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Subcutaneous steroid injection as treatment for chalazion: prospective case series

治療霰粒腫的皮下類固醇注射：預期病例組

Objective. To study the efficacy of subcutaneous steroid injection in the treatment of chalazion.

Design. Prospective consecutive case series.

Setting. University teaching hospital, Hong Kong.

Patients. Patients with chalazion presenting to the out-patient clinic of the Department of Ophthalmology at the Prince of Wales Hospital from January to June 1998.

Main outcome measures. Size of the chalazion after steroid injection treatment.

Results. Forty-eight consecutive patients with chalazion were treated with injection of triamcinolone into the subcutaneous tissue around the lesion. In 43 (89.6%) patients, the lesion subsided completely. Twenty-six (54.2%) patients had lesions that subsided with one injection. The size and duration of the chalazion at presentation did not significantly affect the outcome of the treatment. Two patients developed depigmentation of the skin at the site of injection. No other major complications were encountered.

Conclusion. Subcutaneous injection of the steroid triamcinolone acetonide appears to be a simple and effective treatment for chalazion. Further comparative clinical trials are indicated.

目的：研究皮下類固醇注射對治療霰粒腫的功效。

設計：預期的連續病例組。

安排：大學教學醫院，香港。

患者：1998年1月至6月在威爾斯親王醫院眼科門診部就診的霰粒腫患者。

主要結果測量：類固醇注射治療後霰粒腫的大小。

結果：連續48名的霰粒腫患者中，把triamcinolone注射在病患周圍的皮下組織內。有43(89.6%)名患者的病患完全消退，並有26(54.2%)名患者的霰粒腫於一次注射後減退。霰粒腫的大小和出現時間的長短對治療效果沒有明顯影響。兩名患者在注射部位的皮膚出現退色。沒有其他重要併發症發生。

結論：皮下注射類固醇triamcinolone acetonide看來是治療霰粒腫簡單有效的方法。還需要進一步的臨床比較試驗。

Key words:

Chalazion;

Eyelid diseases;

Injections, intralesional;

Triamcinolone acetonide

關鍵詞：

霰粒腫；

眼皮病；

受損部位的注射；

Triamcinolone acetonide

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Introduction

A chalazion is a granuloma in the eyelid that develops due to the retention of meibomian gland secretion (Fig 1). The granuloma contains various inflammatory cells, including epithelioid and giant cells, neutrophils, eosinophils, and lymphocytes. The condition affects people of all ages and is one of the common eye diseases managed by non-ophthalmologists. A chalazion presents as a mass in the eyelid, causing cosmetic disfigurement and discomfort. Larger-sized chalazia may cause ptosis and refractive error. Treatment includes the use of warm compresses and careful lid hygiene,¹ intralesional steroid injection,²⁻⁴ and incision and curettage. Treatment with warm compresses and lid hygiene relies on patient motivation and compliance, while incision and curettage is a relatively painful procedure and may require general anaesthesia in children. Intralesional steroid injection can be performed using the transconjunctival route or the percutaneous route. It may be technically difficult for a non-ophthalmologist to



Fig 1. Lower eyelid chalazion

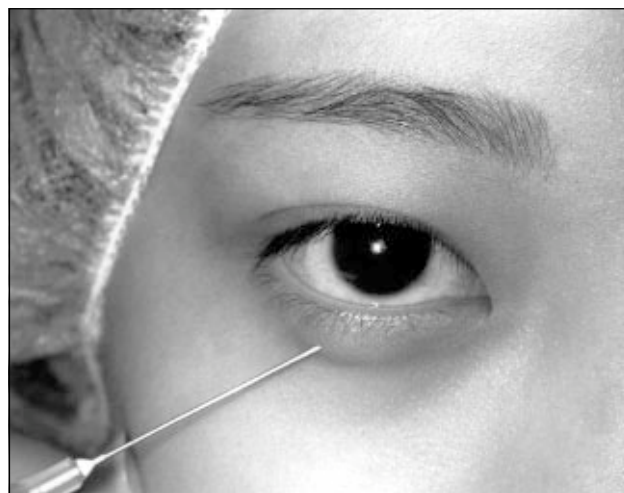


Fig 2. Subcutaneous steroid injection

evert the eyelid and to pass the needle through the tarsal plate into the chalazion. This difficulty is increased in the treatment of paediatric patients. In the authors' experience, many patients respond well even if the steroid is not injected directly into the chalazion. A prospective pilot study investigating the efficacy of extralesional steroid injection using the percutaneous route as treatment for chalazion was conducted.

Methods

A total of 48 consecutive patients with chalazion (regardless of the size, site, and duration of the lesion) were treated with sodium triamcinolone acetonide aqueous suspension 10 mg/mL (Kenacort-A) [Bristol-Myers Squibb Australia Pty Ltd, Victoria, Australia] injected through the skin into the subcutaneous tissue surrounding the chalazion from January to June 1998. Patients received 0.2 mL injections of the suspension via an insulin syringe and a 27-gauge needle (Fig 2). Care was taken not to puncture the tarsal plate or the wall of the chalazion. If either of these structures were punctured, the case was to be excluded. All injections were given by a single ophthalmologist working in the out-patient clinic. No local or topical anaesthetic was used. No eye patches or antibiotics were given following the treatment.

