Review: St. John's wort, ginkgo, saw palmetto, and kava may be effective for some conditions

Ernst E. **The risk-benefit profile of commonly used herbal therapies: ginkgo, St. John's wort, ginseng, echinacea, saw palmetto, and kava.** Ann Intern Med. 2002 Jan 1;136:42-53.

QUESTION

What are the benefits and risks of commonly used herbal medicines?

DATA SOURCES

Studies were identified by searching MEDLINE, EMBASE/Excerpta Medica, CISCOM, AMED, and the Cochrane Library (from inception to October 2000) and by contacting experts in the field.

STUDY SELECTION

Studies were selected if they were systematic reviews of randomized controlled trials (RCTs) that studied the effects of ginkgo, St. John's wort, ginseng, echinacea, saw palmetto, and kava in humans.

DATA EXTRACTION

Data were extracted on the common and manufacturer names and uses of each herbal medicinal product, the type and quality of the systematic reviews, sample sizes, and results.

MAIN RESULTS

2 reviews (1 of adequate and 1 of good quality) of ginkgo showing positive effects on impaired memory were questioned because of the likelihood of publication bias. 1 adequate-quality review of ginkgo for tinnitus also had questionable results because of a lack of rigorous trials. 2 reviews (of adequate to good quality) of ginkgo showed mild beneficial effects in dementia. 1 good-quality review of ginkgo for intermittent claudication showed that ginkgo led to less improvement than regular exercise for pain-free walking distances. The adverse effects of ginkgo were usually mild but poorly reported. Several good-quality reviews showed that St. John's wort was more effective than placebo in treating mild-to-moderate depression. 1 meta-analysis of 14 RCTs showed that St. John's wort was more effective for depression than was placebo (relative benefit 1.9, 95% CI 1.2 to 2.8) and was similar to low-dose tricyclic antidepressants (relative benefit 1.2, CI 1.0 to 1.4). However, St. John's wort inhibits several conventional drugs (e.g., anticoagulants, oral contraceptives, and antiviral agents) and may predispose susceptible patients to mania or, in those receiving selective serotonin-reuptake inhibitors, to the serotonin syndrome. 1 adequate-quality review showed that ginseng was not beneficial for various purposes (e.g., as a sedative, hypnotic, demulcent, aphrodisiac, antidepressant, or diuretic agent) and has been associated with vaginal bleeding, schizophrenia, and the Stevens-Johnson syndrome. 1 good-quality review showed that trials on the effect of echinacea in preventing and treating upper respiratory tract infections are inconclusive. Allergic reactions to echinacea can be severe. 1 good-quality review showed that saw palmetto may have short-term effectiveness in reducing the symptoms of benign prostatic hyperplasia (e.g., nocturia and peak urinary flow). Adverse effects of saw palmetto were rare and mild. 1 adequate-quality review of 3 trials showed that kava may have short-term effectiveness in treating anxiety; however, kava is associated with serious hepatic harm (including the need for transplantation) and death.

CONCLUSIONS

St. John's wort, ginkgo, saw palmetto, and kava may have minor short-term effectiveness for various conditions. Data on echinacea vary, and data on ginseng suggest no benefit. Information on harm related to these products is incomplete but, where measured, suggests the potential for serious harm similar to that of regular medications.

Source of funding: No external funding.

For correspondence: Dr. E. Ernst, University of Exeter, Exeter, England, United Kingdom. E-mail E.Ernst@exeter.ac.uk.

COMMENTARY

The review by Ernst summarizes much of what is known about the efficacy and side effects of 6 commonly used herbal therapies. However, some findings may be surprising to clinicians. For example, ginkgo is about as effective as pentoxifylline for claudication, St. John's wort is safe and efficacious for mild depression, and saw palmetto compares favorably with finasteride for treating symptoms of benign prostatic hypertrophy. Either the herbal therapies are genuinely effective or the comparison medications (e.g., placebo in the case of St. John's wort) were ineffective. Unfortunately, our knowledge about the risks and benefits of even the most well-studied herbal therapies is incomplete (1).

Why do we know so little about such potent, commonly used herbal products? Herbal therapies lack both the economic inducements and the legislative restrictions that drive pharmaceutical research. In the United States, they are sold as nutritional supplements, not as medications, because they do not make explicit health claims. This fine distinction exempts them from the sophisticated research reserved for all other biologically active substances used to treat disease. Herbal therapies are not subject to postmarketing surveillance, and manufacturers are not required to report adverse outcomes (2). Even worse, regular reports of contamination of herbal products with toxins or of absence of an active ingredient regularly plague this industry.

A substance that is used to treat symptoms or a disease and that alters physiology should be considered a drug despite any legislative nomenclature to the contrary. It is unreasonable and unsafe to arbitrarily classify some drugs as dietary supplements and not subject them to regulation. Some herbal therapies may well be efficacious, and some may have favorable toxicity profiles, but we will probably never know with confidence until regulations change.

Michael J. Baime, MD
University of Pennsylvania
Philadelphia, Pennsylvania, USA

References

1. **Ernst E.** Herbal medicines: where is the evidence? BMJ. 2000;321:395-6.
2. **Lewis JD, Strom BL.** Balancing safety of dietary supplements with the free market. Ann Intern Med. 2002;136:616-8.

