

Interactions Between Natural and Rx Immune-Active Medicines

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At least once a year on average patients suffer from the afflictions accompanied by the common cold. Whether it is a cold or another immune challenge, we have all seen patients that are virtually willing to take anything to eliminate their symptoms, such as nasal congestion, dry and sore throats, inflamed nasal passages, achiness, swollen lymph nodes, and, all too often, sleepless nights. It is this combination of motivating factors that spurs your patients to purchase vitamins and herbs to stimulate their immune systems, speed their recoveries, and lessen their symptoms.

Popular Natural Therapies for Immune Support

There are a myriad of natural remedies that can be taken to help the body bolster its immune system, such as echinacea (*Echinacea* spp.), goldenseal (*Hydrastis canadensis*), and elderberry (*Sambucus nigra*), yet the following natural therapies have been found to interact with other medications that may have been prescribed for patients.

Cayenne

Frequently added to immune supportive and natural cold remedies, animal studies have shown that theophylline absorption is increased when taken concurrently with cayenne (*Capsicum frutescens*).¹

The research is not yet strong enough to tell patients not to consume cayenne, rather it is well worthwhile to caution them to be observant of altered effectiveness of their drug regimes and to not consume large amounts.

Garlic

Without question, garlic (*Allium sativum*) is a popular immune supportive herb that has a rich historic use through the ages; yet, when fresh or standardized garlic or allicin

is used, there is a potential for interactions with drugs. The hypoglycemic effects of garlic has led clinicians to consider monitoring blood-glucose levels more closely when garlic is used acutely and when insulin or oral hypoglycemics are also being used concurrently.² Of particular clinical interest would be patients who have previously been unable to achieve stable blood-glucose levels or patients who have begun to use garlic heavily.

In addition the ability of garlic to increase fibrinolytic activity and to decrease platelet aggregation can lead to greater anticoagulant activity when the herb is taken with blood-thinning drugs such as warfarin, heparin, aspirin, or ticlopidine.³ In the case of ticlopidine, the research literature specifically refers to the use of raw garlic that one could consume in a health-promoting diet.

Vitamin C

By far the most popular and common single nutrient used to combat the common cold and allergies is vitamin C. It can interact both positively and negatively with numerous medications and other nutrients.

Concurrent use can interfere with uva ursi (*Arctostaphylos uva-ursi*), an herbal urinary antimicrobial, as a result of ascorbic acid's inhibition of the conversion of arbutin, one of the principal therapeutic ingredients in uva ursi, to an active hydroquinone.⁴

Individuals who are taking coumadin should be cautioned not to "mega-dose" on vitamin C. Case studies and my clinical observations have shown that dosages in the neighborhood of 5000 mg of ascorbic acid may decrease coumadin's therapeutic effect.⁴ Stopping vitamin C abruptly, however, should not be recommended if you have helped a patient to establish a balance between coumadin and the current ascorbic acid intake.

Long-term use of tetracycline, interestingly, can decrease vitamin C levels within the body, potentially downregulating immune function.^{4,5} And, in one study,

prolonged use of aspirin was reported to decrease vitamin C from entering cells.⁴

Vitamin C can also lower drug levels of propranolol, a popular antihypertensive, by decreasing absorption and increasing first-pass metabolism; other β blockers may be similarly affected. Intake of this vitamin can also lower the antipsychotic effects of fluphenazine (Prolixin).⁴

Finally, vitamin C can increase urine-crystal formation when taken with para-aminosalicylic acid because of the vitamin's acidifying effect.

