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FILE: ▪ Ashwagandha (*Withania somnifera*)
▪ Winter Cherry
▪Steroidal Alkaloids

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RE: Review of the Therapeutic Effects of Ashwagandha (*Withania somnifera*)

Monograph. *Withania somnifera*. *Altern Med Rev*. 2004;9(2):211–214.

Ashwagandha (*Withania somnifera*), also known as winter cherry, has played an important role in Ayurvedic medicine for more than 3000 years. Traditionally, this herb has been used as an aphrodisiac, liver tonic, anti-inflammatory agent, and astringent. More recently, it has been used to treat respiratory disorders such as bronchitis and asthma, ulcers, insomnia, and senile dementia. The results of clinical trials indicate that ashwagandha has anti-aging, immunomodulatory, antidepressive, chemopreventive, and other therapeutic effects, all of which are discussed in this monograph.

Ashwagandha is a small woody shrub indigenous to Africa, the Mediterranean region, and India. The root contains steroidal alkaloids and lactones known as withanolides. Much of this herb's pharmacologic activity has been attributed to the withanolides withaferin A and withanolide D. Withanolides serve as hormone precursors that can convert into human physiologic hormones as necessary.

The anti-aging effects of ashwagandha were shown in a double-blind clinical trial in which 101 healthy men aged 50–59 years received a dosage of 3 grams ashwagandha for 1 year. Specifically, significant improvements in hemoglobin, red blood cell counts, hair melanin concentrations, and serum cholesterol concentrations were observed. The results of several animal studies showed "profound effects" of ashwagandha on the hematopoietic system (which is involved in the formation of blood cells). In mice, the administration of a powdered root extract of ashwagandha enhanced total white blood cell counts, inhibited delayed-type hypersensitivity reactions, and enhanced phagocytic activities. A chemopreventive effect was observed in Swiss albino mice exposed to a root extract of ashwagandha before and after exposure to the skin cancer causing agent 7,12-dimethylbenzy[a]anthracene; significantly fewer cancerous skin lesions were observed in the treated group than in the control group. In vitro, withanolides from ashwagandha

inhibited the growth of human breast, central nervous system, lung, and colon cancer cell lines. These results suggest "a potential for development of new chemotherapeutic agents."

A comparison of the anxiety-reducing and antidepressive actions of ashwagandha with those of the benzodiazepine lorazepam was made in mice. Mice treated with both agents exhibited a reduction in brain concentrations of a marker of clinical anxiety. In addition, ashwagandha exhibited an antidepressive effect. The results of similar studies support the use of ashwagandha as an antistress adaptogen. In a rat model of chronic stress, the stress-reducing activities of extracts from ashwagandha were compared with those of Asian ginseng (*Panax ginseng*). Both agents reduced the number and severity of chronic stress–induced ulcers, reversed the chronic stress–induced inhibition of male sexual behavior, and inhibited the adverse effects of chronic stress on the retention of learned tasks. Other animal studies on ashwagandha indicate antifungal, anti-inflammatory, antibacterial, and thyrotropic (exerting a direct influence on the secretory activity of the thyroid gland) effects.

In human studies, diabetic and hypercholesterolemic subjects were treated with a powder extract of ashwagandha for 30 days. Significant increases in urine sodium and urine volume and decreases in serum cholesterol, triglycerides, glucose, and low-density lipoproteins were observed.

Typical doses of ashwagandha in humans are as follows: 3–6 grams dried root daily, 300–500 mg of an extract standardized to contain 1.5% withanolides, and 6–12 mL of a 1:2 fluid extract daily. This herb is generally considered safe when taken in prescribed doses. Large doses have been shown to induce gastrointestinal upset, diarrhea, and vomiting. Anecdotal reports indicate that ashwagandha may potentiate the effects of barbiturates; thus, caution is recommended if taken simultaneously. Furthermore, it is advised that ashwagandha not be taken during pregnancy or in combination with alcohol, sedatives, or other anxiolytic (antianxiety) agents.

—Brenda Milot, ELS

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