SUMMARY OF PRODUCT CHARACTERISTICS

1. NAME OF THE MEDICINAL PRODUCT

FORTIGEN syrup

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Cyproheptadine HCL ……2.0 mg
Vitamin B2 ……..…….0.5 mg
Vitamin B6 ……0.5 mg
Vitamin B1 ……...1.0 mg
Nicotinamide ……...10.0 mg
Vitamin B12……1.0 mcg
Per 5 ml

Excipients with known effects: sucrose, sodium methylparaben, sodium propylparaben, sorbitol.

For the full list of excipients, see section 6.1.

3. PHARMACEUTICAL FORM

Oral syrup

4. CLINICAL PARTICULARS

4.1. Therapeutic indications

FORTIGEN syrup is indicated as an appetite stimulant.

4.2. Posology and method of administration

Posology

The posology must be individualized according to the patient's needs and reactions.
For your information:
Children
2 to 6 years: 1/2 (2.5 ml) to 1 teaspoon (5 ml) two or three times a day.
7 to 14 years: 2 teaspoons (10 ml) two or three times a day
Teenagers and adults
2 teaspoons (10 ml) 3 times a day, or as directed by the doctor.

Method of administration
Oral route

Replace the cap tightly immediately after each use.

4.3. Contraindications

Contraindicated in patients known to be hypersensitive to any of its components and in patients suffering from hypervitaminosis.
This medication should not be used in newborns or premature infants, nor in children under 2 years of age. Due to the increased risk of adverse effects from antihistamines in infants in general, and in newborns and premature babies in particular, antihistamine treatment is contraindicated in breastfeeding mothers.

Contraindicated in cases
- Hypersensitivity to cyproheptadine HCl and other drugs with a similar chemical structure
- Treatment with monoamine oxidase (MAO) inhibitors
- Closed-angle glaucoma - Stenosing peptic ulcer - Symptomatic prostatic hypertrophy - Bladder neck obstruction
- Pyloroduodenal obstruction
- In elderly and debilitated individuals

4.4. Special warnings and precautions for use

Related to Cyproheptadine
Cyproheptadine HCL has an action similar to atropine and, therefore, should be used with caution in patients with:

- a history of bronchial asthma
- increased intraocular pressure - hyperthyroidism - cardiovascular disease - hypertension
- kidney failure

In pediatric patients
An overdose of antihistamines, particularly in infants and young children, can produce hallucinations, central nervous system depression, seizures, cardiac and respiratory arrest, and death. Antihistamines can decrease alertness; conversely, especially in young children, they can sometimes produce agitation.

CNS depressants
Antihistamines may have cumulative effects with alcohol and other CNS depressants, e.g. hypnotics, sedatives, tranquilizers and anti-anxiety agents.

Activities requiring vigilance
Patients should avoid activities requiring alertness and motor coordination, such as driving a car or operating machinery. Antihistamines may cause dizziness, sedation, and hypotension in elderly patients (see Warnings and Precautions, Geriatric Use).

related to Vitamins B1, B2, B6, B3 and B12
Multivitamins are not recommended for treating severe specific vitamin and mineral deficiencies. In such cases, the underlying cause should be identified and corrected if possible.

Vitamin intake should be accompanied by a complete diet, including daily protein and energy intake. No other vitamins, minerals, or dietary supplements, with or without vitamin A, should be taken with this preparation except under medical supervision.

Biological tests
Cyproheptadine reduced hypoglycemia-induced growth hormone secretion by 5 to 97% in healthy subjects.

Therefore, it is suggested that if a patient receiving cyproheptadine is going to undergo a pituitary function test using the growth hormone response to insulin-induced hypoglycemia, cyproheptadine therapy should be stopped before the test.

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

MAO inhibitors prolong and intensify the anticholinergic effects of antihistamines. Antihistamines can have additive effects with alcohol and other central nervous system (CNS) depressants, for example, hypnotics, sedatives, tranquilizers, and anti-anxiety agents.

4.6. Pregnancy and breastfeeding

Category B Pregnancy

Reproductive studies have been conducted in rabbits, mice, and rats with oral or subcutaneous doses up to 32 times the maximum recommended human oral dose. The results showed no decrease in fertility or adverse effects on the fetus due to cyproheptadine HCl. Cyproheptadine HCl was found to be fetotoxic in rats when administered by intraperitoneal injection at doses four times the maximum recommended human oral dose. Two studies in pregnant women, however, did not show that cyproheptadine hydrochloride increases the risk of abnormalities when administered during the first, second, and third trimesters of pregnancy. No teratogenic effects were observed in newborns. Nevertheless, since studies in humans cannot rule out the possibility of harm, cyproheptadine HCl should be used during pregnancy only when clearly needed.

