

VALERIAN MONOGRAPH

Name of Herb: Valerian

Scientific and Common names:

Scientific names: Valerian edulis; Valeriana Jatamansil, synonym Valeriana Wallichii; Valeriana Officinalis; Valerian sitchensis (1)

Common names: Amantilla, All-Heal, Baldrian, Baldrianwurzel, Belgium Valerian, Common Valerian, Fragrant Valerian, Garden Heliotrope, Garden Valerian, Indian Valerian, Mexican Valerian, Pacific Valerian, Valeriana Officinalis, Valeriana rhizome, Valerianae radix, Valeriane, American Valerian, cat's love, Cat's Valerian, St. George's herb, Setwall, Ka-no-ko-so, Katzenwurzel, kesso root, Kissokon, Vandal Root (1-3).

Description of Active Ingredients: This is based on the subspecies, variety, age of plant, growing condition, and type and age of the extract (2). There are two active ingredients

1. Valepotriates (valeriana-epoxy-triacylates, iridoide monoterpenes. It is a major component consisting of 50-80%, isovaltrate (up to 46%), isovaleroxyhydroxy didrovaltrate (IVDH-valtrate, 10-20%) (4).
2. Volatile oil (0.2-1.0%) this contains isovalerenic acid and bornyl isovalerate (both aroma-carriers) as the principal component (2, 4). Other constituent includes B-caryophyllene, valeranone, valeranal, valerenic acid, and other sesquiterpenoids and monoterpenes (2).

Mechanism of Action: Valerian is not well understood but it has been reported to have a sedative-hypnotic, anxiolytic, antidepressant, anticonvulsant, and antispasmodic effects (1). It may also have a hypotensive and mild analgesic properties (1, 2). Valeproatriate

have shown to bind to dopamine receptors (1). They are highly unstable and rapidly decompose in acid or alkaline environment at high temperature (1). Valepotriate are quickly degraded to less toxic metabolite (1). The Valerenic acid also appears to inhibit the enzyme system responsible for the central catabolism of GABA, increasing GABA concentration and decreasing CNS activities (1, 5). There is also some evidence that may suggest valerian containing other constituent such as lignan and GABA, which may be responsible for sedative effects of valerian (1, 5).

Current Indication and efficacy: Valerian as a mild sedative and sleep-promoting agent that is often used as a milder alternative or a possible substitute for stronger synthetic sedatives, such as benzodiazepines, in the treatment of states of nervous and anxiety-induced sleep disturbances (2). The American Herbal Products Association rated valerian class 1 (6). The current indication for valerian is for restlessness, insomnia, nervousness, and tension (1). A randomized, double-blind, placebo-controlled, cross-over study with 16 patients. There were 4 males and 12 females with psychophysiological insomnia. The result of the study in comparison with the placebo, showed that slow-wave sleep latency was reduced after administration of valerian (21.3 vs. 13.5 min respectively, $p < 0.05$) (7). The conclusion of study was that treatment with herbal extract of radix valerianae demonstrated positive effects on sleep structure and sleep perception of insomnia patients (7). Another study demonstrated patients taking 400mg of aqueous valerian extract taken orally one hour before bed produced a statistically significant ($p < 0.05$) decrease in subjectively evaluated sleep latency scores and a significant ($p < 0.05$) improvement in sleep quality (8). Studies have shown that treatments with valerian for these disorders are efficacious (3, 4). There is insufficient evidence for uses on mood disorders (depression,

infantile convulsion, mild tremors, epilepsy, and attention deficit hyperactivity disorder (ADHD)) (1). Other uses with insufficient evidence are muscle and joint pain, nervous asthma, hysterical states, excitability, hypochondria, headache, migraine, stomach upsets including menstrual cramps and symptoms associated with menopause (1). All these uses have been poorly documented and inconclusive in the results of the studies.

Contraindication/allergies: Valerian is contraindicated in patients who are pregnant or lactating (2, 5). It also should not be administered to children less than 12 years (2).

Dosage forms, recommended doses, duration:

1. Capsules: 400 to 900mg by mouth at bedtime (3, 6).
2. Tea: single dose, 2 to 3 grams of herbs or dry extract by mouth (3, 6).
3. Tincture: 1 to 3 ml (20 to 60 drops) by mouth (3, 6).

Drug interactions and Drug-Disease Interactions:

Drug interactions: Alcohol, barbiturates, benzodiazepines. Valerian can also inhibit CYP450 3A4 enzyme (1, 5). This is because valerian may increase levels of drug metabolized by CYP450 3A4 e.g. lovastatin, ketoconazole, itraconazole, fenofenadine, triazolam, chemotherapeutic agent (1, 3, 5). This has not been reported in humans so caution should be taking when recommending in patients taking these drugs (1).

Drug-Disease Interactions: None (1-5).

Adverse Effects: Headaches, nausea, trouble sleeping nervousness, palpitation, and morning drowsiness are the acute side effects of valerian (3, 6). Hepatotoxicity is a chronic side effect, which may be due to idiosyncratic reactions (6). Other side effects include breathing problems or chest tightness, chest pain, skin hives, rash, or itchy or swollen skin (3). Increase in dose of Valerian may lead to increase in adverse effects (6).

References:

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