Monograph #16

Angelica

By Daibhaid A. O'Broder

Common Name —

Angelica Root, Angelique, Dong Quai, Engelwurzel, Garden Angelica, Heiligenwurzel, Root of the Holy Ghost, Tang-Kuei, Wild Angelica

Genus —

Angelica sinensis

Source —

The root, fruit, rhizomes, and leaves contain the active compounds of this herb. Angelica is a perennial member of the parsley family, which includes A. archangelica, A. atropurpurea, A. dahurica, A. edulis, A. gigas, A. keiskei, A. koreana, A. polymorpha, A. pubescens, A. radix, and A. sinensis.

A. archangelica contains compounds that can be isolated from the root and fruit. These compounds include: terpene hydrocompounds, alcohols, esters, lacsaccharides, palmitic acid, and the flavonoid archangelenone have also been isolated. Other compounds found in the volatile oils include alpha- and beta-phellandrene, alpha-pinene, alpha-thujene, limonene, beta-carophyllene, linalool, borneol, acetaldehyde, and more macrocyclic lactones.

Chemical Components —

Angelica contains many coumarins including: angelicin, osthol, bergapten, imperatorin, oreoselone, oxypeucedanin, umbelliferone, xanthotoxol, and xanthotoxin. The phenolic compound ferulic acid has been obtained from *A. sinesis* From the root of *A. gigas* there comes Decursinol angelate. Two chalcones (xanthoangelol and 4-hydroxyderricin) are isolated within the herb *A. keiskei*.

Parts Used —

Practically all parts are used, the rootstock, leaf, flowers, seeds and all.

Description —

Angelica is a leafy "biennial" has a taproot, divided leaves, and spherical umbels of green-white flowers in its third year; then it seeds and dies.

Actions —

Antitumor properties in several animals have been notated. Decursinol angelate has cytotoxic and protein-kinase C activating activities (Ahn et al., 1996). In mice with skin cancer, chalcones from the root extract of *A. keiskei* exhibited potent antitumor properties. *A. archangelica* extract shows reduced mutagenic effects of thiotepa in mouse bone marrow cells, and increased production of tumor necrosis factor in mice with *A. radix*.

Properties of both anti-inflammatory and analgesic varieties have been noted as well. Compounds isolated from the roots of *A. pubescens* inhibited centrally peripherally mediated inflammatory substances.

"Coumarin osthole inhibits platelet aggregation in vivo and in vitro (Hoult and Paya, 1996). In animals with a comparison of aspirin, *A. sinesis* significantly inhibited thromboxane A_2 formation and mildly affected prostaglandin I_2 production.

An aqueous extract of *A. sinesis* given intravenously increased myocardial injury and the incidence of premature ventricular contractions and arrhythmias induced myocardial reperfusion. Furanocoumarins inhibited the in vitro binding of diazepam to CNS benzodiazepine receptors in rat cells (Bergendorff et al., 1997).

Uterine stimulant effects on the mouse and relaxation of the trachea in animals have been observed as well.

Common Forms —

Available as a fluid extract, tincture, essential oil, or cut, dried, or powdered root.

Reported Uses —

As a therapeutic herb for a variety of disorders this Chinese herb holds the key. It has been called a "cure-all" for gynecologic disorders and has been promoted for such conditions as postmenopausal symptoms, menstrual discomfort.

In a study of young women with leuorrhagia and insufficient luteal function, angelica root extract, in combination with several other Chinese herbs, regulated the menstrual cycle and reduced the severity of leuorrhagia.

For the treatment of headaches, backaches, hay fever, asthma, and eczema, this has been proved to be an improvement to circulation.

Dosage —

There is no singular consensus as to the dosage. Studies conducted with this herb used various concentrations and dosages of the extracts, aqueous solutions, and powders, making identification of standardized dosage difficulty.

Adverse Reactions —

- Hypotension from coumarins derived from the herb, *A. pubescens* (Hoult and Paya, 1996)
- Photodermatitis and phototoxicity have been found due to the effect of the furanocoumarins.
- Potential increased risk of bleeding when used in combination with drugs such as heparin or warfarin.

Interactions —

Warfarin: significantly prolonged prothrombin time when *A. sinensis* is administered with warfarin. Avoid concomitant use.

Contraindications —

Avoid use in pregnant patients or breast-feeding patients because of potential stimulant effects on the uterus. Use with caution in diabetic patients.

Special Considerations —

- Monitor the patient taking angelica for signs of bleeding — especially if anticoagulants are being taken.
- Advise the patient that used this herb poses a cancer risk.
- Warn the patient to watch for signs of allergic reactions to this plant and to report such reactions promptly to the health care professional.
- Advise the patient to take precautions against direct sun exposure while taking angelica preparations.

Points of interest —

- *A. atropurpurea* appears in the USP and has done so since 1860.

- There are concerns raised due to the carcinogenic effects and risk from angelica, which has led the International Fragrance Commission to recommend a limit of 0.78% angelica root in commercial preparations of suntan lotions.

Analysis —

Chinese medicine shows that angelica is widely used within their culture. The use of the agent appears to be supported only by anecdotal evidences. This herb has been studied extensively in animal models, but in human studies there is a lack. It is difficult to determine therapeutic use of angelica until more conclusive scientific evidence is available.

Magickal Uses —

"Angelica leaves are scattered to purify an area. Add them to incense to promote healing. The leaves can be smoked in herbal "tobacco" formulas." (Hopman, Ellen Evert, et al., 1995) This herb is also one of the representative herbs of the Sun. "Angelica is burned as incense, placed in the chalice, scattered over the ritual space, and used in the ritual bath.

References —

- Ahn K. S., et al. "Decursinol Angelate: A Cytotoxic and Protein Kinase-C Activating Agent from the Root of *Angelica gigas*," *Planta Med* 62:7-9, 1996.
- Bergendorff O., et al. "Furanocoumarins with Affinity to Brain Benzodiazepine Receptors In Vitro," *Phytochemistry* 44:1121-24, 1997.
- Hoult, J. R., and Paya, M. "Pharmacological and Biochemical Actions of Simple Coumarins: Natural Products with Therapeutic Potential," *Gen Pharmacol* 27:713-22, 1996.
- Kwon, Y.S., et al. "Antimicrobial Constituents of *Angelica Dahurica Roots*," *Phytochemistry* 44:887-89, 1997.
- Wang, Y. and Zhu, B. "The Effect of Angelica Polysaccharide on Proliferation and Differentiation of Hermatopoietic Progenitor Cells," *Chung Hua I Hsueh Tsa Chih* 76:363-66, 1996.
- Fetrow, C.W. and Avila J. R., both PharmD, *Professional's Handbook of Complementary & Alt Medicines*, Springhouse Corp, 1999, http://www.springnet.com

Links to visit —

- http://www.aimtobehealthy.com/angelica.htm
- http://www.csdl.tamu.edu/FLORA/cgi/b98_map?genus=Angelica&species=arguta
- http://www.arcadian-archives.com/angelica.htm
- http://www.unseenuniversity.demon.co.uk/oils/oils/angelica.htm
- http://egregore.com/herbs/americanangelica.html
- http://sallys-place.com/food/columns/gilbert/angelica_herb.htm
- http://www.northernlight.com/nlquery.fcg?ho=junior&po=5224&qr=Angelica&cb=0&nth=11