found similar results, showing that triamcinolone acetonide injection is a good alternative for chalazion, although incision and curettage is preferred.

A similar prospective randomized study by Ben Simon et al. assessed intralesional triamcinolone acetonide versus incision and curettage for primary chalazia and found that, as in this study, complete resolution was more frequently observed with surgery.^[8,9]

The lower success and longer resolution times with intralesional TA in this study may be due to variability in lesion size and chronicity, as well as the single injection used in this study. A repeat-injection strategy has been reported to result in better resolution in the literature. Some of the potential benefits of intralesional TA include lack

of a surgical incision, shorter procedure times, and better acceptance by patients, particularly those who are younger, more anxious, or have lesions in difficult to manage locations. In this study, no side effects were observed with intralesional TA injection, including skin depigmentation or sudden elevation of intraocular pressure.

The main limitations of this study were a small sample size, short duration of follow up (2 weeks), and single intralesional injection. More frequent dosing and longer follow up as well as larger, multicenter studies would be of benefit to better assess the durability of the two treatment options.

CONCLUSION

For treating primary chalazion, both approaches, intralesional triamcinolone acetonide injection and incision (with or without) curettage, bring similar effectiveness. According to this study, incision (with or without) curettage had higher success rates with faster resolution. However, for patients who are either unfit or unwilling to undergo surgical procedures, intralesional triamcinolone acetonide injection, is a less invasive, alternative option, and is therefore still a useful technique.

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