

Pulsatilla

Species (Family)

- (i) *Anemone pulsatilla* L. (Ranunculaceae)
- (ii) *Anemone pratensis* L.
- (iii) *Anemone patens* L.

Synonym(s)

Pasque Flower, *Pulsatilla nigrans*

Part(s) Used

Herb

Pharmacopoeial and Other Monographs

BHC 1992^(G6)
BHP 1996^(G9)
Martindale 32nd edition^(G43)
PDR for Herbal Medicines 2nd edition^(G36)

Legal Category (Licensed Products)

GSL^(G37)

Constituents^(G6,G22,G48,G64)

Flavonoids Delphinidin and pelargonidin glycosides.

Saponins Hederagenin (as the aglycone).

Volatile oils Ranunculin (a glycoside); enzymatic hydrolysis yields the unstable lactone protoanemonin which readily dimerises to anemonin.

Other constituents Carbohydrates (e.g. arabinose, fructose, galactose, glucose, rhamnose), triterpenes (e.g. β -amyrin) and β -sitosterol.

Food Use

Pulsatilla is not used in foods.

Herbal Use

Pulsatilla is stated to possess sedative, analgesic, antispasmodic and bactericidal properties. Traditionally, it has been used for dysmenorrhoea, orchitis, ovaralgia, epididymitis, tension headache, hyperactive states, insomnia, boils, skin eruptions associated

with bacterial infection, asthma and pulmonary disease, earache, and specifically for painful conditions of the male or female reproductive system.^(G6,G7,G8,G64) Pulsatilla is widely used in homeopathic preparations as well as in herbal medicine.

Dosage

Dried herb 0.12–0.3 g by infusion or decoction three times daily.^(G6,G7)

Liquid extract 0.12–0.3 mL (1:1 in 25% alcohol) three times daily.^(G6,G7)

Tincture 0.3–1.0 mL (1:10 in 40% alcohol) three times daily.^(G6,G7)

Pharmacological Actions

In vitro and animal studies

Utero-activity (stimulant and depressant) has been documented for pulsatilla.^(1,2,G30) *In vivo* sedative and antipyretic properties in rodents have been documented for anemonin and protoanemonin.⁽³⁾

Cytotoxicity (KB tumour system) has been reported for anemonin.^(G22)

Side-effects, Toxicity

Fresh pulsatilla is poisonous because of the toxic volatile oil component, protoanemonin. Protoanemonin rapidly degrades to the non-toxic anemonin. Inhalation of vapour from the volatile oil may cause irritation of the nasal mucosa and conjunctiva.^(G51) Allergic reactions to pulsatilla have been documented and patch tests have produced vesicular reactions with hyperpigmentation.^(G51) Cytotoxicity has been documented for anemonin (*see In vitro* and animal studies).

Contra-indications, Warnings

Fresh pulsatilla is poisonous and should not be ingested. External contact with the fresh plant should be avoided. The toxic principle, protoanemonin, rapidly degrades to the non-toxic anemonin during drying of the plant material. Individuals may

experience an allergic reaction to pulsatilla, especially those with an existing hypersensitivity.

Pregnancy and lactation Pulsatilla is reputed to affect the menstrual cycle.^(G22) Utero-activity has been documented for pulsatilla (*see In vitro* and animal studies). In view of this, the use of pulsatilla during pregnancy should be avoided. Excessive ingestion is best avoided during lactation.

Pharmaceutical Comment

Pulsatilla is widely used in both herbal and homeopathic preparations, although little documented chemical and pharmacological information is available to assess its true benefit. The fresh plant is known to be irritant; it contains a toxic principle

(protoanemonin) and should not be ingested. The dried plant material is not considered to be toxic.

References

See also General References G6, G9, G10, G22, G30, G31, G36, G37, G43, G48, G51 and G64.

- 1 Pilcher JM *et al.* The action of the so-called female remedies on the excised uterus of the guinea-pig. *Arch Intern Med* 1916; 18: 557-583.
- 2 Pilcher JM *et al.* The action of 'female remedies' on intact uteri of animals. *Surg Gynecol Obstet* 1918; 18: 97-99.
- 3 Martin ML *et al.* Pharmacological effects of lactones isolated from *Pulsatilla alpina* subsp. *apiifolia*. *J Ethnopharmacol* 1988; 24: 185-191.