The patients were reviewed after 2 weeks. The injection was repeated if the chalazion had not reduced by half of its original size, with a maximum of two further injections given over a 2-week interval. Success was defined as the disappearance of the chalazion within 2 weeks of the initial injection. Failure of treatment was defined as the persistence of the chalazion after two further injections. The Chi squared test with Yate's correction was used in data analysis.

Results

Forty-eight patients were recruited during the study period. All were of Chinese ethnicity. Patient age ranged from 1 to 54 years. Forty-three (89.6%) patients experienced complete

resolution of the lesion with treatment—26 (54.2%) patients after a single injection, and 17 (35.4%) after two injections. The remaining five patients exhibited no response to the treatment. No case was excluded due to puncture of the cyst.

Patients were grouped according to the chronicity of the chalazion. Group A had the lesion for 1 month or less and Group B for more than 1 month. There was no statistically significant difference between the two groups in response to treatment (Table 1).

Data were also analysed according to chalazion size—Group 1 (lesion ≤ 5 mm), Group 2 (6-10 mm), and Group 3 (>10 mm). There was no statistically significant difference in the response to treatment among the three groups (Table 2). Two patients experienced the complication of depigmentation of the skin at the site of the injection.

Discussion

Chalazion is a common eye disease encountered by both ophthalmologists and general practitioners. One study indicated that approximately 25% of chalazia resolve spontaneously.⁵ The presence of a mass in the eyelid,

Table 1. Response to steroid injection treatment in patients with chalazion: Group A (lesion ≤ 1 -month duration) and Group B (lesion >1 -month duration)*

	Group A, n=27 No. (%)	Group B, n=21 No. (%)
Treatment success	25 (92.6)	18 (85.7)
Treatment failure	2 (7.4)	3 (14.3)

* P>0.05

Table 2. Response to steroid injection treatment in patients with chalazion: Group 1 (lesion ≤ 5 mm), Group 2 (lesion 6-10 mm), Group 3 (lesion >10 mm)*

	Group 1, n=22 No. (%)	Group 2, n=15 No. (%)	Group 3, n=11 No. (%)
Treatment success	22 (100)	12 (80)	9 (81.8)
Treatment failure	0	3 (20)	2 (18.2)

* P>0.05

however, causes cosmetic disfigurement and discomfort to the patient. Thus the majority of the patients require treatment, including warm compresses, steroid injection, or incision and curettage.¹⁻⁴

There are several advantages of steroid injection over other forms of treatment. Steroid injections do not rely on patient compliance, require no special instruments, involve a quick and simple procedure with minimal bleeding, eliminate the risk of damaging eyelid structures, and do not require eye patching after injection, allowing bilateral cases to be treated at the same patient visit. As there is no external wound, antibiotic treatment is not required.

Injection of steroid into the chalazion, however, may be technically difficult and may cause severe pain. This study showed that steroid injected outside the chalazion can diffuse into the lesion and exert an anti-inflammatory effect. Such a procedure might be an easier and safer method for doctors (especially non-ophthalmologists), as the needle is passed through the skin without having to go through the tarsal plate and the wall of the cyst. Injection of the steroid suspension into the relatively loose subcutaneous tissue may be less painful than injection into the cyst directly. Further study comparing intralesional and extralesional steroid injection techniques is warranted.

Two patients developed skin depigmentation at the site of injection. This complication has been reported in other series⁶ and is thought to be caused by inhibition of melanosome synthesis, impaired transfer of the melanosome to the keratinocyte, or melanocyte ischaemia.⁷ Patients should be informed of this potential adverse effect prior to treatment. No major complications were recorded in this

series. Injection of a steroid agent, however, is not without risk. Potential complications include atrophy of the dermis and fat, globe perforation, and retinal and choroidal vascular occlusion.⁸

Conclusion

The preliminary results of this study indicate that extralesional steroid injection using the percutaneous route is a relatively simple, fast, safe, and effective method of treatment for chalazion. A major limitation of this study is the lack of a control group. As 25% of patients may experience spontaneous regression of the chalazion, only by conducting a controlled trial can the true efficacy of this form of treatment be determined.

References

1. Perry HD, Serniuk RA. Conservative treatment of chalazia. *Ophthalmology* 1980;87:218-21.
2. Pizzarello LD, Jakobiec FA, Hofeldt AJ, Podolsky MM, Silvers DN. Intralesional corticosteroid therapy of chalazia. *Am J Ophthalmol* 1978; 85:818-21.
3. Watson AP, Austin DJ. Treatment of chalazions with injection of a steroid suspension. *Br J Ophthalmol* 1984;68:833-5.
4. Dua HS, Nilawar DV. Nonsurgical therapy of chalazion. *Am J Ophthalmol* 1982;94:424-5.
5. Cottrell DG, Bosanquet RC, Fawcett IM. Chalazions: the frequency of spontaneous resolution. *Br Med J (Clin Res Ed)* 1983;287:1595.
6. Cohen BZ, Tripathi RC. Eyelid depigmentation after intralesional injection of a fluorinated corticosteroid for chalazion. *Am J Ophthalmol* 1979;88:269-70.
7. Kligman AM, Willis I. A new formula for depigmenting human skin. *Arch Dermatol* 1975;111:40-8.
8. Thomas EL, Laborde RP. Retinal and choroidal vascular occlusion following intralesional corticosteroid injection of a chalazion. *Ophthalmology* 1986;93:405-7.