Systematic review of non-surgical therapies for osteoarthritis of the hand: an update

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This generally well-conducted review drew no conclusions on the efficacy of many treatments for osteoarthritis of the hand and, given the poor quality of the available evidence, this was appropriate. The authors stated that osteoarthritis of the hand was a complex area of study and Osteoarthritis Research Society International Consensus Recommendations would improve the design and conduct of future trials.

Authors' objectives
To evaluate therapeutic nonsurgical interventions for osteoarthritis of the hand.

Searching
MEDLINE, PREMEDLINE, EMBASE, AMED, CINAHL, and EBM Reviews, which includes the Cochrane Central Register of Controlled Trials (CENTRAL), Cochrane Database of Systematic Reviews, DARE, and the ACP Journal Club, were searched to February 2008; search terms were reported. The bibliographies of retrieved articles were also searched.

Study selection
Randomised controlled trials (RCTs) of nonsurgical therapeutic interventions, in adults with osteoarthritis of the hand, were eligible for inclusion if they assessed any relevant outcome. Trials evaluating efficacy for multiple sites had to report the results for the hand separately.

The interventions evaluated included oral and topical non-steroidal anti-inflammatory drugs, topical aspirin, intra-articular steroids or hyalurionate, occupational therapy, capsaicin cream, glycosaminoglycan polysulphate, chondroitin sulphate, and several unconventional therapies. The definitions of hand osteoarthritis varied across trials and most of them did not distinguish between primary and secondary osteoarthritis. The mean age of participants was 62.3 years (range 53 to 82 years), 82% were female, and the mean duration of osteoarthritis was 6.1 years (range two to 10.2 years). Most of the trials were conducted in the USA or Western Europe.

The number of reviewers performing the trial selection was not reported.

Assessment of study quality
Trial quality was assessed by two independent reviewers using the Jadad scale (maximum score five); differences were resolved by consensus.

Data extraction
Two independent reviewers extracted the order of efficacy of the interventions evaluated in each trial; differences were resolved by consensus.

Methods of synthesis
Trials were combined in a narrative synthesis and the differences between them were discussed in the text. Trial details were reported in tables.

Results of the review
Forty-four RCTs, 34 parallel and 10 crossover trials, met the inclusion criteria (at least 3,945 patients; one trial did not report the number randomised; where reported, range five to 910; 25 trials were of 50 or fewer patients). The median duration of follow-up ranged from two hours to five years. The median Jadad score was three; range zero to five. Of the 44 trials, 11 described the method of randomisation, four described adequate allocation concealment, 25 reported patient blinding to treatment, 14 described the method of blinding, and 20 used an inappropriate statistical analysis.

There was some evidence for the efficacy of trolamine salicylate, glycosaminoglycan polysulphate, fiorinal, and FIPA.
splints for first carpal metacarpal joint osteoarthritis, occupational therapy, dextrose proliferative injection therapy (prolotherapy), oral non-steroidal anti-inflammatory drugs, stinging nettle leaf, topical capsaicin, vitamin B12 with folate, yoga, leeches, strength training exercise, and spa therapy, chondroitin sulphate, and chondroitin polysulphate.

**Authors’ conclusions**
Hand osteoarthritis was a more complex area, in which to study the efficacy of therapies, when compared with hip and knee osteoarthritis.

**CRD commentary**
The authors addressed a clear research question supported by appropriate inclusion criteria. The search was comprehensive for published trials, but it was unclear whether language restrictions were applied and there was no specific search for unpublished trials. Therefore, language and publication bias cannot be ruled out. Data extraction and the quality assessment were conducted by two reviewers, but it was unclear whether similar methods to reduce error and bias were used in trial selection. Trial quality was assessed using appropriate criteria. A narrative synthesis seems to have been appropriate, and the differences between trials were discussed.

Given the poor quality of the available evidence, the lack of firm conclusions on the efficacy of the interventions seems to be appropriate.

**Implications of the review for practice and research**
The authors did not report any implications for practice nor research, but they stated that the recently published Osteoarthritis Research Society International (OARSI) Consensus Recommendations would improve the design and conduct of future RCTs in hand osteoarthritis.

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