Species (Family)
*Fumaria officinalis* L. (Fumariaceae)

Synonym(s)
Fumitory

Part(s) Used
Herb

Pharmacopoeial and Other Monographs
BHC 1992
BHP 1996
Complete German Commission E
Martindale 32nd edition
PDR for Herbal Medicines 2nd edition

Legal Category (Licensed Products)
GSL

Constituents

Alkaloids
Isoquinoline-type. Protoptines including protopine (fumarine) as the major alkaloid and cryptopine, protoberberines including aurotenine, stylopine, sinactine and N-methylsinactine, spirobenzylisoquinolines including fumaritine, fumaricine and fumariline, benzophenanthridines including sanguinarine, and indenobenzazepines including fumaritridine and fumaritrine.

Flavonoids
Glycosides of quercetin including isoquercitrin, rutin and quercetrin-3,7-diglucoside-3-arabinogluicoside.

Acids
Chlorogenic, caffeic and fumaric acids.

Other constituents
Bitter principles, mucilage and resin.

Food Use
Fumitory is listed by the Council of Europe as a natural source of food flavouring (category N3). This category indicates that fumitory can be added to foodstuffs in the traditionally accepted manner, although there is insufficient information available for an adequate assessment of potential toxicity.

Herbal Use
Fumitory is stated to possess weak diuretic and laxative properties and to act as a cholagogue. Traditionally, it has been used to treat cutaneous eruptions, conjunctivitis (as an eye lotion) and, specifically, chronic eczema.

Dosage
Herb 2–4 g or by infusion three times daily.
Liquid extract 2–4 mL (1:1 in 25% alcohol) three times daily.
Tincture 1–4 mL (1:5 in 45% alcohol) three times daily.

Pharmacological Actions

In vitro and animal studies
The herb had no effect on normal choleretic but modified bile flow which was artificially increased or decreased. Antispasmodic activity on smooth muscle has been reported. Extracts inhibited formation of gall-bladder calculi in animals. The major alkaloid protopine has antihistaminic, hypnotic, bradycardic and sedative activities in small doses, whereas larger doses cause excitation and convulsions. Bactericidal activity against the Gram-positive organisms *Bacillus anthracis* and *Staphylococcus* have been reported.

Clinical studies
Clinical studies involving 105 patients with biliary disorders claimed favourable results.

Side-effects, Toxicity
No reported side-effects or documented toxicity studies were located, although possible adverse effects include raised intraocular pressure and oedema.
Contra-indications, Warnings

Hypotensive actions have been documented in animal studies.

Pregnancy and lactation The safety of fumitory during pregnancy and lactation has not been established. In view of lack of pharmacological and toxicity data, the use of fumitory during pregnancy and lactation should be avoided.

Pharmaceutical Comment

Fumitory is characterised by isoquinoline alkaloids which represent the principal active ingredients. Animal studies support some of the traditional uses, but it should not be used in home-made ophthalmic preparations. In view of the active constituents and the lack of safety data, excessive ingestion of fumitory should be avoided.

References

See also General References G2, G3, G6, G9, G16, G31, G36, G37, G43, G56 and G64.