Summary of Product Characteristics

1 NAME OF THE MEDICINAL PRODUCT

Expudyne Rx 750 mg/5 ml oral solution

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Each 5ml of oral solution contains 750mg of carbocisteine.
Excipients with known effect
Each 5ml of oral solution contain 96.1mg (4.2mmol) of sodium.
Each 5ml of oral solution contain 7.5mg of sodium methyl parahydroxybenzoate.

For the full list of excipients, see section 6.1.

3 PHARMACEUTICAL FORM

Oral solution
Clear, amber-coloured liquid, with raspberry odour.

4 CLINICAL PARTICULARS

4.1 Therapeutic indications

Expudyne Rx 750mg/5ml oral solution is a mucolytic agent for the adjunctive therapy of respiratory tract disorders characterised by excessive and viscous mucus in adults and adolescents aged over 15 years.

4.2 Posology and method of administration

Oral route
FOR ADULTS AND ADOLESCENTS OVER 15 YEARS OF AGE ONLY. This product is suitable for patients following low-carbohydrate or low-calorie diets.

One dose of 5ml three times daily initially; if symptoms improve, the dose may be lowered to 2 times a day, i.e. total 10ml/day.
The maximum daily dose is 15ml.
Do not exceed the stated dose.

A smaller volume of this product is needed, compared to other carbocisteine products, to achieve the same recommended dose.

4.3 Contraindications

Hypersensitivity to carbocisteine or to any of the excipients listed in section 6.1.
Use in patients with known active peptic ulceration.

4.4 Special warnings and precautions for use

Special warnings
Productive coughs is a fundamental defense mechanism of the bronchopulmonary system, and as such should not be suppressed.
Combining drugs that affect bronchial secretions with cough suppressants and/or substances that dry up secretions (atropine-like agents) is not recommended.

Precautions for Use
Caution is recommended in the elderly, in patients with a history of gastroduodenal ulcers, and in those taking medicines which may cause bleeding in the stomach or intestine. If bleeding in stomach occurs, patients should discontinue medication.
This medicine contains sodium methyl para-hydroxybenzoate and may cause allergic reactions (possible delayed).

4.5 Interaction with other medicinal products and other forms of interaction

Not applicable.

4.6 Fertility, pregnancy and lactation

Pregnancy
Animal studies have not demonstrated any teratogenic effect. In the absence of a teratogenic effect in animal models, no associated malformation is anticipated in humans. To date, all substances that cause malformation in humans have proved to be teratogenic in animals in properly conducted studies in two species. No malformation or fetotoxic effects have been reported to date in clinical use. Nevertheless, there is insufficient data concerning exposure of pregnant women to carbocisteine to rule out all risks. Consequently, use of carbocisteine during pregnancy should only be contemplated where strictly necessary.

Breastfeeding
There are no available data concerning the passage of carbocisteine into breast milk. However, in view of the low toxicity of this compound, the potential risk appears negligible for infants of mothers treated with this medication. Consequently, breast-feeding may be continued.

Fertility
There is no known relevant data available on the effects of carbocisteine on fertility.

4.7 Effects on ability to drive and use machines

Expudyne Rx 750mg/5ml oral solution has no or negligible influence on the ability to drive and use machines.

4.8 Undesirable effects

- Gastrointestinal disorders (gastric pain, nausea, vomiting, and diarrhea). If these occur, the dose should be reduced.
- Gastrointestinal bleeding. Treatment should be discontinued.
- Headache
- Possibility of allergic skin reactions such as hives, angioedema, pruritus or erythematous rash.
- Some cases of fixed drug eruption have been reported.
- Isolated cases of bullous dermatoses, such as Stevens-Johnson syndrome and erythema multiforme.

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 national reporting system ADR Reporting Website: www.medicinesauthority.gov.mt/adrportal

4.9 Overdose

Not applicable.

5 PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: MUCOLYTICS - ATC code: R05CB03

(R: respiratory system)
Carbocisteine has a mucolytic effect on bronchial secretions. Due to its mucolytic effects, carbocisteine significantly reduces sputum viscosity, cough, dyspnea and fatigue. It acts upon the gel phase of mucus, probably by breaking the disulphide bonds in glycoproteins, thus facilitating expectoration.

5.2 Pharmacokinetic properties

Absorption

Orally administered carbocisteine is rapidly absorbed from the GI track; peak plasma concentrations are reached in 2 hours.

Distribution

The kinetics of the process follows a one-compartment model. Carbocisteine has affinity for lung tissue and respiratory mucus, reaching maximum concentration in the mucus at 2 hours after oral administration.

Metabolism

Bioavailability is low (less than 10% of the administered dose), probably as a result of intraluminal metabolism and a marked liver first-pass effect.

Metabolic pathways for carbocisteine include acetylation, decarboxylation, and sulfoxidation, leading to the formation of pharmacologically inactive carbocisteine derivatives. However, sulfodixation is the main metabolic pathway of carbocisteine.

Elimination

Elimination half-liferanges from 1 to 2 hours.

The plasma half-life of carbocisteine is 1.33 hours. The majority disposal occurs via the kidneys within 24 hours of administration, mainly as unchanged product (80%) or metabolites produced by acetylation and sulfoxidation decarboxylation.

A small fraction is excreted in the feces (0.3%) and pulmonary route.

Equilibrium pharmacokinetics were established in healthy volunteers following administration of carbocisteine 375 mg capsules, 2 capsules t.d.s. for seven days. The mean Tmax was 2.0 hours (range 1.0 –3.0); T½ 1.87 hours (range 1.4 – 2.5); KEL 0.387 hour-1 (range 0.28 – 0.50) and AUC0-7.5 was 39.26 mcg.hr/ml (range 26.0 – 62.4). Values for derived pharmacokinetic values were CLS 331 ml.min-1; VD 105.2 L and VD 1.4 L/Kg.

5.3 Preclinical safety data

Non-clinical data reveal no special hazard for humans based on conventional studies of safety pharmacology, repeated dose toxicity, genotoxicity, carcinogenic potential, toxicity to reproduction and development.

6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

glycerol (E 422)
hydroxyethylcellulose (E 1525)
saccharin sodium (E 954)
xanthan gum (E 145)
sodium methyl parahydroxybenzoate (E 219)
caramel powder
raspberry flavor
sodium hydroxide (E 524)
purified water

6.2 Incompatibilities

Not applicable.

6.3 Shelf life

2 years
Once opened use within one month

6.4 Special precautions for storage

Do not store above 25°C.

6.5 Nature and contents of container

100ml & 200ml amber type III glass bottles with child resistant (HDPE) screw cap and a measuring cup with 2.5 and 5 ml graduations.
Not all pack sizes may be marketed.

6.6 Special precautions for disposal

No special requirements.

7 MARKETING AUTHORISATION HOLDER

JED Pharma Limited,
Questum Business Park,
South Ballingarrane,
Clonmel,
Co Tipperary,
E91 V329,
Ireland

8 MARKETING AUTHORISATION NUMBER

PA23183/005/001

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

Date of first authorisation: 31st March 2023

10 DATE OF REVISION OF THE TEXT