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A Study of Management of Primary Chalazion in Adults by Intralesional Injection of Triamcinolone Acetonide

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ABSTRACT

Introduction

A chalazion is a common non-effective granuloma of the meibomian glands of eyelids. They are commonly found on the tarsal conjunctival surface and the eyelid margins. It may be ignored by the patients until it reaches a considerable size. Recently the use of intralesional corticosteroids has shown promising results. We in the present study tried to evaluate the outcomes of intralesional triamcinolone acetonide injection in the management of Chalazion.

Methods

The current study was carried on Patients with chalazion attending Ophthalmology OPD of Rajiv Gandhi Institute of Medical Sciences, [RIMS], Adilabad. Successive patients with small multiple marginal chalazia were included. Patients were selected based on the amenability of treatment with intralesional triamcinolone acetonide injections.

A chalazion is a common non-infective granuloma of the meibomian glands of eyelids. They are commonly found on the tarsal conjunctival surface and the eyelid margins. It may be ignored by the patients until it reaches a considerable size. Recently the use of intralesional corticosteroids has shown promising results. We in the present study tried to evaluate the outcomes of intralesional triamcinolone acetonide injection in the management of Chalazion.

Results

Group I with very small-sized chalazia< 5 mm out of n=22 included in Group I resolution after one week following treatment was found in 72.72%. Resolution following repeated injection after one week was found in 18.18%. In group II (chalazia size 5-7 mm) out of n=28 cases, 46.24% resolved after first injection and 39.28% cases resolved after the second injection and no resolution was found in 14.28% cases after one month.

Conclusion

Patients with small chalazia who are not amenable to incision and curettage intralesional triamcinolone acetonide injection appear to be a better option. Intralesional triamcinolone acetonide injections were found to be effective in resolving acute and sub-acute chalazia of soft to firm consistency irrespective of their duration.

KEYWORDS: Chalazia, conjunctiva, Triamcinolone Acetonide Injection, Subcutaneous

INTRODUCTION

Chalazion means a small hailstone. A chalazion is a chronic inflammatory granuloma caused primarily by the retention of secretions of a tarsal gland. [1]It was formerly regarded as a meibomian cyst analogous to the atheromata of the sebaceous glands of the skin, but while retention cysts of the meibomian glands do occur,they are very rare. A high prevalence of demodexbrevis infestation has been found in chalazia. [2, 3] A truer analogy is with acne rosacea of skin where in the sebaceous glands part comparable to that of meibomian glands in the development of chalazion. [4]A Typical chalazion usually starts as a hard, circumscribed, painless tumor, which grows slowly and indolently without marked symptoms and is felt under normal skin of lid like a pellet. It occurs more frequently in the upper lid than the lower lid and more common in adults than in the young. It may be single, more than one lid may be affected, while in the same lid more than one may coincide. [5]A chalazion occurs in young people especially the seborrhoeic who for some time have had chronic meibomitis with blepharitis and conjunctival inflammation or in old people particularly sufferers from acne rosacea of long-standing. A chalazion may appear after a blepharitic or a local tarsal infection but more usually its onset is slow and gradual without apparent cause. [6, 7]Symptoms are few indeed; the patient may be ignorant of its presence until it has reached a considerable size. The usual complaint is cosmetic, but some heaviness and discomfort may be present; occasionally there may be some inflammatory concomitants, but these are usually insignificant. [4]Histologically, the lesion consists of many lymphocytes and epithelioid cells, and occasional Langerhans type of giant cells within a fibrous tissue stroma. When acute inflammation sets in, polymorphonuclear leukocytes may also be present. Lipid droplets in the inflammatory reaction are a diagnostic point. As the

process evolves, the peripheral tissue becomes compressed to form a dense capsule and retrogressive changes occur centrally. Here the fibers become hyaline and fuse into a gelatinous homogenous mass, the cells become vacuolated and disappear and the entire contents may eventually become liquefied. [4, 8]The standard treatment of this lesion has been incision and curettage which although a minor procedure often causes distress and some discomfort to the patient. [9, 10]Conservative treatment with intralesional corticosteroid therapy has been described as a more convenient procedure, free from major complications and a less expensive alternative method of treatment. In the current, an attempt was made to study the outcomes of intralesional triamcinolone acetonide injection in the management of chalazion.

MATERIAL AND METHODS

This cross-sectional study was conducted on patients diagnosed with chalazion attending the Department of Ophthalmology, Rajiv Gandhi Institute of Medical Sciences, [RIMS], Adilabad. The Institutional Ethical committee accorded the permission for conduction of this study after following due protocol for human research. Written consent was obtained from all the participants of the study.

