Herbal medicines for the treatment of allergic rhinitis: a systematic review

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CRD summary
This systematic review of herbal medicines found that there was encouraging evidence to support Petasites hybridus (butterbur) for treating allergic rhinitis, but independent research was needed to confirm these findings. The systematic review was performed using appropriate methods, but a lack of detail about study quality and results made it difficult to verify the reliability of the conclusions.

Authors' objectives
To investigate the efficacy of herbal medicines for treating allergic rhinitis.

Searching
MEDLINE, EMBASE, Cochrane Database of Systematic Reviews, Cochrane Register of Controlled Trials, CINAHL and AMED Allied and Complementary Medicine were searched from inception to November 2005. Search terms were reported. There were no language restrictions. Reference lists were searched and product manufacturers and experts in the field were contacted.

Study selection
Double-blind randomised controlled trials (RCTs) that compared a herbal preparation alone or as adjunctive treatment against placebo or another active treatment were eligible. Trials of homeopathic remedies, single constituents, combination treatments with synthetic drugs or preventative interventions were excluded. Trials of participants of any age or gender diagnosed with allergic rhinitis (either perennial allergic rhinitis or seasonal allergic rhinitis) that reported clinically relevant outcomes were eligible. Trials with allergic rhinitis patients as a subgroup, but that did not report results separately were excluded.

Included RCTs evaluated: Petasites hybridus (butterbur) or Aller-7 compared with cetirizine, fexofenadine or placebo; Chinese herbal medicine (sho-seiryu-to, biminne, 18-herb preparation) compared with placebo; and other herbal preparations (urtica dioica, grape seed extract) compared with placebo. Treatment duration ranged from one to 12 weeks. Most trials were of adults; one trial included those aged over 12 years. Most trials were of sufferers of seasonal allergic rhinitis or intermittent allergic rhinitis. Reported outcomes varied, but most trials assessed quality of life, symptoms (such as sneezing or the total nasal symptom score) or peak nasal inspiratory flow.

Studies were selected by two reviewers independently. Discrepancies were resolved by discussion or referral to a third reviewer.

Assessment of study quality
Study validity was assessed using the Jadad scale (to assess blinding, randomisation and withdrawals with a total score from 0 to 5) by two reviewers independently. Disagreements were resolved by discussion or referral to a third reviewer.

Data extraction
Data were extracted by one reviewer and checked by a second. Study results were extracted descriptively. The authors reported that they calculated risk ratios and weighted mean differences, but very few numerical results are reported in the paper.

Methods of synthesis
Results were presented in a narrative grouped by type of treatment. Tables were presented enabling the examination of clinical heterogeneity.

Results of the review
Sixteen studies (n=1,561, range 16 to 330) were included in the review. The median Jadad score was 4 (range 2 to 4). In
all studies the herbal medicine under evaluation was the only treatment; five studies allowed the use of rescue medication.

**Petasites hybridus (six studies):** Three placebo-controlled studies found that P. hybridus may be effective for relief of symptoms or improved peak nasal inspiratory flow. Two studies that compared P. hybridus with non-sedating antihistamine and one that comparing it with placebo found no significant differences between treatments for any outcomes.

**Aller-7 (two studies):** Two placebo-controlled studies of Aller-7 found reductions in measures of individual symptoms compared with placebo. One also found a significant reduction in total nasal symptom score.

**Chinese herbal medicine (three studies):** One study found statistically significant differences for the overall therapeutic effect (sneezing, stuffy nose and running nose) of a compound of eight different herbs compared with placebo. Biminne (11 herbs) significantly reduced sneezing compared with placebo and showed a non-significant reduction in other weekly symptom scores over time. An extract of 18 herbs showed a statistically significant difference compared with placebo for change in symptoms (measured on a 5-point scale) after five weeks and for quality of life after seven weeks.

**Other herbal preparations (five studies):** Studies of other herbal preparations compared with placebo found statistically significant effects for Tinospora cordifolia for symptoms (nasal discharge, sneezing and nasal obstruction and itching) and Perilla frutescens for quality of life. Other studies either found no significant differences or did not perform any statistical analyses.

**Adverse events:** 11 studies reported adverse events, most were minor including fatigue, nausea and indigestion, but there were a few reports of severe events prompting patient withdrawal from the study.

**Authors’ conclusions**
There was encouraging evidence for Petasites hybridus as a treatment for seasonal allergic rhinitis, but financially independent replication of the results was needed. Promising results were shown for other herbal products, although these were confined by the lack of data and small sample sizes of the available studies. Further confirmation of the results was needed from large, more rigorously designed clinical trials.

**CRD commentary**
This review reported clear inclusion and exclusion criteria, although it did not pre-specify eligible outcomes or appear to report any outcomes reported by the original studies. The search was thorough, had no language restrictions and included attempts to locate unpublished material (although the authors commented that publication bias may have been an issue). Two reviewers performed study screening, quality assessment and data extraction in order to reduce the risk of error and reviewer bias. The systematic review methods appeared robust. The main limitation to this review was the reporting. Studies were quality assessed using the Jadad score, but only the total score was reported, which gave the reader little information about individual quality aspects. Only double-blind studies were included, which was important for a review of herbal medicines. There was also a lack of detail regarding the study results, with no numbers, p-values or confidence intervals reported for most studies and some discrepancies between the tables and text. In conclusion, the systematic review methods were appropriate and the recommendations for further research warranted, but more details of results would be needed to conclude that this was encouraging evidence.

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

**Research:** The authors stated that as the three largest trials of P. hybridus were supported by the product manufacturer, further replication of the results by independent trials was needed. The promising findings for other compounds also needed to be confirmed by larger, well-designed RCTs with further investigation of the safety of these herbal medicines.

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