SUMMARY OF PRODUCT CHARACTERISTICS

1. NAME OF THE MEDICINAL PRODUCT

PULMOR 15 mg/5ml Pediatric Syrup

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Active Ingredient:

Each 5 mL contains 15 mg of ambroxol hydrochloride

Excipients:

Sorbitol (E420, %70) 3 g

For all excipients, see Section 6.1

3. PHARMACEUTICAL FORM

Syrup

Colorless or slightly yellowish clear solution.

4. CLINICAL PROPERTIES

4.1 Therapeutic Indications

In acute and chronic respiratory diseases associated with deep and sticky mucus secretion.

4.2 Posology and method of administration

Posology/Administration frequency and duration:

In Children;

0-2 years: ½ cup (2.5 mL) two times a day

2-5 years: ½ cup (2.5 mL) three times a day

5-12 years: 1 cup 5 mL two or three times a day

Doses may be increased by one fold at beginning of treatment.

Method of administration:

It is used orally.

Additional information about special populations:

Renal/Liver failure:

Patient with renal, liver disease and peptic ulcer should use with caution.

Pediatric population:

See Section "4.2. Posology/administration frequency and duration" for usage in 0-12 year old infants and children.

Geriatric population:

There is not a special situation for use in geriatric population.

4.3 Contraindications

PULMOR 30 mg/5ml Syrup should not be used in patients with hypersensitivity to Ambroxol or bromhexine.

4.4 Special warnings and special precautions for use

• It should not be used with antitussive drugs such as codeine, which may prevent the mucus from being expectorated, and with drugs that decrease secretion such as atropine.

• Ambroxol hydrochloride should be used very carefully in patients with renal and liver diseases and peptic ulcer.

• This medicinal product should not be used in patients with rare genetic fructose intolerance.

4.5 Interaction with other medicinal products and other forms of interaction

PULMOR 30 mg/5ml Syrup has not interaction with cardiac glycosides, corticosteroids, bronchodilators, diuretics and antibiotics. However, atropine and amantadine which shows antimuscarinic effect, tricyclic antidepressants, haloperidol, antihistamines, and procainamide like other drugs (ipratropium) can lead to the accumulation of mucosal secretion by reducing sillier motility and mucociliary clearance.

Additional information on special populations

No interaction studies have been conducted on specific populations.

Pediatric population : No interaction studies have been conducted on pediatric populations.

4.6 Pregnancy and lactation

Pregnancy Category: B

Women of childbearing potential/Contraception

There is no recommendation for the use of this medication in women with childbearing potential and female who have contraception.

Pregnancy

Since there are not enough clinical studies, it can be used during the first trimester, but only in case of necessity, with benefit-risk assessment.

Lactation

Ambroxol is secreted in breast milk, therefore the drug should be use carefully.

Reproduction ability/Fertility

Experimental studies have demonstrated that the drug has not teratogenic effects. See Section 5.3. Preclinical safety data for detailed information.

4.7 Effects on ability to drive and use machines

The effect on the ability to drive and use the machine is unknown. Therefore, it should be acted according to the response of the person during the use of the medicine.

4.8 Undesirable effects

Undesirable effects listed below are classified according to frequency groupings through the following convention.

Very common (≥1/10); common (between ≥1/100 and <1/10); uncommon (between ≥1/1000 and <1/100); rare (between ≥1/10.000, and <1/1000); very rare (<1/10.000), not known (cannot be estimated with the available data).

Immune system diseases:

Uncommon: Allergic reaction (i.e. skin rash, swelling of the face, shortness of breath, itching), fever

Very rare: Anaphylactic reactions can be ended with shock

Nervous system diseases:

Uncommon: Headache

Gastrointestinal diseases:

Uncommon: Nausea, abdominal pain, vomiting, diarrhea

General disorders and diseases related to the area of administration:

Uncommon: Weakness

Investigations

Uncommon: Transient elevations in serum aminotransferase levels

4.9 Overdose

No poisoning cases have been reported until now. There is no antidote. In case of overdose, the stomach is emptied and washed and symptomatic and supportive treatment is applied.

5. PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Mucolytic, expectorant

ATC Code: R05CB06

In some respiratory tract diseases, the mucus secretion is thick and sticky, causing coughing and breathing difficulties since it prevents the excretion. Ambroxol dilutes mucus by fragmenting mucoproteins and normalizes mucus secretion. It has been shown to increase surfactant synthesis by stimulating Type II cells in the lungs. As a result, it relieves respiratory distress and reduces coughing by allowing to normal operation of sill vibrate and expectoration the sputum easily.

5.2 Pharmacokinetic properties

General properties

Ambroxol is a metabolite of bromhexine which is an expectorant effective agent.

Absorption: Ambroxol HCl is completely and rapidly absorbed after oral administration.

Distribution: It reaches maximum blood concentration within 2.5 hours when taken on an empty stomach. Therapeutic blood concentration is 30 ng/ml. During maintenance treatment, 50 ng/ml blood concentration is preserved, but not accumulated in the body. It binds 90% of plasma proteins. Ambroxol passes through the cerebrospinal fluid and placenta and is also detected in the breast milk.

Biotransformation: It is metabolized to one third in the liver by the first-pass effect. The main enzyme responsible for metabolism of the ambroxol in the liver is CYP3A4. In the meantime, kidney-derived metabolites (i.e. dibromo anthranilic acid, glucuronides) are formed.

Elimination: After extensive metabolization, it is almost completely excreted in the urine as 90% are converted to glucuronides, 10% unchanged. The half-life is about 9-10 hours. The plasma half-life of the sum of ambroxol and metabolites is about 22 hours. Significant elimination of ambroxol by dialysis or forced diuresis is not expected due to the high protein-binding ratio and high volume of distribution and slow distribution from tissue back to the blood.

Characteristics in patients

Renal failure: The elimination half-life of ambroxol metabolites elimination in severe renal dysfunction is prolonged.

Liver failure: Ambroxol clearance is reduced by 20-40% in severe liver disease.

5.3 Preclinical safety data

Acute toxicity

There was no specific sensitivity in the acute toxicity studies in experimental animals.

Chronic toxicity/subchronic toxicity

Chronic toxicity studies performed in two animal species is not shown material dependent changes.

Ambroxol has too low a toxicity index. LD_{50} values do not differ very significantly between species and genus. Any toxicological target organs have not been determined.

Mutagenicity and tumor-causing potential

Ambroxol evidence of the potential of the tumor was not observed in long-term studies conducted in experimental animals.

Detailed mutagenicity test is not performed with ambroxol. So far the studies are in progress as negative.

Reproductive toxicity

In rats and rabbits embryo-toxicity studies conducted in 3 g/kg and 200 mg/kg doses of up revealed no evidence for a teratogenic potential.

Perinatal and postnatal growth in rats was only affected at dose over 500 mg/kg.

Fertility disorders in rats were not observed at doses up to 1.5 g.

Ambroxol passes the placental barrier and is located in animal milk.

6. PHARMACEUTICAL PROPERTIES

6.1 List of excipients

Sorbitol %70 Solution (E420)

Benzoic acid,

Strawberry essence,

Purified water.

6.2 Incompatibilities

There is no data.

6.3 Shelf Life

36 months

6.4 Special precautions for storage

Store at room temperature below 25°C and protect from light. Store in the original package.

6.5 Nature and contents of container

150 mL in coloured glass bottles having with 2.5 and 5 mL scaled 15 mL cup in cartoon box.

6.6 Instructions for use and handling

Unused products or waste materials are disposed of in accordance with the "Medical Waste Control Regulation" and "Packaging and Packaging Waste Control Regulation".

7. MARKETING AUTHORIZATION HOLDER

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8. MARKETING AUTHORIZATION NUMBER

201/39 (in Turkey)

9. DATE OF FIRST AUTHORIZATION/RENEWAL OF THE AUTHORIZATION

Date of first authorization: 27.11.2002 (in Turkey)

Renewal of the authorization: 16.01.2013 (in Turkey)

10. DATE OF REVISION OF THE TEXT

23/03/2015