Antihistamines and the common cold: a review and critique of the literature

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Authors' objectives
To determine if antihistamines provide clinically-significant relief from the symptoms of the common cold.

Searching
MEDLINE was searched after 1975 using the textword 'common cold', restricting to review articles (used to obtain references to clinical trials), and the term 'common cold' and (explode) 'histamine h1 receptor blockaders'.

Study selection
Study designs of evaluations included in the review
Randomised controlled trials, reporting outcomes during the first 3 days of therapy, were included.

Specific interventions included in the review
Antihistamines (terfenadine, chlorpheniramine, triprolidine, astemizole and clemastine). Dosage and regimens are not described, although it is stated that antihistamines had to be given in doses similar to those used in the treatment of allergic rhinitis.

Participants included in the review
Non-allergic adults or children with natural or experimentally-induced colds, with diagnosis of common cold based on practitioner history and physical examination. Patient characteristics are not presented.

Outcomes assessed in the review
Alleviation of symptoms (patient or parent evaluation). Individual symptom scores (ranging from 0 to 3) were also summed into a total symptom score according to an existing scale, although the symptoms combined vary from study to study. A reduction of 15% in the total symptom score was considered clinically significant.

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

Assessment of study quality
Nine methodological areas were evaluated: populations studied, quality of cold diagnosis, success of randomisation, validity of pharmaceutical intervention, report of relevant clinical outcomes, drop-out rate, clinical similarity of groups, use of other medications, and side-effects. Each area was evaluated as acceptable, unacceptable or not reported, but the results of this evaluation are not presented. The methodological evaluation was done independently by both authors.

Data extraction
The authors do not state how the data were extracted for the review, or how many of the authors performed the data extraction.

Methods of synthesis
How were the studies combined?
A qualitative synthesis was undertaken.

How were differences between studies investigated?
Methodological differences in the studies were discussed.
Results of the review
A total of 9 studies (1,119 patients) were included.

Six studies (378 patients) reported total symptom scores,
5 studies (785 patients) reported sneezing, and
7 studies (985 patients) reported nasal discharge.

Total symptom scores (6 studies).
No study demonstrated a statistically-significant decrease (p<0.05) in total symptom scores, although none of the studies was large enough to have sufficient power to detect a 15% decrease in total symptom score.

Sneezing (5 studies).
Two studies found no reduction in sneezing with antihistamines. Three studies showed statistically-significant reductions in sneezing, but either the clinical significance, methodological rigour, or magnitude of the effect was unclear in each of these studies. There is no clear evidence of a clinically-relevant benefit of antihistamines on sneezing.

Nasal discharge (7 studies).
The results are conflicting and there is no clear evidence of clinically-significant improvement. Four studies reported no reduction; 3 studies reported statistically-significant improvements, although in 2 studies there was insufficient data to evaluate clinical significance, and in 1 study the improvement was not clinically significant.

Authors' conclusions
The primary literature offers little support for the use of antihistamines in the common cold.

CRD commentary
The search strategy is not very comprehensive, and was restricted to one computerised database. It is unclear whether the search was restricted to English language publications. No attempt was made to identify unpublished literature, although the authors acknowledge this. The review methodology appears reasonably thorough, but it is unclear in the text exactly what was done, e.g. the distinction between inclusion criteria and validity criteria is unclear. Insufficient details of the primary studies are given, so it is difficult to evaluate whether it would have been appropriate to undertake a meta-analysis.

Bibliographic details

PubMedID
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Other publications of related interest

Indexing Status
Subject indexing assigned by NLM

MeSH
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.