Treatment of Chalazion by steroid injection and surgery

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Abstract
Chalazion, Meibomian cyst or tarsal cyst is a chronic granulomatous inflammation of the meibomian glands of the eyelid (located in tarsal plate) following acute inflammation.
Chalazion forms when secretion in meibomian glands or ducts is blocked due to any etiologic factor.
Research was conducted to show what percentage of patient respond well to steroid injection in chalazion.
The research was conducted in ophthalmology department of Nangarhar University Teaching Hospital including a sample size of 40 patients suffering from chalazion from 2018/2/1 until 2018/12/18.
Of 40 patients, 40 patients were male and 14 were female both aging between 10 to 50 years. Moreover, the research prospectively took 11 months.
0.2 ml of Triamcinolone 40mg/1ml was injected inside the chalazion to each patient. During the research 70% of patients responded well to the first injection, 22 % of patients needed second injection for their response and 7.5% of patients did not respond to the medicine and underwent surgical treatment.
Triamcinolone is a better choice of treatment for chalazion due to being inexpensive, availability, easy administration and administration in OPD patients.

Key words: chalazion, first and second injection of steroid

Introduction:

Chalazion also known as tarsal cyst or meibomian cyst is a chronic non infective granulomatous inflammation following acute inflammation of the meibomian glands which are located in the tarsal plates of the upper and lower eyelids.
Or it is lids' Painless mass which is not sensible and situated faraway of lids margin.
Stepwise the glands get infected by less virulent pathogens, proliferative changes occur in the epithelial lining of the gland, the ducts of the gland get occluded, the secretion of the gland accumulates and enlarges the gland in tarsal area, eventually the lids become painlessly swollen and the patient complains of heavy lids.
During examination, a small painless swelling a bit away from the upper margin of the lid can be seen with a red background towards conjunctiva and rarely skin may be red.
Complications (10, 8) could occur if chalazion is left untreated. However, 25% patients spontaneously recover from the disease. Chalazion grows slowly and compresses cornea (upper lids) which then causes visual problems such as blurred vision due to astigmatism.

Large chalazion of the lower lid rarely causes ectropion and epiphoria due to punctum inversion after which the tear continuously flows on the cheeks.

Sometimes chalazion may get infected and appear as an abscess on the conjunctival side which is also known as the internal hordeloum. Calcification and malignant changes of the gland may appear in senile patients. If chalazion is small, hot application and massage four times daily for 10 to 15 minutes until the chalazion disappears, is useful. Antibiotic drops and oral preparations plus anti-inflammatory medicine and intra lesional triamcinolone are other effective ways of treatment. Surgical treatment is order when other choices of treatment fail to respond (5, 6). A research published in Pakistan in 2015 showed that 75% of chalazion patients responded well to the first triamcinolone injection, 20% of patients needed the second shot of triamcinolone and 6% of patients required surgery for their treatment (8). Another research published in India in 2013 showed that 72.7% of patients responded well to the first triamcinolone shot, 18.17% of patients required the second triamcinolone shot and 6% of patients required surgery for their treatment (9)

Methodology and Procedure

Research was accomplished over 40 patients having chalazion, aging between 10-50 years and having visited Ophthalmology Department of Nangarhar University teaching hospital from 1394/2/1 till 1394/12/18 (Persian calendar)

Procedure was explained to individual patient and their consent was requested before the administration of the drug.

0.2 ml of triamcinolone 40mg/1ml was injected into the chalazion and visual acuity, slit lamp examination and fundoscopy were done before and after the procedure.

The drug was injected through conjunctiva in a one cc syringe the needle of which ranged 27 g. Despite, hot compression was applied 4 times daily and oral analgesics were advised for two days. Patients were examined chronologically two weeks, 4 weeks, six weeks and 8 weeks later.

Injection for with 1 cc syringe that the needle of its was 27 g from conjunctiva injected after injection daily for 4 times hot compression and oral analgesic medicine for two days advised.

Of 40 patients injected with triamcinolone by Dr. Ghulam Farooq Rahimy, 9 patients required second shot of the medicine 4 weeks later. 3 patients were not treated by the second shot, though. And they required surgery which was done by Dr. Ghazi Jamal Abdul Nasir. We both collected the data and shared it.

Objectives

1. To know what percent of chalazion cases respond to triamcinolone injection and apply the outcome in ward due to the benefits of the drug
2. To reduce the necessity to surgical intervention

Inclusion Criteria:

1. Patients having suffered chalazion.
2. Patients aged between 10 to 50 years.
3.

Exclusion Criteria:

1. Patients who could not repeatedly visit the doctor for examination
2. Patients who aged less than 10 years or greater than 50 years
3. Other diseases of lids associated with chalazion.
4. Infected chalazion.

Finding:

Research on the effects and importance of triamcinolone injection inside chalazion was conducted in a prospective way over 40 patients aging between 10 to 50 years in the ophthalmology department of Nangarhar University Hospital

First table regarding patients' gender

Gender	Number	Percentage
Male	25	62.5%
Female	15	37.5%
Total	40	100%

According to age, 11 patients aged between 10 to 20 years, 13 patients between 21 to 30 years, 10 patients between 31 to 40 years and 6 patients aged between 41 to 50 years.

Second table regarding patients' age

Age	Patients number	Percentage
10-20	11	27.5%
21-30	13	32.5%
31-40	10	25%
41-50	6	15%

Discussion

Chalazion is initially treated with hot compression, anti-inflammatory and antibiotic medicine. An infected chalazion is called internal hordeloum which is drained by surgical procedure.

The main goal of the research is to eradicate chalazion with triamcinolone injection. Our research revealed that 28 patients who create 70% of the sample size responded to the first injection that is to say chalazion reduced in size and shrinked, 9 patients, 22.5%, required second injection and 3 patients, 7.5%, did not respond to the triamcinolone injection and were treated by surgical intervention.

Triamcinolone is economical, inexpensive effective and applicable in OPD patients.

Fourth Table: Injection and surgical treatment

Injections	Patient numbers	Percentage
First	28	70%
Second	9	22.5%
Surgical Treatment	3	7.5%

A research published in Pakistan by Tahir Zeeshan and his colleagues in 2015 discovered that 75% of patients responded to the first injection of triamcinolone. 20% of patients needed the second shot and 6% of the patients were candidate for surgical intervention
A research in India in 2013 revealed that 72.2% of patients responded to the first triamcinolone shot, 18.17% of patients required the second triamcinolone shot and 6% of patients underwent surgical intervention.

Fifth Table: The comparison of our research with that of the India and Pakistan

Injection	Our Research	Pakistan	India
First injection	70%	75%	72.7%
Second injection	22.5%	20%	18.17
Surgical Treatment	7.5%	6%	6%

In our research, the first steroid injection response is the least maybe due to the enlarged mass, not massaging the mass before injection and poor quality of medicine.

Conclusion:

Our research finally concluded that 70% of patients responded well to the first shot of triamcinolone which reflects the size of the chalazion reduced and shrinked. 22.5% of patients needed the second injection of triamcinolone and 7.5% of patients did not respond to triamcinolone and were scheduled for surgical intervention.
Triamcinolone is a better treatment choice for chalazion because of being inexpensive, easy to administer and can be administered in OPD.

Suggestions and recommendations

- It is easy and inexpensive way to treat Chalazion.
- If it is done in OPD, then not necessary to admit the patient.
- Surgery procedure is not necessary to treat Chalazion.

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