Corticosteroid injections in the treatment of trigger finger: a level I and II systematic review
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CRD summary
The authors concluded that corticosteroid use was associated with an improvement in symptoms in 57% of patients. Limitations in the literature search, the poor quality and small number of included studies, and failure to appropriately synthesise the results mean that these findings should be interpreted with extreme caution.

Authors' objectives
To assess the effectiveness of corticosteroid injection in the treatment of trigger finger.

Searching
MEDLINE and the Cochrane CENTRAL Register were searched from inception to January 2006 for articles reported in English; the search terms were reported. The references of selected articles were screened.

Study selection
Study designs of evaluations included in the review
Studies of randomised controlled trials (RCTs) with at least 85% follow-up were eligible for inclusion. The duration of follow-up ranged from 1 to 27 months.

Specific interventions included in the review
Studies of injectable corticosteroids were eligible for inclusion. The corticosteroids included were betamethasone sodium phosphate, methylprednisolone acetate and triamcinolone acetonide combined with varying doses of 1% lidocaine. Two trials were placebo-controlled, one compared corticosteroid alone with percutaneous release with corticosteroid, and the fourth compared intra-sheath corticosteroid with subcutaneous corticosteroid.

Participants included in the review
Studies of adults with a diagnosis of trigger finger were included. The mean age of the participants ranged from 52 to 62 years. Seventy-five per cent of the participants were women. The majority of digits studied were fingers, although some patients with solely thumb involvement were included. Patients with co-morbid diabetes were included in one study; other studies excluded patients with diabetes, rheumatoid arthritis or previous injection. The duration of symptoms prior to enrolment and duration of follow-up varied within and between studies.

Outcomes assessed in the review
Inclusion criteria were not defined in terms of the outcomes. The reported outcome was pain. The measures used varied between studies and were non-standardised.

How were decisions on the relevance of primary studies made?
The authors did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The validity of the included studies does not appear to have been systematically assessed. However, some judgement of methodological quality appears to have been made on the following criteria: percentage follow-up, method of randomisation, blinding and percentage of thumbs versus fingers. The authors also commented on potential sources of bias in the text. The authors did not state how the validity assessment was performed.

Data extraction
The authors did not state how many reviewers performed the data extraction. The data were extracted onto a worksheet devised by a university-based research centre. The percentage of digits at follow-up, the digit being studied, the number of patients responding to treatment (unclear how a response to treatment was defined) and statistical significance were extracted.
Methods of synthesis
How were the studies combined?
Individual study results were reported in a table and discussed in a narrative synthesis. The total percentage response to each treatment evaluated was calculated for all of the studies combined.

How were differences between studies investigated?
Differences between the studies were discussed in the text.

Results of the review
Four studies were included (n=285, number of digits 297).

Overall, 57% (range: 47 to 64) of patients treated with injectable corticosteroids responded to treatment. Corticosteroids were significantly more effective than placebo in the two studies that evaluated this: 64% versus 20% (p<0.02) and 60% versus 15% (p<0.05).

Corticosteroid injection with percutaneous release relieved pain in 91% of patients compared with 47% of patients who received corticosteroid alone (p=0.001). However, this study included patients with trigger thumb only and did not describe either the randomisation or blinding procedures.

There was no significant difference between intra-sheath and subcutaneous corticosteroid injection (p-value not reported).

Authors' conclusions
Corticosteroids were effective in relieving pain in 57% of patients.

CRD commentary
The review addressed a focused question that was supported by inclusion criteria defined in terms of the study design, population and intervention; the outcomes were defined more broadly. The search was limited to two databases and studies reported in English, and there were no attempts to locate unpublished studies. Relevant studies may therefore have been missed and the review may be subject to language and publication bias. Details of the review process were not reported, so it is not possible to determine whether any steps were taken to avoid error or bias. No formal validity assessment was carried out, although several methodological limitations of the included papers were highlighted in the review: inadequate reporting of study details, randomisation that is prone to bias, lack of blinding and use of non-standardised outcome measures. These limitations are likely to affect the reliability of the findings.

There was a high level of clinical heterogeneity in the included studies in terms of corticosteroids administered, comparator treatments, duration of follow-up, participants and digits studied. The data were pooled to give a total percentage response rate and statistical heterogeneity was not formally assessed. Given that the response rates were similar across trials this may have been appropriate, however, pooling from single arms of the trials loses the effect of randomisation and the ability to make relevant comparisons. A more appropriate analysis would have focused on the difference between the two treatment groups in each trial. Given the limitations in the literature search, apparent poor quality and small number of included studies, and failure to appropriately synthesise the results, the authors' conclusions should be interpreted with extreme caution, especially given that the value reported is obtained by pooling data from one arm of each trial.

Implications of the review for practice and research
Practice: The authors did not state any implications for practice.

Research: The authors stated that further RCTs evaluating both pharmacological and surgical interventions are needed. Future research should use standardised outcome measures: a classification system to assess severity of trigger finger, visual analogue scales to assess pain and a goniometer to assess mobility.
Funding
Vanderbilt Sports Medicine Research Fund.

Bibliographic details

PubMedID
17341673

Indexing Status
Subject indexing assigned by NLM

MeSH
Adrenal Cortex Hormones /administration & dosage; Evidence-Based Medicine; Humans; Randomized Controlled Trials as Topic; Trigger Finger Disorder /drug therapy

AccessionNumber
12007005855

Date bibliographic record published
07/02/2008

Date abstract record published
01/09/2008

Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.