Danshen: A Popular Chinese Cardiac Herbal Drug

The recently published document in \textit{JACC} on complementary and integrative medicine left out one very important herbal drug, danshen. Because it is believed to have properties of improving microcirculation, increasing coronary blood flow, suppressing thromboxane formation, inhibiting platelet adhesion and aggregation, and protecting against myocardial ischemia, it is used in China and other countries, including the U.S.

Conversely, danshen also interacts with warfarin by potentiating its anticoagulant action. Because both warfarin usage and CAD are so common in everyday cardiologic practice, the possibility of the interaction between warfarin and danshen should be kept in mind when excessive bleeding or unexpected prolongation of the prothrombin time or international normalized ratio is encountered in any patient on warfarin who has otherwise been under good anticoagulant control. Because danshen is a common compound of many cardiotoxic herbal preparations, patients oftentimes may not be aware that they are actually taking it. Furthermore, danshen can be administered not only as an oral tablet but also in a nebulizer. It has even been incorporated into some Chinese-brand cigarettes, so that many cigarette smokers may not even be aware of its presence.

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\textbf{Complementary Medicine Has No Place in Cardiovascular Medicine}

The recent American College of Cardiology Foundation (ACCF) Complementary Medicine Expert Consensus Document—“Integrating Complementary Medicine Into Cardiovascular Medicine (1)”—presents problems for science-based physicians who demand evidence-based medicine. Complementary medicine implies that alternative medicine modalities are performed as an adjunct to Western medicine. There is, however, no place for unproven, unscientific (alternative) medicine in cardiovascular medicine. Alternative medicine practitioners attempt to skirt the unscientific nature of their unproven therapies by adding some therapies that have always been considered conventional—exercise, diets, physical therapy modalities, and relaxation prescriptions.

The Institute of Medicine (IOM) report (2) referred to in the ACCF Document argues that the true complementary and alternative medicine practices (chiropractic, acupuncture, naturopathy, homeopathy, and no doubt hundreds more) are rooted in forms of evidence and logic other than those used in biomedical sciences. I and others have suggested that this constitutes the “free-ride” of alternative medicine.

The ACCF document points out the deficiencies and lack of evidence for most dietary supplements and herbs. I can think of little if any place for herbs and supplements in modern cardiovascular medicine. Today, we use digoxin, not the foxglove. Sampson (4), in his discussion of herbal remedies and basically all alternative remedies, suggests that they “are generally less effective or ineffective, and randomized clinical trials of these remedies measure mostly subjective symptoms. . . . Inconsistent outcome from studies of alternative treatments seem to be the norm.”

The ACCF document alludes to the problems related to chelation therapy, but it fails to criticize the launching of still another expensive trial of that repeatedly disproved therapy. Sampson suggests that, as scientists, we will not go astray by supporting a medicine based on evidence that has passed through the sieve of plausibility and that is consistent with basic sciences, other applied sciences, and history—all molded by wisdom and common sense.

The most glaring deficiency of the ACCF report is in the lengthy section on acupuncture, which suggests that there is evidence of value and potential indications for this alternative therapy. A recent review by Atwood (5) claims that “investigations of acupuncture to date have not demonstrated effects on the natural history of any disease.” I know of no proven value for acupuncture.
in cardiovascular medicine. Acupuncture and especially “electro-acupuncture” has wonderful placebo capabilities. Positive effects from acupuncture can be attributed to psychosomatic mechanisms related to conditioning, expectation, suggestion, and distraction from the actual source of the pain or discomfort. Acupuncture, like much of Chinese medicine, is based on mysticism—belief in that which cannot be proven and unable to be understood.

In summary, there is no place for complementary medicine in cardiovascular medicine.

