SUMMARY OF PRODUCT CHARACTERISTICS

1. Name of the medicinal product

Upacof Expectorant Syrup

2. Qualitative and quantitative composition

Each 5 ml of syrup contains
Diphenhydramine HCl 12.5mg
Ammonium Chloride 120mg,
Sodium Citrate 50mg
For full list of excipients see section 6.1

3. Pharmaceutical form

Syrup

4. Clinical particulars

4.1 Therapeutic indications

Symptomatic treatment of cough and reduces bronchial and nasal congestion. It relieves the symptoms of hay fever and other allergic conditions affecting the upper respiratory tract.

4.2 Posology and method of administration

Oral administration only

Do not exceed the stated dose or frequency of dosing

Children: 2 - 5 years: 2.5ml or as recommended by the physician.

Children 6 – 12 years: 5ml, 3 to 4 times a day

Adults and children over 12 years: 10ml, 3 to 4 times a day

Not recommended for children below 2 years

4.3 Contraindications

Hypersensitivity to the active substance or to any of the excipients listed in section 6.1. Diphenhydramine HCl is contraindicated in those with the following conditions: stenosing peptic ulcer, pyloroduodenal obstruction.

Antihistamines should not be given to premature infants of neonates.

Ammonium salts are contraindicated in presence of impaired hepatic or renal function.

4.4 Special warnings and precautions for use

<u>Diphenhydramine Hydrochloide</u>

H_1 antagonists interfere with skin tests for allergy, and thus they must be withdrawn well before such tests are performed. The antihistamines enhance the sedative effects of opioid analgesics, alcohol, barbiturates and hypnotics. They should therefore not be taken concurrently.

Diphenyhydramine should be used with caution in patients with myasthenia gravis, epilepsy or seizure disorders, narrow-angle glaucoma, prostatic hypertrophy, urinary retention, asthma, bronchitis and chronic obstructive pulmonary disease (COPD), moderate to severe hepatic impairment and moderate to severe renal impairment.

Tolerance may develop with continuous use. Seek medical advice if sleeplessness persists, as insomnia may be a symptom of serious underlying medical illness.

This medication should not be used continuously for more than 2 weeks without consulting a doctor.

May increase the effects of alcohol, therefore alcohol should be avoided.

Avoid use of other antihistamine-containing preparations, including topical antihistamines and cough and cold medicines.

Use with caution in the elderly, who are more likely to experience adverse effects. Avoid use in elderly patients with confusion.

Patients with rare hereditary problems of galactose intolerance, the Lapp lactase deficiency or glucose-galactose malabsorption should not take this medicine

Ammonium chloride

Observe patients receiving ammonium chloride for symptoms of ammonia toxicity as pallor, bradycardia, irregular breathing, and tonic convulsion and vomiting. Monitor plasma electrolyte balance. Administered slowly through IV route to avoid pain, toxic effect and local irritation at site of injection.

4.5 Interaction with other medicinal products and other forms of interaction

Diphenhydramine may potentiate the sedative effects of alcohol and other CNS depressants (e.g. tranquillizers, hypnotics and anxiolytics).

Monoamine oxidase inhibitors (MAOI) prolong and intensify the anticholinergic effects of diphenhydramine. The product should be used with caution with MAOIs or within 2 weeks of stopping an MAOI.

As diphenhydramine has some antimuscarinic activity, the effects of some anticholinergic drugs (e.g. atropine, tricyclic antidepressants) may be potentiated therefore medical advice should be sought before taking diphenhydramine with such medicines.

Diphenhydramine is an inhibitor of the cytochrome p450 isoenzyme CYP2D6. Therefore, there may be a potential for interaction with drugs which are primarily metabolised by CYP2D6, such as metoprolol and venlafaxine.

Diphenhydramine should not be used in patients receiving any of the above drugs unless directed by a doctor.

4.6 Pregnancy and lactation Pregnancy

Diphenhydramine crosses the placenta. Because animal reproduction studies are not always predictive of human response and since there is inadequate experience with use of diphenhydramine in pregnant women, the potential risk for humans is unknown. Use of sedating antihistamines during the third trimester may result in reactions in the newborn or

premature neonates. This drug is not recommended during pregnancy. Consult a doctor before use.

Lactation

Diphenhydramine has been detected in breast milk, but the effect of this on breastfed infants is unknown. Diphenhydramine HCl is not recommended for use during lactation. Consult a doctor before use.

4.7 Effects on ability to drive and use machines

May cause drowsiness, dizziness,sedation, blurred vision and psychomotor impairment, which can seriously hamper the patients' ability to drive and use machinery.

