TECHNICAL DATA SHEET OR SUMMARY OF PRODUCT CHARACTERISTICS

1. NAME OF THE MEDICINAL PRODUCT

Dynamogen 3 mg/1 g oral solution

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Every 10 mL drinkable ampoule contains 3 mg of Glutodine (Cyproheptadine α-ketoglutarate) and 1 g of arginine aspartate.

Excipients:
3.57 g of sucrose, 4.87 g of sorbitol (E-420) 70% solution, 0.50 mg of amaranth (E-123)

For full list of excipients, see section 6.1.

3. PHARMACEUTICAL FORM

Oral solution

Limpid viscous solution, red-fuchsia colour, raspberry odour.

4. CLINICAL PARTICULARS

4.1 Therapeutic indications

anorexia, physical or mental asthenia, prevention and symptomatic treatment of nutrient deficient states such as in convalescent periods or inadequate dietary intake.

4.2 Posology and method of administration

Posology:

Adults and adolescents
The recommended posology is 1 drinkable ampoule 3 times daily.

Paediatric population
Children aged over 2 years: 1 drinkable ampoule twice daily.

Method of administration:

Oral route

Ampoules should be administrated preferably about half an hour before the main meals.

4.3 Contraindications

- Hypersensitivity to the active substances or any of the excipients.
- Children aged under 2 years.
- Lactating women

- Pregnancy
- Asthmatic crisis
- Acute renal or hepatic insufficiency
- Patients under treatment with Monoamine oxidase inhibitors (MAOIs)
- Also contraindicated in cases of: glaucoma, prostatic hypertrophy, urinary retention, bladder neck obstruction and gastric outlet obstruction.

4.4 Special warnings and precautions for use

Prolonged therapy with some antihistamines has produced in rare cases hematic dyscrasia. The patient should be warned to immediately contact his physician in case of fever, odynophagia, hematomas, haemorrhages, or pallor.

The use of some antihistamines may mask the first signs of ototoxicity of some antibiotics.

Paediatric population

Safety and efficacy has not been determined in children under two years. Dynamogen is contraindicated for children under two years (see section 4.3 Contraindications). In children over two years, especial attention must be taken when fixing the dose due to their higher sensitivity to antihistamines.

Overdose of some antihistamines in children can produce hallucinations, CNS depression, convulsions, respiratory and heart arrest and even death.
First generation antihistamines can decrease attention capacity and, oppositely, particularly in the case of children, they can also sometimes produce excitation.

Warnings about excipients
This medicinal product contains sucrose. Patients with hereditary intolerance to fructose, glycose or galactose malabsorption, sucrase-isomaltase insufficiency, must not take this medicinal product.
This medicinal product contains 3.57 g of sucrose per 10 mL drinkable ampoule, what must be taken into account in the treatment of patients with diabetes mellitus.

This medicinal product contains sorbitol (E-420). Patients with hereditary intolerance to fructose must not take this medicinal product.

It can produce a slight laxative effect because it contains 3.41 g of sorbitol per 10 mL ampoule.

Caloric value: 2,6 Kcal/g sorbitol.

This medicine product can produce allergic reactions because it contains amaranth (E-123). It can produce asthma, especially in patients allergic to acetylsalicylic acid.

4.5 Interactions with other medicine products and other forms of interaction

Monoamine oxidase inhibitors (MAOIs) can enhance the anticholinergic effects of cyproheptadine; CNS depressants like alcohol, barbiturates, etc., can increase the sedating action and oral contraceptives and ascorbic acid can decrease cyanocobalamin levels. In addition, the preparation can decrease the antidepressant effect of serotonin reuptake inhibitors, and facilitate the solubility of analgesic and antibiotic medicinal products.

Cyproheptadine can enhance the anticholinergic effects of other anticholinergic medicine products

Dynamogén can inhibit the cutaneous response to histamine, giving rise to false negative results in tests with allergenic extracts; it can induce a biological increase in the triglyceride levels in blood

and, administered with antibiotics, it can produce the detection of falsely low vitamin B12 erythrocytary and serous levels, measured by microbiological methods.

4.6 Pregnancy and lactation

Pregnancy

Dynamogén must not be administered during pregnancy (see 4.3 Contraindications).

1st Trimester
- Studies performed on animals have not evidenced teratogenic effects
- No adequate clinical data exist currently to evaluate potential malformations or toxicity for the foetus when Dynamogén is administered during pregnancy.

2nd and 3rd Trimesters
In new-borns of mothers treated with high doses and for long periods of time with anticholinergic medicinal products, it has been observed in rare occasions digestive signs like abdominal distension.

Because cyproheptadine main antiserotonergic component can induce uterotonic effects, this medicinal product must not be administered during pregnancy (see 4.3 Contraindications).

Breastfeeding
Cyproheptadine passes to breast milk. Taking into account the possibility of sedation or paradoxical excitement in the new-born, dynamogén must not be administered during breastfeeding (see 4.3 Contraindications).

4.7 Effects on ability to drive and use machines

Dynamogén can produce drowsiness and so impair the concentration ability and reflexes, although this effect usually disappears after some days of continued administration of the medicinal product. It is therefore not advised to drive vehicles or dangerous or precision machines when under treatment with this medicinal product.

4.8 Undesirable effects

The side effects that appear frequently are drowsiness and somnolence. Many patients who initially complain of drowsiness may no longer do so after the first three to four days of continuous administration.

