



Review of herbal ingredients for use in unlicensed herbal medicinal products

September 2001

Review of restricted herbal ingredients

Introduction

1. MCA has been considering the need to update the list of herbal ingredients subject to restrictions or prohibitions in use in unlicensed medicines. The primary focus is on ingredients used in ethnic medicines. This reflects the position that at the time of the last systematic review which led to the 1977 list of restricted ingredients, use of traditional Chinese and Ayurvedic medicines in the UK was much less prevalent than is now the case.

2. Herbal ingredients may be subject to various forms of control in relation to medicines. The principle mechanisms are:

- Prescription Only Medicine
- use restricted to pharmacy or to use following one to one consultations (set out in a Statutory Instrument dating from 1977 - SI 2130/1977)
- prohibitions in unlicensed medicines (as in *Aristolochia*).

Scope of current exercise

3. We have identified a number of ingredients in the current exercise, as set out in the attached list. We have concentrated on:

- ingredients where specific safety concerns have already been identified independently of this exercise (such as *Asarum* species, *Psoralea corylifolia* and *Tabernanthe iboga*)
- ingredients identified from lists, supplied by trade associations and others, in products which are or may be on the UK market where the MCA has provisional concerns on public health grounds. (In some cases these are ingredients which have been classified as restricted in Hong Kong.)

4. Clearly this particular approach cannot capture every herbal ingredient which theoretically might be used in unlicensed medicines. Instead, in the interests of making early progress, we have concentrated on ingredients which may well be found on the UK market.

5. In considering these safety issues it is important to bear in mind the current position on unlicensed medicines. There are wide variations both in:

- quality standards used in the supply of ingredients and manufacture of medicine
- the competence of those operating as herbal practitioners.

6. In MCA's view it would therefore be necessary to look critically at the potential need for regulatory action where:

- the inherent toxicity of an ingredient is a safety issue and/or
- the safe use of an ingredient is critically dependent on factors such as:
 - competence of the practitioner
 - the patient receiving precise instructions on usage, as well as close monitoring and aftercare
 - quality control in manufacture, for example to standardise or limit the level of a specific known constituent.

Handling

7. Before launching a formal public consultation and consistent with the need to make early progress, we wish to give the ethnic medicines sector and other interested parties an opportunity to comment on usage and safety aspects of the individual ingredients. This is a genuinely consultative exercise: the MCA recognizes that with some ingredients the case for regulatory action is likely to be clear cut, but in others rather less so. We will discuss the timing and handling of the exercise with the Ethnic Medicines Forum.

MCA
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Plant ingredients which *may* need to be restricted in unlicensed herbal medicine

BOTANICAL NAME	PHARMACEUTICAL NAME	COMMENTS
<i>Abrus precatorius</i>		Contains abrin (toxic protein). Reports suggest that oral use
<i>Acorus calamus</i>		Contains β -asarone (allylbenzene) . Potential carcinogen. F
<i>Adhatoda vasica</i>		Contains quinoline alkaloids eg. vasicine. Acts as a bronch affect heart rate. Use may require medical supervision.
<i>Arisaema species</i> <i>Arisaema amurense</i> <i>Arisaema consanguineum</i> <i>Arisaema japonicum</i>	Rhizoma Arisa	Unprocessed rhizome controlled in Hong Kong. Contains β -carboline alkaloids, triterpenoid saponins, benz Requires strict quality control for processing.
<i>Asarum species</i> <i>Asarum heteropoides</i> <i>Asarum mandshuricum</i> <i>Asarum sieboldii</i>	Herba Asari	Contains β -asarone (allylbenzene) . Potential carcinogen. R Contains aristolochic acids. Known carcinogens, nephrotoxi
<i>Cocculus hirsutus</i>		May be confused with <i>Aristolochia</i> species.`
<i>Cucurbita moschata</i>	Semen Cucu	<i>Cucurbita maxima</i> is controlled under Part I of SI 2130. Con which are bitter, toxic constituents. Other species of <i>Cucurbita</i> may present a risk to public hea
<i>Datura metel</i>		Contains tropane alkaloids. May need similar controls to Da 2130.
<i>Delphinium zailii</i>		Contains toxic triterpene alkaloids. <i>Delphinium staphisagria</i> is on Part I of SI 2130. Other speci