4.8 Undesirable effects

General disorders
Common: Fatigue
Immune system disorders
Unknown: Hypersensitivity reactions including rash, urticaria, dyspnoea and angioedema

Psychiatric disorders*

Unknown: confusion, paradoxical excitation (e.g. increased energy, restlessness, nervousness)

Nervous system disorders

Common: sedation, drowsiness, disturbance in attention, unsteadiness, dizziness, Unknown: convulsions, headache, paraesthesia, dyskinesias

Eye disorders
Unknown: blurred vision **Cardiac disorders**
Unknown: tachycardia, palpitations

Respiratory, thoracic and mediastinal disorders Unknown: thickening of bronchial secretions **Gastrointestinal disorders**
Common: dry mouth
Unknown: gastrointestinal disturbance including nausea, vomiting

Musculoskeletal and connective tissue disorders

Unknown: muscle twitching

Renal and urinary disorders

Unkown: urinary difficulty, urinary retention

Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions via the PvERS at www.pharmacyboardkenya.org

4.9 Overdose
Symptoms and signs

Diphenhydramine Hydrochloride

Symptoms and signs include sedation, paradoxical excitation of the CNS, toxic psychosis, convulsions, apnoea, anticholinergic effects, dystonic reactions and cardiovascular collapse including arrhythmias.

Symptoms of severe overdosage are variable. They are characterised in children by various combinations of excitation, ataxia, incoordination, athetosis and hallucinations, while adults may become drowsy and lapse into coma. Convulsions may occur in both adults and children: coma or excitement may precede their occurrence. Tachycardia may develop. Cardiorespiratory depression is uncommon. If the patient is seen soon enough after ingestion, it should be possible to induce vomiting with ipecacuanha despite the antiemetic effect of promethazine; alternatively, gastric lavage may be used.

Ammonium Chloride

The signs and symptoms that are produced after the acute overdosage of Ammonium Chloride include Encephalopathy

Treatment

Diphenhydramine Hydrochloride

Symptomatic and supportive measures should be provided with special attention to cardiac, respiratory, renal and hepatic functions and fluid and electrolyte balance. If overdosage is by the oral route, treatment with activated charcoal should be considered provided there are no contraindications for use and the overdose has been taken recently (treatment is most effective if given within an hour of ingestion.) Treat hypotension and arrhythmias vigorously. CNS convulsions may be treated with i.v. diazepam. Haemoperfusion may be used in severe cases.

Ammonium Chloride

The symptomatic adverse reactions produced by Ammonium Chloride are more or less tolerable and if they become severe, they can be treated symptomatically, these include Pain, Nausea and vomiting, Hypokalemia.

5. Pharmacological properties

5.1 Pharmacodynamic properties

Diphenhydramine HCl is an antihistamine with H_1 receptor antagonistic

action. It inhibits most responses of smooth muscle to histamine. Histamine is usually released from the mast cells on encounter with antigens. The antihistamine antagonizes the constrictor action of histamines on the respiratory smooth muscles.

H_1 antagonists are used for the palliative treatment of allergic reactions.

Ammonium chloride in the expectorant causes irritative action on the bronchial mucosa, which in turn causes the production of respiratory fluid that facilitates the effective cough. Sodium citrate is a mucolytic, an agent that breaks down mucus, sot that coughing up phlegm is easier.

5.2 Pharmacokinetic properties

Absorption

Diphenhydramine hydrochloride is rapidly absorbed following oral administration. Apparently it undergoes first-pass metabolism in the liver and only about 40-60% of an oral dose reaches systematic circulation as unchanged Diphenhydramine.

Distribution

It is rapidly distributed throughout the whole body. Peak plasma concentrations are attained within 1-4 hours. The sedative effect also appears to be maximal within 1-3 hours after administration of a single dose.

It is positively correlated with the plasma drug concentration.

Diphenhydramine is approx 80-85% bound to plasma proteins. Diphenhydramine is rapidly and almost completely metabolised. The drug is metabolised principally to Diphenylmetoxyacetic acid and is also dealkylated.

Excretion

The metabolites are conjugated with glycine and glutamine and excreted in urine. Only about 1% of a single dose is excreted unchanged in urine.

Elimination

The elimination half-life ranges from 2.4-9.3 hours in healthy adults. The terminal elimination half-life is prolonged in liver cirrhosis

5.3 Preclinical safety data

No additional data of relevance.

6. Pharmaceutical particulars

6.1 List of excipients

Menthol crystals
Natrosol gum
Sorbitol 70%
solution
Propylene glycol
Sodium benzoate

Caramel
colour Citric
acid
Raspberry
flavour
Sodium
saccharin
Ethanol (rectified
Spirit) Purified water

6.2 Incompatibilities

None known

6.3 Shelf life

3 years.

6.4 Special precautions for storage

Store below 30°C. Protect from light

6.5 Nature and contents of container

60ml and 100ml Pet bottles with Aluminum cap and measuring caps, enclosed in unit boxes with patient information leaflet inserted.

6.6 Special precautions for disposal and other handling

N/A.

7. Marketing Authorization Holder

Universal Corporation
Limited Club Road, Plot No.
13777
P.O BOX 1748-00902,
KIKUYU, KENYA.

8. Marketing authorisation number(s)

H2009/20312/164

9. Date of first authorisation/renewal of the authorisation

7th April 2009
Retained annually

10. Date of revision of the text

27/02/2026