

# Review: Herbal preparations may improve FEV<sub>1</sub> and symptoms in asthma

Huntley A, Ernst E. Herbal medicines for asthma: a systematic review. *Thorax*. 2000 Nov; 55:925-9.

## QUESTION

For patients with asthma, do herbal preparations improve lung function and reduce symptoms?

## DATA SOURCES

Studies were identified by searching MEDLINE, the Cochrane Library, and EMBASE/Excerpta Medica from their inception to December 1999 with the terms asthma, herb with various endings, Ayurvedic, and traditional Chinese medicine as well as names of individual herbs. Bibliographies and personal reprint collections were scanned, and experts were contacted.

## STUDY SELECTION

Randomized controlled trials were included if they studied patients with asthma preferably defined by American Thoracic Society criteria and if outcomes of lung function tests, symptoms, medication use, asthma events, FEV<sub>1</sub>, or airway resistance were reported.

## DATA EXTRACTION

Study characteristics and quality, treatment and control interventions, outcome measures, and results.

## MAIN RESULTS

17 randomized controlled trials met the inclusion criteria. 6 studied Chinese herbal medicines, 8 studied Indian preparations, 1 evaluated a Japanese herbal preparation, and

2 evaluated marijuana and ivy. 14 of the trials scored  $\leq 3$  of a maximum of 5 on the Jadad quality scale.

*Traditional Chinese herbal medicine:* The trials had methodologic problems (all scored 1 on the Jadad scale). All studies showed improvements in FEV<sub>1</sub>. The agents studied were concentrated *Ginkgo biloba* extract, 15 g 3 times/d (61 patients); *Ligusticum wallichii* (150 patients with moderate or severe asthma), which also improved self-reported symptoms; the strengthening body-resistance method, which contained *Ephedra sinica* (117 patients); the reinforcing kidney and invigorating spleen principle with steroids compared with steroids alone (41 patients with severe asthma); the invigorating kidney for preventing asthma tablets with conventional steroids compared with conventional steroids alone (57 patients with seasonal asthma); and wenyang tonglulo mixture, which contained *E. sinica*, compared with oral salbutamol and inhaled beclomethasone (68 patients).

*Traditional Indian herbal (Ayurvedic) medicine:* Quality scores for these trials were higher than those of the Chinese medicine studies. *Boswellia serrate* gum was more effective than was placebo for improving FEV<sub>1</sub>. *Solanum xanthocarpum* or *S. trilobatum* showed improvement from baseline in FEV<sub>1</sub>, but

neither was as effective as standard drugs (salbutamol or deriphylline). *Tylophora indica* was studied in 5 trials (593 patients): 3 showed an improvement in FEV<sub>1</sub> or symptoms, and 1 showed 1-week improvements in self-reported symptoms that were not sustained at 12 weeks. *Picrorrhiza kurroa* (72 patients with bronchial asthma) showed no improvement over placebo in FEV<sub>1</sub>.

*Other herbal treatments:* Tsumura saiboku-to (2 herbal preparations that include 10 herbs) improved self-reported symptoms and perceptions (112 patients with steroid-dependent bronchial asthma). Marijuana was evaluated in 1 study of 10 adults with bronchial asthma: The oral preparation but not the smoking route improved airway resistance. Ivy-leaf extract improved airway resistance but not FEV<sub>1</sub> in 24 children with bronchial asthma.

## CONCLUSIONS

9 of 17 randomized controlled trials of herbal preparations show improved FEV<sub>1</sub> or symptoms, or both, in patients with asthma. Study quality, however, is generally poor.

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## COMMENTARY

For a new drug to be marketed in the United States, efficacy must be shown in "adequate and well-controlled trials." Huntley and Ernst confirmed what is already suspected by the medical community: The clinical evidence to support the use of herbal and other complementary medicines in the treatment of asthma is limited.

These products are not subject to the same regulatory oversight the U.S. Food and Drug Administration provides for pharmaceuticals and medical devices (1). However, the skepticism of the medical community about the benefits of these products must be tempered with the reality that the use of alternative therapies is increasing. More Americans are using alternative therapies (from 33% in 1990 to > 42% in 1997 [2]). In the United Kingdom, a survey found that 60% to 70% of patients with asthma used such therapies (3). Patients use these therapies for many reasons, including the deregulation and increased promotion of dietary supplements in the United States; patient dissatisfaction with conventional medicine; and the fact that these health care alternatives may mirror their own values, beliefs, and philosophy toward

health (1, 4). These issues have led to the creation of the U.S. National Institutes of Health Office of Dietary Supplements and the National Center for Complementary and Alternative Medicine whose missions are to support basic and clinical research and researchers in alternative therapies. Only through such research can we understand how these alternative therapies best fit into the management of disease. In the meantime, the busy practitioner must realize that many patients are using these therapies, and they may be affecting compliance with or the benefits and risks of prescribed therapy.

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## References

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3. Ernst E. *J Asthma*. 1998;35:667-71.
4. Astin JA. *JAMA*. 1998;279:1548-53.