Breastfeeding
It is currently impossible to know whether this drug is excreted in human milk. Since many drugs are excreted in breast milk, and because of the risk of serious adverse reactions in infants who ingest cyproheptadine HCl, a decision should be made to either discontinue breastfeeding or stop the medication, taking into account the degree of need for the medication for the mother (see contraindications).

4.7. Effects on the ability to drive vehicles and use machinery

Patients should avoid activities requiring alertness and motor coordination, such as driving a car or operating machinery. Antihistamines may cause dizziness, sedation, and hypotension.

4.8. Undersirable effects

Multivitamins are generally well tolerated by the body. Sometimes reactions can occur, but these disappear quickly with continued and regular use.

The following are the adverse effects that have been reported with the use of antihistamines:

Central nervous system
Sedation and drowsiness (often transient), dizziness, impaired coordination, confusion, agitation, excitement, nervousness, tremors, irritability, insomnia, paresthesia, neuritis, convulsions, euphoria, hallucinations, hysteria and fainting.

Integumentary
Allergic reaction with rash and swelling, excessive sweating, hives and photosensitivity.

Sensory disturbances
Acute labyrinthitis, blurred vision, diplopia, vertigo and tinnitus.

Cardiovascular
Hypotension, palpitations, tachycardia, extrasystoles and anaphylactic shock.

Hematology
Hemolytic anemia, leukopenia, agranulocytosis and thrombocytopenia.

Digestive system
Cholestasis, liver failure, hepatitis, abnormal liver function, dry mouth, epigastric pain, anorexia, nausea, vomiting, diarrhea, constipation and jaundice.

Genitourinary
Urinary frequency, difficulty urinating, urinary retention, onset of menstruation.

Respiratory
Dryness of the nose and throat, thickening of bronchial secretions, chest tightness, wheezing and nasal congestion.

Miscellaneous
Fatigue, chills, headaches, increased appetite and weight gain.

Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorization of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Healthcare professionals should report any suspected adverse reactions using the FRILAB reporting form available under the pharmacovigilance tab of the website: www.frilab.ch

4.9. Overdose

Reactions to antihistamine overdose can range from CNS depression to stimulation, especially in pediatric patients. In addition, atropine-like signs and symptoms (dry mouth, fixed and dilated pupils, hot flashes, etc.) as well as gastrointestinal symptoms may occur.

If vomiting has not occurred spontaneously , the patient should be induced to vomit with ipecac syrup.

If the patient is unable to vomit , perform gastric lavage followed by activated charcoal. Isotonic or semi-isotonic saline may be a suitable lavage option. Precautions against aspiration should be taken, particularly in infants and children.

In cases of life-threatening signs and symptoms of central nervous system dysfunction, intravenous physostigmine salicylate may be considered. Dosage and frequency of administration depend on age, clinical response, and recurrence after response.

Saline cathartics, such as milk of magnesia, draw water from the intestine by osmosis and, consequently, are useful for their action in the rapid dilution of the contents of the intestine.

Stimulants should not be used.

Vasopressors can be used to treat hypotension.

The oral LD50 of cyproheptadine hydrochloride is 123 mg/kg and 295 mg/kg in mice and rats, respectively.

Information related to vitamin overdose is not available.

5. PHARMACOLOGICAL PROPERTIES

5.1. Pharmacodynamic properties

Pharmacotherapeutic class : appetite stimulant , code ATC : A15 (Cyproheptadine R06AX) .

Cyproheptadine
Cyproheptadine hydrochloride (HCl) is a serotonin and histamine antagonist with anticholinergic and sedative effects. The anti-serotonin and antihistamine effects appear to compete with serotonin and histamine, respectively, at receptor sites.
Vitamin $_{B2}$ (Riboflavin)
Riboflavin is phosphorylated to flavin mononucleotide (FMN) and flavin adenine dinucleotide (FAD), which act as coenzymes in the respiratory chain and in oxidative phosphorylation. Riboflavin deficiency leads to ocular symptoms, as well as lesions on the lips and corners of the mouth.
Vitamin $_{B6}$ (Pyridoxine)
Once absorbed, pyridoxine is rapidly converted into coenzymes, pyridoxal phosphate and pyridoxamine phosphate, which play a crucial role in protein metabolism. Seizures and hypochromic anemia have been observed in infants with pyridoxine deficiency.
Vitamin $_{B1}$ (Thiamine)
Thiamine (as a coenzyme, thiamine pyrophosphate) is involved in carbohydrate metabolism. Thiamine pyrophosphate also acts as a coenzyme in the direct oxidation pathway of glucose metabolism. In cases of thiamine deficiency, pyruvate and lactic acid accumulate in tissues. The pyruvate ion is involved in the biosynthesis of acetylcholine, through its conversion to acetyl-coenzyme A via a thiamine-dependent process. Therefore, thiamine deficiency can have consequences for the central nervous system. This can result either from its effect on acetylcholine synthesis or from the accumulation of lactate and pyruvate. Thiamine deficiency leads to fatigue, anorexia, gastrointestinal disturbances, tachycardia, irritability, and neurological symptoms. A significant deficiency in thiamine (and other components of the vitamin B group) can cause beriberi disease.
Vitamin B3 (Niacin/Nicotinamide):
The biochemical functions of nicotinamide, such as nicotinamide adenine dinucleotide (NAD) and nicotinamide adenine dinucleotide phosphate (NADP), include the breakdown and synthesis of fatty acids, carbohydrates, and amino acids, as well as hydrogen transfer. A deficiency can lead to pellagra and neurological and mental changes.
Vitamin B12 (Cyanocobalamin):
Vitamin B12 is present in the body primarily as methylcobalamin, adenosylcobalamin, and hydroxocobalamin. These act as coenzymes in the trans methylation of homocysteine to methionine; in the isomerization of the coenzyme methylmalonyl to succinyl coenzyme; and in the isomerization of folate in several metabolic pathways, respectively. Vitamin B12 deficiency interferes with hemopoiesis and produces megaloblastic anemia .

