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# Complementary and Alternative Medicine: Advances in Allergy, Asthma, and Immunology

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**CME/CE Information**

### **Introduction**

Worldwide, only 10% to 30% of healthcare is provided by conventional, Western, biomedical practitioners. The remainder is delivered either through folk beliefs or alternative traditions.[1] Complementary and alternative medicine (CAM) has become more popular in the United States over the past few decades. With this increasing popularity of CAM, it is important that practitioners become familiar with this area of medical practice for all diagnoses.

### **Defining CAM**

According to the National Center for Complementary and Alternative Medicine (NCCAM), CAM is defined as "a group of diverse medical and healthcare systems, practices, and products that are not presently considered to be part of conventional medicine.[2]" The list of modalities included in this definition continually changes as practices are integrated into Western conventional medicine. They also identify 5 concepts, or domains, of CAM:

* Manipulative and body-based systems (chiropractic, osteopathic, and massage);
* Mind-body medicine (meditation, prayer, art, music, and dance);
* Biological-based systems (herbs, vitamins, and "natural" products);
* Energy therapies (biofield, touch, Qigong, and bioelectromagnetic); and
* Alternative medical systems (homeopathy, naturopathy, traditional Chinese medicine (TCM), and Ayurveda).

At this year's American College of Allergy, Asthma and Immunology meeting, William S. Silvers, MD, helped to clarify 3 categories by explaining the differences between complementary, alternative, and integrative medicine categories.

Complementary medicine suggests treatments in conjunction with Western medicine. For example, aromatherapy can be used to lessen patients' discomfort after surgery, and eucalyptus can complement antihistamines for allergic rhinitis.

Alternative therapies suggest replacements for Western medicine, for example, when a special diet is used for cancer patients instead of chemotherapy, radiation, or surgery.

Integrative medicine combines conventional Western medical therapies and CAM, for which there is some high-quality substantiated evidence for safety and efficacy. An example of this situation is the use of yoga breathing to reduce the need for medications in asthmatics. A very popular form of integrative medicine is seen in immune enhancement products, such as vitamins A, B6, C, zinc, echinacea, and eucalyptus oil.

### **Using CAM**

Data have shown that the most common diagnoses for which Western medical practitioners incorporate complementary or alternative modalities are anxiety, depression, and headaches.[3] Leonard Bielory, MD, presented the argument that it is imperative and our responsibility as healthcare providers to be open to any potential treatment options. However, it is also vital that both science and clinical experience be incorporated in the decision-making process. Although any condition's treatment can incorporate CAM modalities, it is most often used when a chronic and untreatable disease exists. Western or conventional medicine treatments traditionally address the body and the mind. CAM often incorporates personal belief systems and spiritual practices as well. We need to address the spiritual aspects by both teaching and listening to our patients. Practitioners should consider balancing the use of CAM with risks and benefits in mind. This consideration is especially important in the field of allergy and immunology. The most commonly reported CAM adverse events are also allergic in nature, including urticaria, contact dermatitis, and anaphylaxis.[1]

### **The Role of the Practitioner**

In Dr. Silvers' practice, he reported that more than 60% of patients voiced a desire to use a combination of traditional and CAM therapies. In a study published in 2006, Dr. Silvers quoted that patients used the following: 30% used oral vitamins and minerals; 21% used herbal therapies; 18% adjusted coffee and tea intake; 13% used caffeine-containing preparations; 14% used dietary supplements (ie, garlic, chili pepper); and 8% used homeopathic methods.[4]

In terms of scientific studies, there is much to do to improve the understanding of CAM. Scientific evidence exists with regard to some CAM therapies, yet there are many questions that remain unanswered despite attempts at well-designed scientific studies.

Mind-body interventions can enhance the body's capacity to affect dysfunction and painful symptoms through meditation, support groups, cognitive therapy, art, music, and dance. For example, by journaling asthma symptoms and peak flow rates, a patient gains better understanding of the disease process and is thus empowered to self-direct their asthma care plan.[5]

A complete medical history incorporating complete information, including CAM, should be taken on every patient. Dr. Silvers has made it a routine to request that his patients bring in all pills, drops, oils, creams, syrups, etc, so that he can identify and accurately understand all the actions and interactions.

