The European Agency for the Evaluation of Medicinal Products
Evaluation of Medicines for Human Use

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WORKING PARTY ON HERBAL MEDICINAL PRODUCTS (HMPWP)

FINAL PROPOSAL FOR A CORE-DATA FOR MENTHAE PIPERITAE AETHEROLEUM

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Final Proposal for a Core-data on Peppermint oil

The Working Party on Herbal Medicinal Products proposes the following core-data for *Menthae x piperitae aetheroleum*.

1. NAME OF THE MEDICINAL PRODUCT

To be specified for the individual finished product.

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

The material complies with the European Pharmacopoeia (*Menthae x piperitae aetheroleum*[1]).

3. PHARMACEUTICAL FORM

In solutions, gastro-resistant soft capsules, soft capsules or tablets (for oral use);

in liquid or semi-solid preparations (for inhalation)

(to be labelled according to the standard terms published by the European Pharmacopoeia)

4. CLINICAL PARTICULARS

4.1. Therapeutic indications[2]

i) Oral use

Herbal medicinal product for the

a) symptomatic treatment of digestive disorders such as flatulence and minor spasms.

b) symptomatic treatment of discomfort and of abdominal colic and distension experienced by patients with irritable bowel syndrome.

ii) Inhalation

Herbal medicinal product for the relief of symptoms in coughs and colds.

[1] The herbal drug complies with the European Pharmacopoeia.

[2] Decision by majority

4.2. Posology and method of administration

Adults

i) Oral use

a) 0.2-0.4 ml (4 to 8 drops) up to three times daily in warm water or on a piece of sugar.

b) 0.2-0.4 ml three times daily, in gastro-resistant capsules, taken 30-60 minutes before food, with a glass of cold water.

The capsule should not be broken or chewed because this would release the peppermint oil prematurely, possibly causing local irritation of the mouth and oesophagus.

ii) Inhalation

3-4 drops in hot water inhaled up to three times daily.

Elderly, adolescents (over 12 years of age): Dose as for adults.

Duration of use

The gastro-resistant capsules should be taken until symptoms resolve, usually within one or two weeks. At times when symptoms are more persistent, the intake of gastro-resistant capsules can be continued for periods of not longer than 2 to 3 months per course.

4.3. Contraindications

The substance should not be used by patients with known hypersensitivity to Peppermint oil preparations.

The use of this product is not recommended in children under 2 years because menthol can induce reflex apnoea and laryngospasm.

i) Oral use

The product must not be used in patients with liver disease, cholangitis, gallstones and any other biliary disorders.

4.4. Special warnings and precautions for use

If symptoms persist or worsen after 2 weeks, a physician should be consulted.

Because there is no experience available, use of this product is not recommended in children the age of 2 and 12 years.

i) Oral use

Patients with gastroesophageal reflux (heartburn) should not take peppermint oil in non-gastro-resistant capsules because heartburn may increase.

ii) Inhalation

None.

4.5. Interaction with other medicinal products and other forms of interaction

Antacids should not be administered at the same time as oral preparations of peppermint oil.

4.6. Pregnancy and lactation

Because data on the use during pregnancy and lactation are not available, the use is not recommended as a general precaution.

4.7. Effects on ability to drive and use machines

None known.

4.8. Undesirable effects

Hypersensitivity to menthol, erythematous skin rash, headache, arthralgia and dry mouth. This may occur in conjunction with alcohol.

i) Oral use

The use of non- gastro-resistant oil preparations occasionally causes heartburn, especially in persons suffering from reflux oesophagitis.

Patients, who already suffer from heartburn, sometimes experience an exacerbation of these symptoms when taking the capsule. Treatment should be discontinued in these patients.

ii) Inhalation

Inhalation can cause apnoea and laryngoconstriction in hypersensitive patients.

4.9. Overdose

Overdose may cause severe gastro-intestinal symptoms, diarrhoea, epileptic convulsions, loss of consciousness, apnoea, nausea, disturbances in cardiac rhythms, cardiac symptoms, ataxia and other CNS problems, probably due to the presence of menthol.

5. PHARMACOLOGICAL PROPERTIES

5.1. Pharmacodynamic properties

Pharmacotherapeutic group: ATC code: A02D (Antiflatulents); R05C (Expectorants, excl. combinations with cough suppressants); R05 (Cough and cold preparations)

In vitro studies

Peppermint oil has a spasmolytic action on smooth muscle.

In vivo studies

In experiments with anaesthetized guinea pigs peppermint oil, emulsified with tween 80 (0.1% in aqueous solution), caused resolution of a morphine-induced spasm on Oddi's sphincter.

Peppermint oil appears to enhance production of bile in rats. Both menthol (468 mg/kg) and cineole, a minor constituent of peppermint oil (262 mg/kg), were separately administered orally to male rats and were reported to inhibit hepatic HMGCoA reductase activity by approximately 70 %.

Pharmacological studies in humans

Peppermint oil relieved colonic spasms within 2 minutes, the effect lasting for about 12 minutes.

Two actions on secretion in the respiratory tract are reported: secretolytic in the bronchi and decongestant in the nose.

Clinical studies

Oral symptomatic treatment of digestive disorders such as flatulence and minor spasms is supported by level IV evidence[3].

Oral symptomatic treatment of discomfort and of abdominal colic and distension experienced by patients with irritable bowel syndrome is supported by level II evidence.

Groups of patients suffering from irritable bowel syndrome were studied in controlled and open multicentre trials. Evaluation of all signs and symptoms, both pre- and post-treatment, confirmed a statistically significant decrease of symptoms.

Relief of symptoms by inhalation in coughs and colds is supported by level IV evidence.

Clinical safety data

At present, a total of 300 patients and healthy volunteers have been included in several studies where efficacy reports of toxicity and undesirable effects showed no reason for concern on efficacy and safety in the use of peppermint oil.

5.2. Pharmacokinetic properties

[3] Points to consider on the evidence of safety and efficacy required for well-established herbal medicinal products in bibliographic applications (EMEA/HMPWP/23/99)

Pharmacokinetics in humans

Menthol and other terpene constituents of peppermint oil are rapidly absorbed and to some extent excreted in the form of glucuronide.

5.3. Preclinical safety data

Toxicity tests in animals have not given cause for concern within the recommended dosage range.

6. DATE OF COMPILATION

February 2004