BOTANICAL NAME	PHARMACEUTICAL NAME	COMMENTS
<i>Dryopteris species</i> <i>Dryopteris crassirhizoma</i>	Rhizoma Guan	Dryopteris filix – mas is controlled under Part I of SI 2130. C Other species of Dryopteris likely to present a potential risk Poisonous, irritant, can lead to blindness.
<i>Dysosma species</i>	Rhizoma Dysosmatis	Rhizome controlled in Hong Kong. Reported to contain podophyllotoxin which is cytotoxic. Inge
<i>Euphorbia species</i> <i>Euphorbia helioscopia</i> <i>Euphorbia kansui</i> <i>Euphorbia pekinensis</i> <i>Euphorbia longan</i> <i>Euphorbia thymifolia</i> <i>Euphorbia dracunculoides</i> <i>Euphorbia pilosa</i>	Herba Euphorbia Radix Euphorbia Radix Euphorbia Arillus Euphorbia	Contains toxic diterpenes . Irritant, co-carcinogenic compou
<i>Garcinia morella</i>		Unprocessed resin controlled in Hong Kong. Strict quality control required.
<i>Grewia species</i> <i>Grewia tilaefolia</i> <i>Grewia hirsuta</i> <i>Grewia asiatica</i> <i>Grewia tenax</i>		Contain harman alkaloids (β -carbolines). Potential hallucino supervision.
<i>Gingko biloba</i>	Seed only	Seed of <i>Gingko biloba</i> contains 4-O-methylpyridoxine. Can convulsions. Note: <i>Gingko leaf</i> is considered to be safe.

BOTANICAL NAME	PHARMACEUTICAL NAME	COMMENTS
<i>Heracleum species</i> <i>Heracleum hemsleyanum</i> <i>Heracleum lanatum</i>	Radix Duhuo	Contains Psoralens (furanocoumarins). Irritant, phototoxic. Treatment may require specialised medical expertise and st
<i>Ipomoea nil</i>		Purgative. Use may require medical supervision.
<i>Knoxia valerianoides</i>	Radix Euphorbi	Reported to be highly toxic. Drastic purgative. Reported to b
<i>Phytolacca species</i> <i>Phytolacca acinosa</i> <i>Phytolacca esculenta</i>	Radix Phytolac	<i>P. americana</i> contains phytolaccatoxins (triterpenoid saponi Other species likely to present a potential risk to public heal
<i>Pinellia ternata</i>	Rhizoma Pinell	Contains glycosides of 3,4-dihydroxybenzaldehyde and Pin Irritant.Unprocessed rhizome controlled in Hong Kong. Strict quality control required.
<i>Psoralea corylifolia</i>	Fructus psoralea	Psoralens (furanocoumarins).Irritant, photosensitising.Treat expertise and standardised products.
<i>Randia spinosa</i>		Contains triterpenes. Use may require medical supervision.
<i>Rhus chinensis</i>	Galla Rhi Chin	<i>Rhus radicans</i> (Poison Ivy) on Part II of SI 2130 and restrict Other species likely to present a potential risk to public heal
<i>Sassafras albidum</i>		Contains safrole, a carcinogen. Safrole is not permitted in li food additives.
<i>Solanum species</i> <i>Solanum indicum</i> <i>Solanum nigrum</i> <i>Solanum surattense</i>		Contain steroidal alkaloids. May require dose restrictions.

BOTANICAL NAME	PHARMACEUTICAL NAME	COMMENTS
<i>Sophora tonkinensis</i>	Radix Sophorae tonkinensis	Root controlled in Hong Kong. Contains quinolizidine alkaloid. Toxic- can result in heart palpitations, dyspnoea, convulsions.
<i>Stellaria dichotomae</i>	Radix Stellaria	Root controlled in Hong Kong. Use may require medical supervision.
<i>Stellaria media</i>		
<i>Strychnos wallichiana</i>	Semen wallichiana	<i>Strychnos nux-vomica</i> is on the POM Order. Contains the toxic alkaloid. Other species likely to present a potential risk to public health.
<i>Symphytum officinale</i>		Synonym: Comfrey. Contains pyrrolizidine alkaloids. Comfrey is restricted to external use in licensed products. The herb is allowed (contains lower levels of alkaloids).
<i>Trichosanthes species</i> <i>Trichosanthes kirilowii</i> <i>Trichosanthes japonica</i>	Root, fruit and seed	<i>T. kirilowii</i> used to induce abortion in China. Active constituent used in treatment of AIDS. Use may require medical supervision.
<i>Typhonium giganteum</i>	Rhizoma Typhonium	Unprocessed rhizome controlled in Hong Kong. Strict quality control required.
<i>Tabernanthe iboga</i>		Contains the alkaloid, Ibogaine. Both plant and alkaloid regulated under the second limb of the definition. 1 fatal reaction in UK to Tabernanthe alkaloid concerned extremely potent. Illegal in some countries including the USA. Use may require medical supervision.
<i>Viscum species</i> <i>Viscum album</i> <i>Viscum coloratum</i>	Ramus Loranth	Synonym: Mistletoe. In certain countries the use of <i>V. album</i> for therapeutic purposes is permitted. Mistletoe berry on Part I SI 2130. Use may require medical supervision.
<i>Withania somnifera</i>		Contains steroidal lactones. Reported to be a sedative and anxiolytic. Use may require medical supervision.
<i>Xanthium species</i>		Need to decide if any action should be taken to restrict the use of <i>Xanthium</i> due to the effects of seizures in a UK patient. Use may require medical supervision.