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Treatment of chalazions with injection of a steroid suspension

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SUMMARY A trial was conducted to compare the efficacy of the treatment of chalazions by injection of triamcinolone acetonide with conventional incision and curettage. Of the 39 injected cases 77% resolved completely, though 54% of the injected cases required a second injection. Of the 30 surgically treated cases 90% resolved, but 27% required a second operation. Injection of chalazions with a steroid suspension is a convenient and reasonably effective alternative to the standard surgical management of this common condition.

A chalazion is a chronic granuloma of an eyelid that develops because of retention of the secretions of a meibomian gland. After an acute inflammatory stage it persists as a lump a few millimetres in diameter that may slowly enlarge. The histopathological appearance may vary, but characteristically the lesion is a granuloma rich in epithelioid and giant cells. Lymphocytes, neutrophils, and eosinophils may also be plentiful. It is a common condition that affects people of all ages. The chief effects are cosmetic disfigurement with variable discomfort, and sometimes significant astigmatism.[1] In a recent study[2] it was shown that 25% or more of chalazions resolve spontaneously, but the rest are unlikely to disappear without intervention. The standard treatment of these lesions is by incision and curettage, which, though a minor procedure, often causes discomfort and some distress to the patient. It usually necessitates wearing a pad and bandage afterwards, which means that the patient should not drive. The aim of the trial was to determine whether injecting chalazions with triamcinolone acetonide is an effective form of treatment, as well as quick and convenient.

Patients and methods

A total of 112 adult patients were assigned alternately as they presented for either injection of their chalazion with triamcinolone acetonide or incision and curettage. No chalazions were excluded from the trial regardless of the length of time present, position, size, presence of inflammation, or consistency. At the initial and each subsequent visit the patient was photographed and the intraocular pressure measured. Each patient was seen one week after whichever procedure had been performed and again at two weeks. If after two weeks there was no significant improvement in the lesion, the previous procedure was repeated and the patient again followed up at weekly intervals. If the lesion had resolved at the two-week stage, the patient was given a further follow-up appointment for one month and, if all was

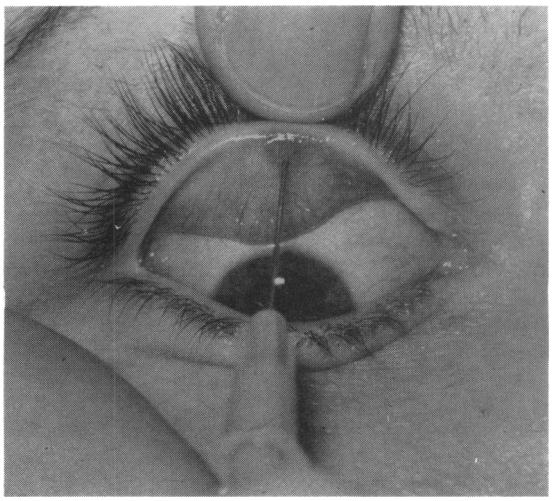

Fig. 1 *The needle is aligned so that inadvertent perforation of the globe cannot occur when the chalazion is injected.*

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Fig. 2A *A prominent chalazion before treatment.*

Fig. 2B *Two weeks after injection.*

well at this stage, was discharged. If a lesion failed to respond to a repeat procedure, it was then treated with the alternative procedure. All the chalazions eventually settled after this regimen.

TECHNIQUE OF INJECTION

The conjunctiva was anaesthetised with a drop of oxybuprocaine (Benoxinate). The injection was given with a 1 ml tuberculin syringe with a 25 gauge needle. The eyelid with the lesion was everted without the use of a clamp, and the needle passed transconjunctivally into the chalazion in such a way that inadvertent perforation of the globe could not occur, even if the needle was passed too deeply (Fig. 1). 0·02 to 0·2 ml of a 10 mg/ml suspension of triamcinolone acetonide was injected, the amount depending on the size of the chalazion and the resistance felt on the syringe plunger. The eye was not padded after the procedure.

Results

There was a high drop-out rate with 43 patients (38%) failing to keep their follow-up appointments, and these have been excluded from the study. The drop-out rate was approximately equal in both groups of patients and could have been because their lesions resolved satisfactorily.

Of the 39 injected cases 77% (30 cases) resolved completely, though 54% (21 cases) required a second injection. Of the 30 cases treated with incision and curettage 90% (27 cases) resolved with 27% (8 cases) requiring a second procedure.

There were no cutaneous complications in the injected group, and in no case did the intraocular pressure rise in the six-week follow-up period. The majority of injected chalazions had resolved within three weeks, and an example is shown in Fig. 2.

Discussion

Triamcinolone acetonide (Adcortyl) is an aqueous corticosteroid suspension (10 mg/ml) with benzyl alcohol, sodium chloride, sodium carboxymethylcellulose and polysorbate 80. It is used for intra-articular injection of inflamed joints in conditions such as rheumatoid arthritis and for intradermal injection in conditions including acne cysts, psoriatic plaques, lichen planus, and alopecia.[3-5]

Two previous trials of injection of chalazions have been reported.[6,7] The only complication reported was a yellow deposit in the skin of a black patient. However, in this case the injection had been transcutaneous. Temporary atrophy of skin in the region of intradermal steroid injections is a recognised problem, though it did not occur in the two previously mentioned trials. Furthermore a transconjunctival approach lessens the risk of inadvertent intradermal injection when treating a chalazion.

The advantages of injection over incision and curettage are that it is quicker, requires no special instruments, is less painful than injection of local anaesthetic, and does not require dressing (so that patients can drive immediately afterwards). No complications occurred in the trial.

A disadvantage is that roughly half the cases (54%) treated in this way may require a second injection for prompt resolution of the chalazion. However, this percentage is probably less than indicated, as in this trial drop-outs were not included as definite successes,

though it is likely that in the great majority of these cases the lesion had resolved. Furthermore as the procedure is so quick, there is less total time spent giving two injections than in doing an incision and curettage. In a small proportion of cases incision and curettage will be necessary after failure of two injections to effect a satisfactory resolution.

In summary, injection of chalazions with triamcinolone acetonide is a quick, safe, and reasonably effective form of treatment. It is now used as the treatment of first choice for patients with chalazions referred to the Eye Casualty Department at Leicester Royal Infirmary.

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