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Comparison of Peri-lesional Triamcinolone Acetonide and Incision and Curettage in the Treatment of Chalazion

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ABSTRACT
Introduction: Ours is a single centre, experimental study to compare the outcome of peri-lesional Triamcinolone Acetonide with incision and curettage in the treatment of chalazion conducted at Department of Ophthalmology, Government Medical College, Srinagar from September 2020 to April 2021.
Methods: Fifty patients with chalazion aged between 15–35 years, were enrolled in the study. They were grouped into two. In group A, incision and curettage was performed and in group B, perilesional triamcinolone (40 mg/ml) was administered. Patients were followed up on day one, one week, one month and three months. Any recurrence, resolution, complications and IOP were noted at each follow up.
Results: Mean age was calculated to be 20.18 ± 4.17 years with range of 15 – 35 years. Study included 26 males (52%) and 24 females (48%). Complete resolution was recorded in 92% cases in group A and 84% cases in group B. No statistically significant difference was noted between two groups (P value = 0.39).
Conclusion: Incision and curettage and perilesional triamcinolone injection show equal efficacy in treating chalazion. For larger chalazion, incision and curettage is effective.
Key words: Chalazion, incision and curettage, triamcinolone acetonide

I. INTRODUCTION

Chalazion is a benign chronic granulomatous inflammation present as a nodule on eyelid. It arises from obstruction of the sebaceous glands of the eyelid tarsal plate. It affects the upper lids more commonly than lower lids because there are more meibomian glands in the upper lid. 1 Its presentation ranges from painless swelling slowly enlarging in size to a tender swelling when it becomes infected. The strongest risk factors are blepharitis, rosacea or prior chalazion. Other risk factors include demodicosis, low serum vitamin A, gastrointestinal inflammation, smoking and use of bortezomib to treat haematological malignancies. Chalazion leads to cosmetic disfigurement, irritation, discomfort, corneal astigmatism and mechanical ptosis.2 Initial conservative management involves hot compresses, lid hygiene and massage, antibiotic eye ointment and mild topical steroids.3 Regular massage and warm compresses can help in drainage of the sebaceous secretion and therefore decrease occurrence or recurrence of chalazion. Additional techniques comprise incision and curettage, intralesional or perilesional steroid injection and carbon dioxide laser treatment.4,5
Incision and curettage is regarded as gold standard and is performed under local anaesthesia.
Intralesional or perilesional triamcinolone acetonide is regarded as other option due to its responsiveness to anti-inflammatory action of steroids. It is performed under topical anaesthesia.6,7
The aim of this study is to compare the efficacy and complications between incision and curettage and perilesional triamcinolone. Perilesional triamcinolone does not cause direct rupture of chalazion.

II. MATERIALS AND METHODS

The proposed study was carried out in the Postgraduate Department of Ophthalmology, GMC, Srinagar for a duration of eight months from September 2020 to April 2021 after obtaining consent from every patient/ guardian. Fifty patients with chalazion aged between 15–35 years, were taken up for the study. They were grouped into two. Patients with any lid abnormality and recurrent chalazion were excluded from the study.

In group A, incision and curettage was performed under local anesthesia. After infiltrating 2cc lignocaine 1% peri-lesionally, chalazion was clamped with chalazion clamp and the lid was everted. Chalazion was then incised vertically with surgical blade 11 over the highest point of swelling and thorough scooping was done. Chalazion clamp was then removed, eye ointment was applied and eye was patched for 4 hours. Postoperatively patient was put on antibiotic eyedrops three times a day for 3 days.

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In group B, perilesional triamcinolone acetonide (40 mg/ml) was administered under topical anesthesia. After instilling 1 drop of topical anesthetic proparacaine 0.5% eye drops, 0.2cc perilesional injection of triamcinolone acetonide was administered from palpebral conjunctival side. Antibiotic ointment was applied and eye was patched for 4 hours. Postoperatively patient was put on antibiotic eyedrops three times a day for 3 days.

Patient was followed on post treatment day one, one week, one month and three months and any recurrence, resolution or complication along with complete ophthalmic examination and IOP monitoring was recorded.

Complete resolution was decided as lesion regression of 90–100% of its initial size. Treatment was considered a failure if no resolution was achieved after the first attempt. Recurrence was defined as re-appearance of swelling after its initial resolution within 3 months of treatment.

III. STATISTICAL ANALYSIS

Descriptive statistics was used for quantitatuve data; percentages were used for qualitative data. Univariate analysis, such as Chi-square test and Fishers exact test, were used to compare qualitative data. Appropriate statistical test like t-test, Z test, ANOVA were used to compare various groups. Analysis was carried using SPSS software. A p-value of <0.05 was taken as statistically significant.

