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FILE: ▪ Allergies
▪Asthma
▪Immunology

HC 030255-288

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RE: Medical Journal Review States Little Value of Herbs for Asthma and Allergies

Bielory L. Complementary and alternative interventions in asthma, allergy, and immunology. *Ann Allergy Asthma Immunol.* 2004;93(Suppl 1):S45–S54.

Occasionally, the American Botanical Council chooses to use articles in the HerbClip Educational Service that contain misinformation in order to keep the CAM community apprised of material being disseminated to the conventional medicine community. This is one such article.

Allergies can be minor nuisances or debilitating illnesses, depending on their severity. Asthma carries the additional risk of being potentially fatal. Allergic rhinitis affects an estimated 36% of the U.S. population, and in 1993 it was estimated that "nearly 12 million Americans or 3% to 5% of the population had asthma. The author conducted a review of the research using PubMed, the National Institutes of Health's (NIH) database, and the OVID medical datebase. Searches were conducted for research published between 1980 and 2003 using the keywords *asthma, allergy* and *CAM* (Complementary and Alternative Medicine). The author selected articles from the results that focused on echinacea (*Echinacea angustifolia, E. pallida*, and *E. purpurea*), garlic (*Allium sativum*), angelica (*Angelica archangelica*), chamomile (*Matricaria recutita*), ephedra (*Ephedra sinica*), ginkgo (*Ginkgo biloba*), grape seed extract, licorice root (*Glycyrrhiza glabra*), St. John's wort (*Hypericum perforatum*), kava (*Piper methysticum)*, peppermint oil and leaf (*Mentha* x *piperita*), stinging nettle (*Urtica dioica*), and ginseng (*Panax ginseng*).

According to the author, the research on echinacea is conflicting. It "failed to prevent new cases of acute otitis media" in a blinded, placebo-controlled trial of 90 children (ages 1 to 5 years), while no benefit or harm was detected in another study on echinacea for the common cold. Other studies reported "a 40% to 50% reduction of severity and duration of upper respiratory tract disorders such as colds, whereas more recent studies have demonstrated a 10% to 30% reduction." While the author also writes, "although no common drug interactions have been reported, there is a possible risk of hepatotoxicity." Unfortunately, no

citation is included for the assertion of potential adverse effects of echinacea, nor is a plausible mechanism of action defined.

Garlic has many potential beneficial uses. While it "is primarily used for cardiovascular health (hypertension, hypercholesterolemia, and atherosclerosis) and relief of cough, colds, and rhinitis," it is also used homeopathically to treat "watery eyes and nose" secondary to allergies. The author states that bleeding time may be increased with garlic supplementation, although no dosage threshold was provided to show that garlic may cause increased bleeding time. The authors states that garlic can potentiate the anticoagulant effects of warfarin, doubling bleeding time "mostly likely due to interference with the cytochrome P450 system."

Angelica is commonly used in Asia as an expectorant and for allergies, colds, coughs, loss of appetite (anorexia nervosa), flatulence, feeling of fullness and mild gastrointestinal spasms. The author concludes that it inhibits CYP3A and can cause skin sensitivity to sunlight.

Chamomile, a versatile plant, "is commonly used topically for cutaneous inflammation and bacterial infections, orally for throat and mouth mucosal irritation, and through inhalations for respiratory tract problems." Chamomile, however, may increase some allergic symptoms and has been reported to cause contact dermatitis and anaphylaxis.

Ephedra contains the alkaloid ephedrine, and "is commonly used in the treatment of asthma, bronchitis, and nasal congestion, as a diet aid for weight loss, for enhancement of athletic performance, and as a central nervous system stimulant." Unfortunately, ephedra has also been associated with severe adverse events such as hypertension, insomnia, tremor, palpitations, stroke and death leading to the herb being banned by the FDA in 2004.

The leaf extract of the ginkgo tree increases circulation and "is commonly used for decreased vascular perfusion-type syndromes, such as peripheral arterial insufficiency, cerebral insufficiency associated with memory loss, difficulties in concentration, fatigue, anxiety, headaches, and depressed mood." A small study showed ginkgolides, derived from gingko, to be helpful in asthma. Possible adverse events include gastrointestinal upset, headaches, morbilliform (a skin condition resembling measles), "and other allergic skin reactions due to sensitization to the gingkolic acid." Allergies are rare. When combined with warfarin, gingko may increase bleeding time and cause spontaneous hemorrhage; although recent research has shown otherwise (See HC 050255.283).