Zinc

Ciprofloxacin levels, and hence effectiveness, can be affected adversely when taken concurrently with zinc.⁶

Conversely, the effectiveness of zinc supplementation can become diminished with the use of several drugs, thus potentially decreasing immune function. Ethambutol can chelate zinc, lowering its absorption. Long term use of diuretics can lead to zinc deficiency among the other common mineral deficiencies that may arise. Even short-term use of Zantac, a popular over-the-counter (OTC) acid-reducing drug, can lower zinc absorption, because of decreased gastric secretions. This effect suggests that other antacids might have the same effect. Extended uses of tetracycline has been shown to lower zinc levels within the body. Zidovudine can also decrease zinc levels.⁴

Zinc can interact adversely and positively with numerous nutrients. High levels of folic-acid supplementation, such as 5–15 mg per day, can lower zinc absorption. When zinc is administered at dosages equivalent to 50 mg of zinc gluconate, within 10 weeks iron levels, as measured by ferritin, become significantly decreased. Lowered zinc levels are associated with decreased vitamin A bioavailability and inhibited release of vitamin A from liver stores. Vitamin E, however, can increase gastrointestinal zinc absorption.

Tannin-rich foods and herbs can decrease absorption of pseudoephedrine and ephedrine.

There are certain phytate-rich foods, such as whole grains, nuts, and legumes that can decrease zinc absorption.

Conventional Palliative and Preventive Cold and Flu Remedies

Acetaminophen

Acetaminophen is a common ingredient in numerous OTC cold and flu remedies such as Tylenol-PM, Tylenol Sinus, Alka-Seltzer Plus, Theraflu, Nyquil, and numerous others. If these preparations are consumed with foods that are high in pectin—such as Jello, jellies, and cruciferous vegetables—or with large quantities of carbohydrates, this can decrease acetaminophen absorption.⁵

If large quantities of acetaminophen are being taken to alleviate symptoms, or if acetaminophen is taken over a prolonged period of time, certain herbals can help to confer protection against liver problems, including milk thistle (*Silybum marianum*).⁷ Recommended dosages are 160–200 mg of 70–80 percent silymarin 2–3 times per day.

Other natural substances that might be administered to confer protection against any negative effects of long-term or large-dose acetaminophen usage include schisandra (*Schisandra chinensis*), and particularly the active ingredient gomisin.⁸ It should be noted that, to date, studies of milk thistle and schisandra have been virtually exclusively performed with animal models.

Influenza Virus Vaccine

Influenza vaccines, such as Fluvirin, Flushield, and Fluzone, are part of the conventional medical armamentarium. However, when 100 mg of Asian ginseng (*Panax ginseng*) or placebo was administered to 227 subjects in a double-blind randomized study 2 times per day for 4 weeks prior to, and 8 weeks, after the a flu vaccine was administered, sub-

jects who received the ginseng extract had increased antibody levels and demonstrated improved immune-cell activity.⁹

Pseudoephedrine and Ephedrine

Pseudoephedrine and ephedrine are frequently in such OTC cold-relief medications as Afrin, Sudafed, Pretz-D, and in numerous cough and decongestant remedies. The effectiveness of these products can be decreased by urine-acidifying foods, such as peanuts, meat, poultry, wheat, and eggs, thus lowering these agents' therapeutic effects. Tannin-rich foods and herbs can also decrease absorption of pseudoephedrine and ephedrine. Both green and black teas can do this, although their caffeine content may, in part, help to counteract this effect. Uva ursi, witch hazel (*Hamamelis virginiana*), red raspberry (*Rubus idaeus*), oak, and black walnut (*Juglans nigra*) are other culprits to avoid.

Foods that can decrease clearance include alkalizing foods, such as fruits, green vegetables, dairy products, and nuts, thus potentially increasing blood levels of pseudoephedrine and ephedrine. Other foods and herbs that can enhance the effects of these agents include chocolate, caffeine, black and green tea, coffee, guarana, and ephedra.

Summary

All too often patients do not factor in the potential for interactions between natural medicines and other medications. Yet, the effects can be very harmful or, at least, may lessen the therapeutic effect of both pharmaceutical and supplemental regimes and their intended outcomes. It is important to caution patients that have been taking any of the combinations of supplements and pharmaceutical products listed above, that working with one's physician is important because the drug dosage may have been adjusted over the course of time to accommodate the concurrent use. □

For more information. . .

Interactions Between Drugs & Natural Medicines: What the Physician and Pharmacist Must Know About Vitamins, Minerals, Foods and Herbs
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