Inclusion criteria of the patient were all patients with small multiple and marginal chalazia, Those close to the lacrimal drainage system and aged between 10 years to 40 years. Exclusion criteria were Patients with large (> 10mm) and infected chalazion, aged less than 10 years and not available for follow up.

A total number of n=45 cases with chalazia were included in the study as they were amenable for intralesional triamcinolone acetonide therapy. They were divided into two groups Group I with very small-sized chalazia < 5 mm and Group II with chalazia of size 5-8 mm. Most of the cases were with a history of chalazia ranged from 1 week to 1 year. A detailed history was obtained and a clinical evaluation of chalazia was done and a clinical diagnosis was made based on the history and location of lesions. Most patients had experienced rapid painful inflamed mass initially and later persisted with the same size with lesser pain. Initial management was with warm soaks applied with a hand towel or gauze for five to ten minutes 4 times per day. Patients were advised not to use cotton because cotton strands may adhere to eyelids and irritate the eyes. Eyelid hygiene was maintained by the use of diluted baby shampoo applied with gauze. Topically applied antibiotics and steroids were prescribed. If there was no resolution in two weeks intralesional triamcinolone acetonide injection was given. For triamcinolone acetonide injection initially, 4% xylocaine was instilled into the conjunctival sac for topical anesthesia. A chalazion clamp was gently placed around the mass grasping the full thickness of the lid which was then everted. Depending on the size of chalazia 0.05 to 0.3 ml was injected with a tuberculin syringe with a 26 gauze needle. The clamp was removed, and antibiotic eye ointment was instilled. Follow-up was done after 3 days with the use of warm compresses. Following the initial visit, next follow up was done after 1 week, 2 weeks, and 4 weeks for resolution. If the chalazion size was not reduced by half of the pre-treatment size injection was repeated the second time. The chalazion was considered cured if no palpable or visible mass was detected along with the resolution of erythema.

RESULT

Out of the n=45 cases of chalazia were included in the study. N=15 (33.33%) were males and n=30 (66.67%) were females and male to female ratio was 1:2. The mean age of the male cases was 19.5 years the youngest male was 11 years old and the oldest was 38 years old and the mean age for female cases was 21.5 years the youngest case was a 12-year-old female and the oldest was 35 years old female. The distribution of cases age-wise and sex-wise is depicted inTable 1. Based on the laterality of presentation of cases n=28 cases were involving the right eye and in n=22 cases, the left eye was involved.

Age groups	Male	Female	Total	Percent
11 – 15	2	1	3	6.67
16 – 20	6	10	16	35.55
21 – 25	2	9	11	24.44
26 – 30	3	3	6	13.33
31 – 35	1	4	5	11.11
36 – 40	1	3	4	8.89
Total	15	30	45	100

Table 1: Age and sex-wise distribution of cases

N=32 (64.44%) cases of chalazion occurred on the upper eyelids, and n=13 (28.89%) occurred on the lower eyelids. Both the eyelids were affected in n=5 (11.11%) cases. N=40 had solitary chalazia while n=5 had multiple chalazia. The margin of the eyelid was involved in 26.67% of cases and in 11.11% of cases; chalazia were located near the punctum the detailed distribution is given in Table 2.

Location of lesion	Male	Female	Total	Percent
Marginal chalazia	3	9	12	26.67
Chalazia near puncta	2	3	5	11.11
Others	10	18	28	62.22
Total	15	30	45	100

Table 2: Distribution and location of chalazia in patients

Size of chalazia	No.	Resolution After 1 wk	Repeat Injection After 1 wk	No Resolution After 1 mth
Group I	22	18(81.81%)	4(18.18%)	0
Group II	28	13(46.24%)	11(39.28%)	4(14.28%)

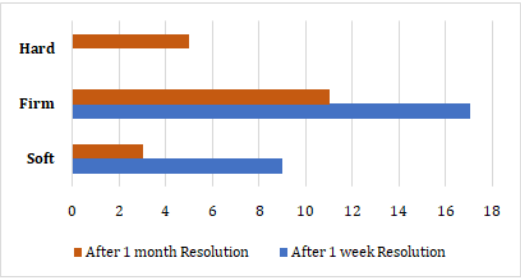
Table 3: Frequency of chalazia based on size and resolution after treatment

Group I with very small-sized chalazia< 5mm out of n=22 included in Group I resolution after one week following treatment was found in 72.72%. Resolution following repeated injection after one week was found in 18.18%. In group II out of n=28 cases, 46.24% were resolved after first injection, 39.28% cases were resolved after the second injection and no resolution was found in 14.28% cases after one month depicted in Table 3.

