Steroids as adjuvant therapy for acute pharyngitis in ambulatory patients: a systematic review

Korb K, Scherer M, Chenot JF

CRD summary
The review concluded that steroids were effective for pain reduction in adult and paediatric patients complaining of acute sore throat. Although the authors’ conclusion appeared to reflect the evidence presented, there were some methodological and reporting concerns with the review (including an absence of results for some outcomes), indicating that the conclusion should be interpreted with a degree of caution.

Authors' objectives
To assess the efficacy of adjuvant steroids for pain reduction patients with acute pharyngitis (sore throat).

Searching
MEDLINE, EMBASE, and the Cochrane Database of Systematic Reviews were searched for studies published in any language between 1966 and December 31, 2008. Search terms were reported in a supplementary online appendix (see URL for Additional Data). Reference lists of retrieved articles were also searched.

Study selection
Randomised controlled trials (RCTs) that compared adjuvant steroids (oral or intramuscular) with placebo for sore throat in acute pharyngitis in ambulatory patients were eligible.

Pain reduction was assessed using a range of scales (mostly visual analogue). All but one of the trials were set in emergency rooms, with most participants initially receiving antibiotics. Most trials allowed controlled use of analgesics. A range of drugs, doses, and durations were used. A few trials (which all used oral dexamethasone) were of children. Most trials of adults used intramuscular steroids. The mean (or median) age of trial populations ranged from eight to 34 years.

Two reviewers independently selected studies for inclusion, with disagreements resolved by consensus.

Assessment of study quality
Trial quality was evaluated by assessing the following criteria: adequacy of randomisation; description of drop-outs; description of power calculation; use of intention-to-treat analysis; point estimates and measures of variability; double blinding; predefined eligibility criteria; and defined primary outcomes.

The authors did not state how many reviewers performed the quality assessment.

Data extraction
Data relating to pain scores (including changes from baseline), or time to onset of pain relief, or to complete pain relief, were extracted.

It was unclear how many reviewers extracted data.

Methods of synthesis
A narrative synthesis was presented, with trial details tabulated.

Results of the review
Eight RCTs were included in the review (n=806 patients; range: 51 to 184). All but one trial used adequate randomisation. All trials were double blind, five trials described use of a power calculation, but only one trial reported
analysing intention-to-treat data.

**Adults** (five RCTs, n=413 patients): In four RCTs, steroid treatment resulted in a statistically significant earlier reduction of pain (ranging from four to 11.8 hours earlier) and complete pain relief (ranging from 13.8 to 28.2 hours earlier). One trial reported significantly better reduction of pain after 12 and 24 hours.

**Children** (three RCTs, n=393): All trials showed a statistically significantly earlier reduction in pain, ranging from 5.1 hours to one day. In one trial, dexamethasone for three days was not superior to a single dose for any outcome.

No serious adverse effects were reported, and no significant differences in time off work or school were found.

Subgroup results were also reported.

**Authors' conclusions**
Steroids were effective for pain reduction in adult and paediatric patients in acute pharyngitis.

**CRD commentary**
The review addressed a clear question and was supported by appropriate inclusion criteria. Attempts to identify relevant studies in any language were undertaken by searching electronic databases and checking references. However, no search was made for unpublished trials, so some relevant data may have been missed. Suitable methods were employed to reduce the risks of reviewer error and bias for the study selection process, but relevant details relating to data extraction and quality assessment were not reported.

Trial quality was assessed (although allocation concealment was not mentioned), but the results were not used in interpreting the results of the review; it was unclear why the three trials reporting no drop-outs were also reported as not using an intention-to-treat analysis. Sufficient trial details were provided. A narrative synthesis of the data appeared appropriate, considering the clinical heterogeneity between trial. However, results for pain scores at 24 and 48 hours were generally not presented in the review.

Although the authors' conclusion appeared to reflect the evidence presented, the few methodological and reporting concerns (particularly the absence of results for some outcomes) indicate that it should be interpreted with a degree of caution.

**Implications of the review for practice and research**
**Practice:** The authors warned that it was conceivable that emergency department patients have more pain than average throat pain sufferers and that the review results cannot be expected in a primary care setting.

**Research:** The authors stated a need for further studies to establish the safety of steroids without antibiotic coverage and the added benefits of steroids when used with regular administration of over-the-counter analgesic medications. They added that future studies should favour oral administration (to minimise nerve damage, local infection, and necrosis) and need a consensus on a standard for measuring pain relief.

**Funding**
Not stated.

**Bibliographic details**

**PubMedID**
20065280
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.