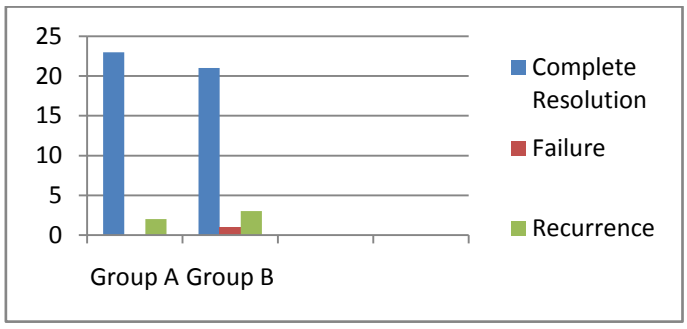
IV. RESULTS

Mean age was 20.18± 4.17 years with range of 15–35 years. In group A, mean age was 18.3 ± 2.1 years while in group B, mean age was 21.8 ± 4.91 years. It was not found to be statistically significant.

There was a slight preponderance of males over females in our study. There were 26 (52%) males and 24 (48%) females in our study. 12 males and 13 females were enrolled in group A whereas 14 males and 11 females were enrolled in group B. No statistically significant difference was found in gender distribution between two groups.

	Male	Female	Total
Group A	12 (48%)	13 (52%)	25 (100%)
Group B	14 (56%)	11 (44%)	25 (100%)
Total	26 (52%)	24 (48%)	50 (100%)

In group A, complete resolution was noticed in 92% while in group B, complete resolution was seen in 84% cases. P-value obtained for both groups was not statistically significant (p-value = 0.39). Chart 1 shows the details.



Complications were also evaluated between the two groups. The difference in complication rate of two groups was not statistically significant.

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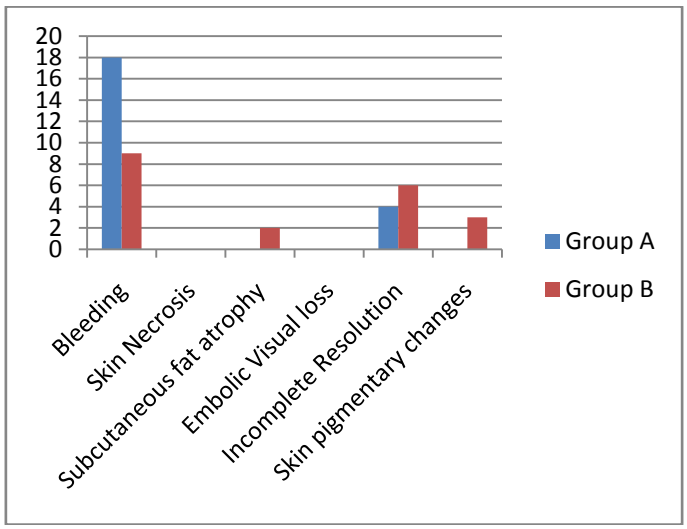

V. DISCUSSION

In our study, mean age was 20.18± 4.17 years with range of 15–35 years. The comparison between two groups was not found to be statistically significant. Lee et al. compared intralesional steroid injection for primary chalazia in children and adults and found out no statistically significant difference in resolution time in pediatric and adult age group (p value: 0.7).8 Imtiaz et al found the mean age to be 18.0 ± 2.14 years with range of 10–30 years.9

Our study found a slight male preponderance of 52 % which is comparable to study by Imtiaz et al. who found male preponderance of 55%. Predominance was also noted in both groups separately as well.9 Ilhan et al. evaluated primary and recurrent chalazion occurrence as per gender and they found a female dominance of 51.6% while males were 48.4%.10 This difference is attributed to ethnicity.

We found a success rate in Group A to be 92% and 84% in Group B which is in close agreement with study conducted by Imtiaz et al. 9 They found a success rate of 95% in Incision and curettage and 88.5% in perilesional triamcinolone acetonide group. The difference was not statistically significant. In a meta-analysis carried out by Putterman, success rate with Incision and curettage was 78%, while with steroid injection it was 60.4%.11 Ahmad et al recorded a success rate in Incision and curettage group of 79%, while in steroid injection group it was recorded to be 62%.12

Larger chalazion showed statistically significant difference with Incision and curettage group. Singhania et al, evaluated the success rate of two groups between medium and large sized chalazion and recorded that Intralesional triamcinolone acetonide was equally effective as Incision and curettage for either medium or large sized chalazion.13 Khurana et al. found Incision and curettage to be superior for large sized chalazion.14

We found a recurrence of 8% in Incision and curettage group and 12% in triamcinolone acetonide group. Imtiaz et al found a recurrence of 3.3% in Incision and curettage group and 10% in triamcinolone group.9 Nabie et al, reported recurrence of 34% in intralesional triamcinolone group and 2% in Incision and curettage15 while Pavicic et al, found no recurrence after intralesional triamcinolone acetonide.16

No statistically significant difference was found in the complication rate between two groups which is in agreement with study conducted by Imtiaz 9. Park et al. found 2 patients with fat atrophy and skin depigmentation following intralesional triamcinolone acetonide injection 17 while Wong et al. showed no complication with intralesional triamcinolone acetonide injection.18
Limitations of our study were short duration, less number of cases and factors responsible for recurrence were not taken into account.

VI. CONCLUSION

Incision and curettage and perilesional triamcinolone injection show equal efficacy in treating chalazion. For larger chalazion, incision and curettage is effective.

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