5.2. Pharmacokinetic properties

Cyproheptadine
Following a single 4 mg oral dose of cyproheptadine hydrochloride (labeled 14C) administered as tablets to healthy subjects, 2 to 20% of the radioactivity is excreted in the feces. Only about 34% of the radioactivity in the feces is in unchanged form, corresponding to less than 5.7% of the dose. At least 40% of the administered radioactivity is excreted in the urine. No unchanged substance is detected in the urine of patients receiving continuous daily doses of 12 to 20 mg. The principal metabolite found in human urine has been identified as a quaternary ammonium glucuronide conjugate of cyproheptadine hydrochloride. Elimination is reduced in cases of renal impairment.

Vitamin $_{B2}$ (Riboflavin)
Riboflavin is absorbed from the gastrointestinal tract and, in the bloodstream, is bound to plasma proteins. It is widely distributed. Small amounts are stored, and excess is excreted in the urine. In the body, riboflavin is converted to FMN and then to DAF.

Vitamin $_{B6}$ (Pyridoxine)
Pyridoxine is absorbed from the gastrointestinal tract and converted into active pyridoxal phosphate, which is bound to plasma proteins. It is excreted in the urine as 4-pyridoxic acid.

Vitamin B1 (Thiamine)
Thiamine is absorbed by the gastrointestinal tract and is widely distributed throughout most of the body's tissues. Amounts exceeding the body's needs are not stored but excreted in the urine as unchanged thiamine or its metabolites.

Vitamin B3 (Niacin/Nicotinamide)
Nicotinic acid is absorbed from the gastrointestinal tract, is widely distributed in the body's tissues, and has a short half-life.

Vitamin B12 (Cyanocobalamin)
Cyanocobalamin is absorbed from the gastrointestinal tract and is highly bound to specific plasma proteins. A study

with labeled vitamin B12 showed that it was rapidly taken up by the intestinal mucosa and remained there for 2–3 hours. Peak concentrations in the blood and tissues occurred only 8–12 hours after administration, with peak concentrations in the liver within 24 hours. Cobalamins are stored in the liver, excreted in the bile, and undergo enterohepatic recycling. A portion of the dose is excreted in the urine, most of it within the first 8 hours.

5.3. Preclinical safety data

Not applicable

6. PHARMACEUTICAL PARTICULARS

6.1. List of excipients

Sucrose, Sodium Methylparaben, Sodium Propylparaben, Sorbitol 70%, Sodium Hydroxide, Bronopol, Glycerin, Citric Acid, Mixed Fruit Flavor 1038, Propylene Glycol

6.2. Incompatibilities

Not applicable

6.3. Shelf life

24 months

6.4. Special precautions for storage

Store at a temperature below 30°C and away from light.

6.5. Nature and contents of container

120 ml PET bottle with measuring scoop

6.6. Special precautions for disposal and handling

Any unused medicinal product or waste material should be disposed of in accordance with local regulations.

7. HOLDER, OPERATOR AND MANUFACTURERS

Holder and operator of the marketing authorization
FRILAB SA
17, rue des Pierres du Niton
1207 Geneva SWITZERLAND

Manufacturer
Athena Drug Delivery Solutions Pvt. Ltd.
Made by
Sanpras Healthcare Pvt. Ltd.
At: Plot No.- 81, STICE, Musalgaon, Tal. Sinnar, District Nashik, 422 112 Maharashtra State, India

8. DATE OF REVISION OF THE TEXT

May 30, 2024

9. DOSIMETRY

Not applicable.

CONDITIONS FOR PRESCRIPTION AND DISPENSING

This medication is not subject to medical prescription.