Side effects reported with antihistamines are:

Blood and lymphatic system disorders:

Haemolytic anaemia, leucopenia, agranulocytosis, thrombocytopenia

Immune system disorders:

Allergic manifestation of rash and oedema, anaphylactic shock

Metabolism and nutrition disorders:

Anorexia, increased appetite

Psychiatric disorders:

Confusion, restlessness, excitation, irritability, nervousness, insomnia, aggressive behaviour, hallucinations, hysteria and euphoria

Nervous system disorders:

Sedation, sleepiness (often transient), dizziness, disturbed coordination, tremor, paraesthesiae, neuritis, convulsions, faintness, headache

Eye disorders:

Blurred vision, diplopia

Ear and labyrinth disorders:

Acute labyrinthitis, tinnitus, vertigo

Cardiac disorders:

Palpitation, tachycardia, extrasystoles

Vascular disorders:

Hypotension

Respiratory, thoracic and mediastinal disorders:

Thickening of bronchial secretions, dryness of nose and throat, tightness of chest and wheezing, nasal stuffiness, epistaxis

Gastrointestinal disorder:

Dryness of mouth, epigastric distress, nausea, vomiting, diarrhoea, constipation

Hepato-biliary disorders:

Cholestasis, hepatic failure, hepatitis, hepatic function abnormality, jaundices

Skin and subcutaneous tissue disorders:

Urticaria, photosensitivity, excessive perspiration

Renal and urinary disorders:

Frequency and difficulty of micturition, urinary retention

Reproductive system and breast disorders:

Early menses

General disorders and administration site conditions:

Fatigue, rigors

4.9 Overdose

Intoxication with antihistamines produced by super-therapeutic doses, can range from central nervous system depression to stimulation of the same, especially in children, with hallucinations or convulsions; in addition, anticholinergic symptoms can appear, like mouth dryness and pupillary

dilatation, as well as gastrointestinal alterations. This toxicity is exclusively due to the cyproheptadine antihistamine-anticholinergic effects, as it is difficult that overdose with arginine produce toxicity.

Antihistamines overdose in children can produce hallucinations, CNS depression, convulsions, respiratory and heart arrest and even death (see section 4.4 Special warnings and precautions for use)

In case of intoxication, treatment is symptomatic and of maintenance. Vomit will be induced or gastric lavage with saline serum will be performed. Saline cathartics are also useful (e.g., magnesia milk). In case of hypotension, some vasopressor must be administrated.

5. PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Appetite stimulants. Code ATC:A15AA

Dynamogén possesses as fundamental characteristic its orexigenic and tonic revitalising action. For this it is necessary the action of two substances able of fighting physical and mental asthenia and lack of appetite: glutodine (cyproheptadine α-ketoglutarate) and arginine aspartate.

Cyproheptadine is a first generation H1 antiserotoninergic-antihistamine, characterised by:
- a prominent sedating effect through blockage of the central H1 receptors.
- a peripheral and central anticholinergic effect that produces typical undesirable effects like mouth dryness.
- an adrenolytic effect that can affect at the haemodynamic level (risk of orthostatic hypotension).
- a central antiserotoninergic effect responsible for the appetite stimulating activity.

Cyproheptadine is a medicine that indistinctly and with similar power blocks serotonin action on 5-HT2A receptors and histamine action on H1 receptors. It is not exempt of anticholinergic action by blockage of muscarinic receptors.

Arginine aspartate is a dipeptide constituted by the union of two amino acids whose activity is of fundamental importance for cellular metabolism.

They operate in all the situations in which an antiammonemic detoxing action, a supplementary dietetic intake of quick assimilation amino acids, a stimulation of the eutrophic metabolic process and an improvement of the physical and psychical performance are needed.

At proper doses, arginine aspartate promotes protein anabolism, carrying out an important hepatoprotective and psychotropic activity

5.2 Pharmacokinetic properties

Cyproheptadine is well absorbed after oral administration with a Tmax of 6-9 hours, its effects persist about 8 hours, its biotransformation mainly takes place at a hepatic level, and to a lesser extent at a renal level, and its elimination in the 24 hours after administration is mainly renal, and to a lesser extent faecal as conjugated metabolites.

Arginine aspartate is quickly absorbed and increases plasmatic concentration of both amino acids.

Absolute biodisponibility is 0.49 for arginine and 0.24 for aspartic acid, with a terminal half-life of 15 minutes. Both components are widely distributed in the tissues. The fixation to organs is particularly evident in liver, testicles and brain.

5.3 Preclinical safety data

Oral LD50 for cyproheptadine is 123 mg/kg and 295 mg/kg in mouse and rat, respectively.

Cyproheptadine has shown to be embryotoxic in rats when administered by intraperitoneal way at doses 4 times higher than the maximal oral dose recommended in humans.

6. PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Sucrose,
Sorbitol (E-420) (solution at 70%),
Sorbate potassium (E-202),
Raspberry flavour,
Amaranth dye (E-123),
Hydrochloric acid,
Water purified.

6.2 Incompatibilities

Not applicable

6.3 Shelf life

5 years

6.4 Special precautions for storage

Store below 25ºC.

6.5 Nature and contents of container

Dynamogén is supplied in a box with 20 drinkable ampoules of 10 mL.

6.6 Special precautions for disposal and other manipulations

No special requirements.

7. MARKETING AUTHORIZATION HOLDER

FAES FARMA S.A.
Máximo Aguirre, 14
48940 Leioa

8. MARKETING AUTHORISATION NUMBER

53.715

9. DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

Date of first authorisation: 20 May 1977

Date of latest renewal: 28 February 2007

10. DATE OF REVISION OF THE TEXT

27/06/2017