In the present study, most of the patients presented within three months of the onset of chalazia and they responded well to the treatment. Those who had chalazia of longer duration did not respond well to the treatment given in Table 4. The type of chalazia and the duration of the resolution shows most of the chalazia were firm in consistency which responded well to the treatment. The hard chalazia did not respond well to the treatment given in Graph 1.

Duration	No.	Resolution after 1 wk	Resolution after 1 mth	Resolution after 2 mth
< 1 month	22	20	2	0
1-3 months	18	11	7	0
3-6 months	6	-	6	0
6 – 1 yr	4	-	0	4

Table 4: Duration of the Chalazia and resolution following treatment



Graph 1: Consistency of chalazia and duration of resolution

There was no recurrence of chalazia at the same site in patients with chalazia of size Group I however, there was recurrence in (n=3) 13.63% at a different site. In group II there was a recurrence of chalazia at the same site in (n=2) 7.14% cases and recurrence at difference site in (n=4) 14.28% cases.

DISCUSSION

This prospective clinical study of intralesional triamcinolone acetonide injection in the management of chalazion consisted of n=45 patients with 50 lesions were included. The study was carried out to evaluate the clinical features, age, sex distribution, modes of management and to evaluate the outcomes of intralesional triamcinolone acetonide injection in the management of chalazia. The male-to-female ratio in this study was 1:2 because of the higher incidence of seborrheic blepharitis in females. The cosmetic appearance is also one of the reasons which made them present at an earlier date when the size of chalazia is still small. The incidence of chalazia in our study between 16 – 20 years was 35.55% and 21 – 25 years was 24.44%. A similar observation was made by J Palva et al. [11] in their study with intralesional corticosteroid injections. Das AV et al., [12] reported the commonest age group affected by chalazia was the third decade of life (31%) in agreement with the findings of the current study. The laterality of presentation of cases n=28 cases were involving the right eye and n=22 cases were involving the left eye the observations did not reveal any significant predilection for any eye involvement. In the current study, 88.89% had solitary chalazion and 11.11% had multiple chalazia.Khanna KK et al., [13] observed 10% cases of multiple chalazia similar to our observation. The margin of the eyelid was involved in 26.67% of cases and in 11.11% of cases, chalazia were located near the puncta. AK Khurana et al, [14] reported 15% of cases of marginal chalazia and 5% cases of chalazia near puncta. In this study out of n=22 cases of chalazia<5mm (Group I) were given intralesional triamcinolone acetonide injection the resolution was within one week was found in (n=16) 72.72% cases. Resolution following repeated injection after one week found in (n=6) 18.18% cases. In group II chalazia (5-7mm) out of n=28 cases, 46.24% were resolved after first injection and 39.28% cases resolved after the second injection except for n=4 cases all cases resolved in one month. The results are in concurrence with Khurana AK et al, [14] study where they found all cases of group I were resolved within three months and no resolution after 3 months in 13% cases of group II. In the current study, we found chalazia of short duration (< 6months) were having high-resolution rates within one month of intralesional triamcinolone injection. The consistency of chalazia was also one of the crucial factors in response to treatment soft and firm chalazia tend to resolve quickly as compared to hard chalazia. HS Dua et al. [15] observed that hard chalazia and older than 6 months did not respond well to treatment by intralesional triamcinolone injection. In this study, it was found that there was no recurrence of chalazia at the same

site in patients with chalazia of size Group I however, there was recurrence in 13.63% at a different site. In group II there was a recurrence of chalazia at the same site in 7.14% of cases and recurrence at difference site in 14.28% of cases. A similar recurrence rate was reported by Khanna KK et al. [11] in > 5 mm cases found 17.64% recurrence rates. No complications such as yellow deposits, tissue atrophy, hypopigmentation, and increased intra ocular pressure were noted in any case. H S Dua et al [15] in a similar study also did not found any complication in their n=90 cases following treatment with intralesional triamcinolone acetonide injection.

CONCLUSION

The present study found that patients with small chalazia who are not amenable to incision and curettage intralesional triamcinolone acetonide injection appear to be a better option. Intralesional triamcinolone acetonide injections were found to be effective in resolving acute and subacute chalazia of soft to firm consistency irrespective of their duration. However, in hard chalazia of longer duration therapy may not be successful due to fibrosis and hyalinization could have already occurred in them.

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