This derivative of grape seeds, grape seed extract (GSE) has been used to treat allergic rhinitis and has shown possible "beneficial effects in the chemoprevention of cellular damage, chemotherapy-induced hepatotoxicity." GSE is a more potent antioxidant than vitamins C and E states the author.

Licorice root has been used in medicines and as a flavor additive to foods and beverages. Medically, licorice "has been used for the treatment of impaired digestion, gastric and duodenal ulcers, and bloating and flatulence; as a demulcent for sore throats; as an anti-inflammatory agent in the treatment of allergies such as rhinoconjunctivitis and bronchitis; and in treating adrenocortical insufficiency." The author states that it inhibits CYP3A4,

which is the major pathway for detoxification of most drugs. This could potentially cause adverse drug reactions when combined with prescription medications; however, the author does not cite any case reports or clinical trials where this has been a problem. Licorice supplementation when ingested in quantities exceeding 20 g/day can cause hypertension. This is due to glycerrhizic acid, which causes "pseudoaldosteronism" (acts like aldosterone in the kidneys to stimulate water retention).

St. John's wort (SJW) is used for neuralgia, anxiety, neurosis, and depression among other conditions. It can cause skin sensitivity to sunlight, and can increase the metabolism of drugs by inducing CYP3A4 activity. Increasing CYP3A4 can decrease serum levels of drugs below their therapeutic dosage. SJW has interacts in this way with the drugs cyclosporine (an immune suppressant used to inhibit rejection of organs in transplant patients), indinavir (a protease inhibitor used in the treatment if human immunodeficiency virus (HIV) infection), and oral contraceptive pills.

Kava root is commonly used to treat anxiety. It can potentiate the actions of sedatives such as alprazolam. Liver toxicity has been reported in some people supplementing with kava. This "raised major concerns with the FDA". Long-term use of kava may cause "kava dermopathy," a scaly rash. Muscle damage has also been reported. It is unclear why the author included St. John's wort or kava in a review of herbs used for allergies and asthma.

Used orally, topically, as an inhalant, liniment, ointment, and tincture, peppermint has many health benefits. It is cooling and can reduce itching and blistering from allergic skin reactions. Pulegone, a derivative of menthol, inhibited histamine (an important mediator in allergic reactions) in guinea pig models. According to the author, "the mint family is commonly used for complaints of colds, rheumatic complaints, allergies, pruritus, urticaria, and pain in irritable skin conditions." It is also used for many gastrointestinal conditions, such as flatulence, indigestion, and irritable colon. No reports of major drug interactions were found in the literature.

The root, stem, and leaves of stinging nettle are used in botanical medicine. A human trial showed the freeze-dried preparation of stinging nettle effective at decreasing symptoms of allergic rhinitis. It is also used for treating benign prostatic hypertrophy (BPH) and as an anti-inflammatory in acute arthritis. Diarrhea has been reported with its ingestion.

Ginseng is an immune system stimulant that increased immune cell activity in vitro. Reported adverse events include "sleep disorders, gastrointestinal disorders, headache, tremulousness, and manic episodes in patients treated with phenelzine sulfate [an antidepressant]." Vaginal bleeding, mastalgia, and "mental status changes" have been reported with long-term use. Ginseng may interfere with digoxin (a heart medication), diabetes medications, warfarin, and corticosteroids.

This survey of the literature supposedly was to provide information on potentially useful and harmful botanicals in the treatment of asthma, allergies, and immune system disorders. However, it is unclear why some of these herbs were chosen. Much of the information is presented superficially and out of context as well. For example, dosages were not provided

for most herbs, and no prevalence of adverse events was given. Thus, there is no way for readers to know the true risk or benefits of supplementing with these plants or plant extracts, and it seems a bit unusual to measure risks against benefits for plants used for other indications. Additionally, at least for kava, subsequent analyses of potential hepatotoxicity revealed a low risk.[1] This article was published in a mainstream medical journal, which is undoubtedly read by physicians who are not trained in phytomedicines. Unfortunately, this review probably does more to alarm physicians than to educate them about the appropriate use of these potentially beneficial plants.

—John Neustadt, ND

References

1 Teschke R, Gaus W, Loew D. Kava extracts: safety and risks including rare hepatotoxicity. Phytomedicine. 2003;10(5):440-446.

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