

Vervain

Species (Family)

Verbena officinalis L. (Verbenaceae)

Synonym(s)

Verbena

Part(s) Used

Herb

Pharmacopoeial and Other Monographs

BHP 1996^(G9)

PDR for Herbal Medicines 2nd edition^(G36)

Legal Category (Licensed Products)

GSL^(G37)

Constituents^(G2,G22,G40,G64)

Glycosides Iridoid glycosides: hastatoside, verbenalin (verbanalioside), verbenin (aucubin). Phenylpropanoid glycosides: acetoside (verbascoside) and eukovoside.^(1,2)

Volatile oils Monoterpene components include citral, geraniol, limonene and verbenone.

Other constituents Adenosibe, alkaloid (unspecified), bitters, carbohydrates (stachyose, mucilage), β -carotene, invertin (sucrose hydrolytic enzymes), saponin and tannic acid.

Food Use

Vervain is listed by the Council of Europe as a natural source of food flavouring (category N2). This category indicates that vervain can be added to foodstuffs in small quantities, with a possible limitation of an active principle (as yet unspecified) in the final product.^(G16) In the USA, vervain is listed by the Food and Drugs Administration (FDA) as a Herb of Undefined Safety.^(G22)

Herbal Use

Vervain is stated to possess sedative, thymoleptic, antispasmodic, mild diaphoretic and, reputedly, galactogogue properties. Traditionally, it has been used for depression, melancholia, hysteria, generalised seizures, cholecystalgia, jaundice, early stages of fever, and specifically for depression and debility of convalescence after fevers, especially influenza.^(G2,G7,G64)

Dosage

Dried herb 2–4 g or by infusion three times daily.^(G7)

Liquid extract 2–4 mL (1:1 in 25% alcohol) three times daily.^(G7)

Tincture 5–10 mL (1:1 in 40% alcohol) three times daily.^(G7)

Pharmacological Actions

In vitro and animal studies

Galactogogue properties have been documented for vervain and attributed to aucubin.⁽³⁾ A luteinising action has also been reported, and attributed to inhibition of the gonadotrophic action of the posterior lobe of the pituitary gland.⁽³⁾ Extracts of vervain fruit have been used to treat dysmenorrhoea and to stimulate lactation.⁽³⁾ Vervain has been documented to possess weak parasympathetic properties, causing slight contraction of the uterus.⁽³⁾ Verbenalin has been reported to exhibit uterine stimulant activity.^(G30) Sympathetic activity has also been documented: in small doses verbenin has been reported to act as an agonist at sympathetic nerve endings, whereas larger doses result in antagonism.^(G22) Verbascoside reportedly acts as an agonist to the antitremor action of levodopa, and as an antihypertensive and analgesic.⁽³⁾ A slight laxative action in mice has been documented for iridoid glycosides.⁽⁴⁾

Side-effects, Toxicity

None documented for vervain. High doses of verbenalin are stated to paralyse the CNS, resulting in stupor and convulsions.^(G22)

Contra-indications, Warnings

None documented. Excessive doses of vervain may interfere with existing hypo- or hypertensive and hormone therapies.

Pregnancy and lactation Vervain is reputed to act as an abortifacient and oxytocic agent^(G30) with *in vivo* utero-activity documented (see *In vitro* and animal studies). In view of this, vervain should not be taken during pregnancy.

Vervain may affect lactation in view of the reported galactogogue properties.⁽³⁾

Pharmaceutical Comment

Limited chemical, pharmacological and toxicity data are available for vervain. Documented scientific information does not justify the herbal uses, although galactogogue properties have been reported. No human data were located. In view of

the lack of toxicity data and documented pharmacological actions in animals, excessive use of vervain should be avoided.

References

See also General References G2, G9, G16, G22, G30, G31, G36, G37, G40 and G64.

- 1 Lahloub MF *et al.* Phenylpropanoid and iridoid glycosides from the Egyptian *Verbena officinalis*. *Planta Med* 1986; 52: 47.
- 2 Andary C *et al.* Structures of verbascoside and orobanchoside, caffeic acid sugar esters from *Orobanche rapum-genistae*. *Phytochemistry* 1982; 21: 1123–1127.
- 3 Oliver-Bever BEP. *Medicinal Plants in Tropical West Africa*. Cambridge: Cambridge University Press, 1986.
- 4 Inouye H *et al.* Purgative activities of iridoid glycosides. *Planta Med* 1974; 25: 285–288.