

Dangers of Herbs When Performing Surgery

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ABSTRACT

It has recently come to the attention of the medical community that herbals may be dangerous if taken just prior to surgery. Many of the herbs can cause allergies, heart problems, anesthesia problems, and operative or postoperative bleeding or excessive clotting. It is important for cosmetic surgeons to be aware of the problem and to warn their patients preoperatively to avoid herbs, including some spices and foods, for at least 2 weeks prior to any surgical procedure.

INTRODUCTION

HERBS AS MEDICATIONS have been in use for thousands of years. It has only recently come to the attention of the medical community that herbs may be dangerous if taken just prior to surgery.

"Scientists need to challenge the popular belief that anything natural is safe."⁽¹⁾ Allergies are known to occur and herb-drug interactions have been reported.^(2,3) Herbal medications can also affect the heart.⁽⁴⁾ There is now a *Physicians Desk Reference for Herbal Medications*⁽³⁾ with a description of each of the herb's, actions and pharmacology, indications and use, contraindications, precautions and adverse reactions, dosage, and literature.

Mixing herbal medications and surgery can prove fatal from bleeding, arrhythmias, stroke, and interactions with anesthetic agents.⁽⁶⁾ St. John's Wort (*Hypericum perforatum*, Hypercalm™, Centrum Herbal's St. John's Wort) may intensify or prolong effects of general anesthesia. The American Society of Anesthesiologists recommend that patients stop taking herbal supplements 2 to 3 weeks before surgery.

HERBAL MEDICATIONS THAT MAY CAUSE BLEEDING OR THROMBOSIS

The following is a list of herbals that are known to have an effect on the coagulation system:

- Agrimony (*Agrimonia eupatoria*, agromonia, cocklebur): Coagulant effect from vitamin K constituent.
- Alfalfa (*Medicago sativa*, lucerne, purple medick): Anticoagulant effect from coumarin constituents and coagulant effect from vitamin K.
- Clove (*Syzygium aromaticum*, caryophyllus): Antiplatelet effect from eugenol constituent.
- Danshen (*Salvia miltiorrhiza*, red sage, salvia root): Anticoagulant effect from protocatechualdehyde 3,4-dihydroxyphenyl-lactic acid constituent.
- Dong Quai (*Angelica sinensis*, Danggui, Chinese angelica): Anticoagulant and antiplatelet from coumarin constituents.
- European Mistletoe (*Viscum album*, devil's fuge, drudenfuss, all-heal): Coagulant effect from lectin constituent.
- Fenugreek (*Trigonella foenum-graecum*, bird's

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- foot, Greek hay): Anticoagulant effect from coumarin constituents.
- Feverfew (*Tanacetum parthenium*, bachelor's button, featherfew, midsummer daisy): Antiplatelet effect from the crude extracts.
- Fish Oils (omega-3 fatty acids): Antiplatelet effect with prostacyclin synthesis, vasodilation, reduced platelets and adhesiveness, and prolonged bleeding time.
- Fucus (*Fucus vesiculosus*, kelp, black tang, bladder wrack, cutweed): Anticoagulant effect that can increase the risk of bleeding.
- Garlic (*Allium sativum*, nectar of the gods, stinking rose): Inhibition of platelet aggregation and can increase risk of bleeding in excessive doses.
- Ginger (*Zingiber officinale*): Anticoagulant effect with increased risk of bleeding.
- Ginkgo (*Ginkgo biloba*, maidenhair): Inhibits platelet aggregation and decreases blood viscosity.
- Ginseng (*Panax ginseng*, Asian ginseng, Korean red, jintsam): Anticoagulant and antiplatelet effects.
- Goldenseal (*Hydrastis canadensis*, eye balm, yellow puccoon): Coagulant effect from berberine constituent.
- Horse Chestnut (*Aesculus hippocastanum*, escine venostat): Anticoagulant effect from aesculin (coumarin) constituent.
- Horseradish (*Armoracia rusticana*, pepperrot, mountain radish): Anticoagulant effect from coumarin constituents.
- Licorice (*Glycyrrhiza glabra*, sweet root): Antiplatelet effect from coumarin constituent.
- Meadowsweet (*Filipendula ulmaria*, bridewort, dropwort): Anticoagulant effect from salicylate constituents.
- Northern Prickly Ash (*Xanthoxylum americanum*, pepper wood, toothache bark): Anticoagulant effect from coumarin constituents.
- Onion (*Allium cepa*): Antiplatelet effect from unknown constituent.
- Papain (*Carica papaya*): Bleeding risk from unknown constituent.
- Passionflower (*Passiflora incarnata*, apricot vine, Maypop): Anticoagulant effect from coumarin constituents.
- Pau D'Arco (*Tabebuia ampetiginosa*, ipes, taheebo tea, lapacho): Anticoagulant effect from lapachol constituent.
- Plantain (*Plantago major*, common plantain, greater plantain): Coagulant effect from vitamin K constituent.
- Poplar (*Populus tacamahacca*, balm of Gilead): Antiplatelet effect from salicin constituent.
- Quassia (*Quassia amara*, bitterwood): Anticoagulant effect from coumarin constituents.
- Red Clover (*Trifolium praetense*, trefoil, cow clover, beebread): Anticoagulant effect from coumarin constituents.
- Roman Chamomile (*Chamaemelum nobile*, English chamomile, whig plant, garden chamomile): Anticoagulant effect from coumarin constituents.
- Safflower (*Carthamus tinctorium*, saffron, zaffer): Anticoagulant effect from safflower yellow constituent.
- Southern Prickly Ash (*Zanthoxylum clava-herculis*, sea ash, yellow wood): Anticoagulant effect from coumarin constituents.
- Stinging Nettle (*Urtica dioica*, nettle): Coagulant effect from vitamin K constituent.
- Sweet Clover (*Melilotus officinalis*, hay flower, common melilot, sweet lucerne): Anticoagulant effect from dicumarol constituent.
- Sweet Vernal Grass (*Anthoxanthum odoratum*, spring grass): Anticoagulant effect from coumarin constituent.
- Tonka Bean (*Dipterix odorata*, coumarouna, torquin bean): Anticoagulant effect from coumarin constituent.
- Turmeric (*Curcuma longa*, Indian saffron, tumeric): Antiplatelet effect from curcumin constituent.
- Vitamin E (*Alpha-tocopherol*): Inhibits platelet aggregation and adhesion and interferes with vitamin K-dependent clotting factor in large doses.
- Wild Carrot (*Daucus carota*, Queen Anne's lace, beesnest plant): Anticoagulant effect from coumarin constituents.
- Wild Lettuce (*Lactuca virosa*, green endive, lettuce opium): Anticoagulant effect from coumarin constituents.
- Willow Bark (*Salix alba*, white willow, silbereide): Antiplatelet effects from salicylate constituents.
- Yarrow (*Achillea millefolium*, wound wort, thousand-leaf): Coagulant effect from achilleine constituent.

CONCLUSION

It is important for all cosmetic surgeons to be aware of the possible detrimental effects of herbs and to prudently advise all patients to avoid the intake of any herb at least 2 weeks prior to any surgical procedure. Notice that some of these herbs are everyday spices and foods! The list of herbs, with the foods and spices highlighted, can be given to each pre-operative patient so that they understand the seriousness of taking these herbs prior to surgery.

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