
Common complementary and alternative therapies with potential use in dermatologic surgery: Risks and benefits

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Background: Ambulatory surgery patients often use complementary and alternative medicine (CAM) therapies. CAM therapies may create beneficial and detrimental perioperative conditions.

Objective: We sought to improve knowledge of CAM effects in dermatologic surgery, allowing dermatologists to potentially capitalize on therapeutic actions and to mitigate complications.

Methods: PubMed literature search of CAM therapies in dermatologic and surgical settings was performed. Common CAM therapies with possible effects on dermatologic surgery were selected. Beneficial and detrimental effects were reviewed.

Results: A myriad of products may be used perioperatively by the patient. Therapies appearing to have some evidence for potential benefit include bromelain, honey, propolis, arnica, vitamin C and bioflavonoids, chamomile, aloe vera gel, grape seed extract, zinc, turmeric, calendula, chlorella, lavender oil, and gotu kola. Potential complications vary according to product and include platelet inhibition, contact dermatitis and, in rare cases, systemic toxicity.

Limitations: This review focuses on CAM having significant published studies evaluating efficacy for wound healing, anti-inflammatory, antipurpuric, or perioperative-related use. Most published studies have been small and often have design flaws. The scope of CAM is large and not all therapies are discussed.

Conclusion: Selected CAM therapies have been reported to promote wound healing, reduce edema or purpura, and provide anti-inflammatory effects. Because of high rates of CAM use, surgeons should familiarize themselves with common uses, potential benefits, and complications. Further study of effects in the dermatologic surgery setting may improve the patient-doctor relationship and enhance outcomes. (J Am Acad Dermatol 2013;68:e127-35.)

Key words: arnica; bromelain; complementary and alternative medicine; dermatologic surgery; honey; propolis.

Complementary and alternative medicine (CAM) therapies are used to prevent or treat a variety of conditions, and for improvement of general health, by a high proportion of the population (estimated at 50%).¹ Annual visits to alternative practitioners have been estimated at 629 million, higher than the number of primary care visits. Rates of use are higher among college-educated persons and those with annual income

above \$35,000.^{1,2} Furthermore, growth is occurring at a rapid rate. Between 1990 and 1997, herbal medicine use increased 380%.³

A systematic review estimated the lifetime prevalence of CAM use among dermatology patients between 35% and 69%.⁴ Surgical patient surveys have shown similarly high rates of use. One survey of elective surgical outpatients found 51% took herbs, vitamins, supplements, or homeopathic medicines.⁵

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Twenty two to 32% percent of surgical patients were found in another two surveys to use alternative therapies.^{6,7} A study of 192 patients undergoing Mohs micrographic surgery reported 19% of patients used an alternative therapy.⁸

Reported effects of natural treatments have played an important role in medicine. The understanding that natural products can act as drugs, have therapeutic actions, and cause harmful effects are long-held observations. Several modern drugs, including digoxin (from foxglove), vinca alkaloids (from periwinkle), penicillin (from mold species), podophyllin, pyrethrin, and psoralen are derived from natural sources. In addition, phototherapy, photodynamic therapy, natural wound-healing treatments, and other therapies have been used for generations. Improved understanding of risks, benefits, and suggested uses of CAM treatments is likely to benefit both patients and physicians.

The scope of CAM is large.

Key definitions assist in understanding (Table I). What is defined as CAM is often subject to cultural context and often includes treatments without double-blind randomized controlled trials (RCT) or strong evidence to support medical use. However, many note that several current treatments also lack this evidence, and with generally poor financial support for study of nonpatentable natural treatments, lack of double-blind trials does not exclude the possibility of therapeutic effect.

There are a variety of reasons patients use CAM. CAM use could be expected given limitations of conventional medicine, including expense, difficulty and inconvenience of access, side effects, toxicities, and incomplete efficacy. The most common natural products used in the 2007 US National Health Interview Survey were fish oil/omega 3, glucosamine, echinacea, flaxseed oil, ginseng, combination herbal pills, ginkgo biloba, chondroitin, garlic, and coenzyme Q10.²

The US government currently regulates drugs by monitoring quality, marketing, dosing, and indication guidelines. The inability to patent unaltered commonly available treatments may result in a lack of extensive research of the treatments, with the treatments sometimes being derided.⁹ The Dietary

Supplement Health and Education Act of 1994 categorized natural and alternative therapies as “supplements” (not “drugs”), thereby exempting most CAM therapies from several safety, efficacy, and other regulations, and leading to poor industry regulation with difficulty identifying high-quality sources, reliable concentrations, assurance of unadulterated substances, and advice on effects

and dosing from a trusted source.³ When using CAM, products adhering to good manufacturing practice are recommended to improve quality and standardization.¹⁰ Homeopathic agents are considered over-the-counter drugs, and are therefore considered generally safe. A limited number of double-blind studies exist, with some showing effect greater than placebo.^{11,12}

In Germany, the governmental Commission E has evaluated evidence, efficacy, and indications for use of 300 herbal products.¹³ This widely available review has improved understanding and

provided a common basis for discussion. In the United States, a branch of the National Institutes of Health, the National Center for Complementary and Alternative Medicine, has a number of reports and fact sheets on therapies for reference, and has been formed to “explore complementary and alternative healing practices in the context of rigorous science, train complementary and alternative medicine researchers, and disseminate authoritative information to the public and professionals.”¹⁴ Patients and physicians should be directed toward reputable sources of scientific information (Table II).

PERIOPERATIVE INSTRUCTION AND DISCUSSION

Perioperative CAM management is summarized in Table III. The effect of CAM in the perioperative setting can be significant. It is in the interest of both patient and physician to be comfortable discussing treatments, and to be familiar with common beneficial and detrimental effects. Open nonjudgmental discussion is critical to maximizing outcomes. CAM disclosure rates by patients are generally far from 100%, ranging from 30% to 47%.¹⁵ Verbal questioning for specific CAM categories may result in a more accurate history.³ Clear recommendations should be

CAPSULE SUMMARY

- Commonly available complementary and alternative medicine therapies with potential use in the perioperative dermatologic surgery setting are reviewed, including reported beneficial and detrimental effects.
- Definitions, regulatory practices, and scientific sources of information are discussed.
- Improved knowledge and familiarity with relevant complementary and alternative medicine therapies promotes an improved dermatologic surgeon-patient relationship and may allow surgeons to capitalize on therapeutic actions and to mitigate complications.

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