### **Safety Concerns**

Dr. Silvers shared concerns that, currently, have no legal requirement for proof of efficacy or safety. Rather, the US Food and Drug Administration (FDA) must prove that a product is unsafe. A well-known example of this is the use of echinacea for upper respiratory tract infections. The public generally accepts echinacea, and this herb is thought to be therapeutic. However, in patients with allergies to ragweed, chrysanthemums, marigolds, and daisies, there may be an increase in allergic rhinitis when these patients use echinacea.[6]

A complementary therapy that has proven to be safe and effective, and which now has been integrated by some practitioners into conventional healthcare, is the use of probiotics. Probiotics are defined as live microorganisms, including *Lactobacillus* species, *Bifidobacterium* species, and yeasts, that may beneficially affect the host upon ingestion by improving the balance of the intestinal microflora. This seemingly benign product is generally considered safe with an excellent overall food safety record.[7] However, a case was cited in which a neonate with an existing immune deficiency condition was given probiotics, resulting in sepsis.[8] Therefore, Dr. Silvers concluded that more research is needed. He reminded the audience that, despite assumed safety or universal acceptance of a product, it is imperative that physicians consider the entire history, physical examination, and all other treatments that the patient is currently exposed to when making medical recommendations.

Grape seed extract is another commonly used complementary therapy, used for its antioxidant qualities and for numerous other indications. Although it appears to be benign, scientific evidence on this product is still lacking.

Dr. Silvers shared an illustrative case with the audience in which a mother brought her 3-year-old child to him for allergy evaluation. She also brought with her all of the other complementary and alternative treatments she had been using. As he reviewed the ingredients of the products brought in, he found that some contained ingredients that crossed over with the child's allergens. In this way, the mother was using products that were exacerbating the child's condition. He was then able to educate her to provide more effective care.

### **Traditional Chinese Herbal Therapy for Asthma**

Xiu-Min Li, MD, discussed the treatment of asthma with TCM. She reported that the prevalence of asthma has doubled over the past 2 decades, affecting 30 million Americans. The total cost of asthma in the United States is $14.0 billion annually.[9] There are no curative treatments for asthma.

TCM has a long history of human use, having been used in China for more than 5000 years. Many successful case reports in the TCM literature have been reported to treat asthma with herbal formulas. Herbal therapy is in the mainstream of modern medical practice in China for treating asthma. It is clear that the use of TCM is increasing in Western countries due to scientific evidence supporting its efficacy.

Dr. Li reviewed an antiasthma simplified herbal medicine intervention (ASHMI, 3 herbs) derived from the 14-herb formula MSSM-002.[10] A clinical trial collaborative study investigated the efficacy and tolerability of ASHMI with a randomized, double-blind, placebo-controlled model. This study was conducted through a grant from the NCCAM.

The 3 herbs in ASHMI (equivalent pharmaceutical names) are *Ganoderma lucidum*, Radix Sophorae Flavescentis, and Radix Glycyrrhizae. Ninety-one patients, 18-60 years of age, with persistent moderate-to-severe asthma were randomly assigned into 2 groups. The ASHMI group received 4 capsules of ASHMI 3 times per day and prednisone placebo. The prednisone group received ASHMI placebo and 20 mg of prednisone each day. All groups were treated for 4 weeks. Measurements of results were based on spirometry, symptom scores, and side effects. Serum cytokine, cortisol, and immunoglobulin (Ig)G levels were obtained before and after treatment.

The results showed significant improvement in lung function for both groups, as shown by both increased forced expiratory volume in 1 second (FEV1) and peak expiratory flow. Both groups had improved clinical symptom scores and reduced use of bronchodilators. Both groups, to a similar degree, had reduced serum IgG levels. Both groups had significantly reduced cytokine levels, lower in the prednisone group than in the ASHMI group (*P* < .05). The prednisone group had reduced cortisol levels, and the ASHMI group had increased levels of cortisol.

Dr. Li reported that there were no severe side effects on the major organs tested in the ASHMI group. In addition, the ASHMI group had no significant effects on body weight and no negative effects on adrenal function. Dr. Li concluded that ASHMI may be an effective, safe, and well-tolerated botanical drug for asthma.

### **Conclusion**

CAM is growing in popularity, and increasingly patients are mixing their use with that of TCM. Practitioners should become better-informed and aware of the possible interactions and side effects of these therapies. Some resources that are available to practitioners include the following databases:

* NCCAM: <http://nccam.nih.gov/>
* Natural Comprehensive Database: [www.naturaldatabase.com](http://www.naturaldatabase.com/)
* National Institutes of Health (NIH) Office Dietary Supplements:<http://ods.od.nih.gov/Health_Information/IBIDS.aspx>
* University of Texas at El Paso Sorted Herbal Names: <http://www.herbalsafety.utep.edu/factsheet.asp>
* FDA Patient Safety News: <http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/psn/index.cfm>