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REPLY

In his letter to the editor regarding our document on “Integrating Complementary Medicine Into Cardiovascular Medicine” (1), Dr. Bartecchi states complementary medicine has no place in cardiovascular medicine. “No place for it?” This is not our choice in that more than a majority of patients already are using complementary and alternative medicine (CAM) therapy. In fact, over 50% of all Americans are seeking the help of an alternative health care practitioner, which in past years has represented over 600 million visits and nearly $40 billion. Consequently, our effort with this document was to put the emerging area of CAM treatment and investigation into focus in order to enable the physician to provide better patient care in a meaningful and safe manner. Whether the physician believes or does not believe in CAM, it is important that he or she is familiar with CAM so as to provide complete care to the patient and be aware of many good and bad interactions, such as with various supplements and herbs.

The “free ride” of CAM is a fact for most medical therapeutics—a minority of clinical practices are actually supported by class IA guidelines. Our intent is to stimulate more rigorous and informative research investigations of the safety and effectiveness of CAM therapies in cardiovascular care, with an emphasis on safety.

At the present time, chelation therapy is neither proven nor unproven, and there may be dangers. Clearly, this area deserves a careful randomized study now in progress (TACT) and sponsored by the National Institutes of Health (NIH) in order to resolve the role of chelation therapy.

Dr. Bartecchi criticizes acupuncture, stating that electro-acupuncture has wonderful placebo capabilities, and positive effects of acupuncture can be related to psychosomatic mechanisms—opinions that are not only not referenced but also unfounded. Clearly, all treatments in medicine, whether allopathic or integrative, have a placebo component that can contribute to as much as 30% to 40% of a clinical response. Our document provides evidence supporting a neurophysiologic basis for the influence of acupuncture in a number of diseased conditions including pain, nausea and vomiting, and certain cardiovascular conditions such as hypertension and myocardial ischemic symptoms, including angina pectoris. These studies support a role for the endogenous opioid system and other modulatory neurotransmitters that are activated by acupuncture and inhibit the action of excitatory neurotransmitters such as glutamate in regions of the brain concerned with cardiovascular regulation. These regions include the rostral-ventral-lateral medulla, the periaqueductal gray, and the arcuate nucleus, among others. Electro-acupuncture causes very similar effects to manual acupuncture as shown recently in the Journal of Applied Physiology. Instead of quoting reports published by the Scientific Review of Alternative Medicine, which, in fact, performs no independent scientific study of this emerging area of medicine, we would strongly encourage Dr. Bartecchi to review the high-quality scientific literature that has been published on the mechanisms by which acupuncture can regulate the cardiovascular system. Such studies are supported by the National Institutes of Health, the Heart, Lung, and Blood Institute, and have been published in journals such as Circulation; The American Journal of Physiology; The Journal of Applied Physiology; Neuroscience; Brain Research; and Autonomic Neuroscience: Basic & Clinical.

We appreciate the comments by Dr. Cheng regarding the Chinese herbal drug danshen. We were not able to include everything in our first document, but clearly it is important to understand that danshen may affect hemostasis, including inhibition of platelet aggregation, interference with extrinsic blood coagulation and antithrombin III-like activity, and promotion of fibrinolytic activities. Certainly patients receiving warfarin therapy may present with gross over-anticoagulation and bleeding complications with danshen, and because of these effects it should be avoided in patients taking warfarin or antiplatelet drugs.

In our report we made a strong effort to familiarize physicians with the actions of various herbs and supplements, not only in their benefits, but also the many dangers and interactions that can occur and with which the physician should be familiar. Unfortunately, various surveys have indicated that many patients do not share the information as to the herbs and supplements they are taking because they feel the physician is not interested. Consequently, because of this, various dangers, interactions, and consequences have occurred. It is important for the physician to inquire of patients about all medications they are taking, including herbs and supplements. See Appendix 5 in the document on www.acc.org.

In summary, as stated in our document, our purpose has been to familiarize cardiologists with widely employed complementary medical practices. For the most part, our document is neither an endorsement nor a recommendation of specific practices; rather, it is a resource for those practitioners wishing to learn about these techniques, and, thus, enable them to provide meaningful solid doctor-patient relationships with a commitment to the core mission of caring for patients on a physical, mental, and spiritual level.