

**PACKAGE LEAFLET**  
**for medical use of the medicinal product**

**PYRIDOXINE-DARNITSA (VITAMIN B<sub>6</sub>-DARNITSA)**

***Qualitative and quantitative composition:***

*active substance:* pyridoxine hydrochloride;

1 ml of solution contains 50 mg of pyridoxine hydrochloride;

*List of excipients:* disodium edetate, water for injections.

**Pharmaceutical form.** Solution for injection.

*Main physical and chemical properties:* clear colorless or slightly colored liquid.

**Pharmacotherapeutic group.**

Other plain vitamin preparations. Pyridoxine. ATC Code: A11H A02.

***Pharmacological properties.***

*Pharmacodynamic properties.*

Pyridoxine hydrochloride (vitamin B<sub>6</sub>) is found in plants and animal organs, especially in raw cereal grains, vegetables, meat, fish, milk, cod and cattle liver, and egg yolk. Yeasts are quite rich in vitamin B<sub>6</sub>. The need for vitamin B<sub>6</sub> is filled by food; it is also partially synthesized by the intestinal microflora.

It plays an important role in metabolism, necessary for the normal functioning of the central and peripheral nervous system, and is involved in the synthesis of neurotransmitters. In phosphorylated form it provides the processes of decarboxylation, transamination, deamination of amino acids, participates in the synthesis of protein, enzymes, hemoglobin, prostaglandins, metabolism of serotonin, catecholamines, glutamic acid, GABA, histamine, improves the use of unsaturated fats, decreases cholesterol and lipid levels in blood improves myocardial contractility, promotes the conversion of folic acid into its active form, stimulates hematopoiesis. Vitamin B<sub>6</sub> improves lipid metabolism in atherosclerosis.

Pyridoxine in atherosclerosis and diabetes reduces the content of glycosylated hemoglobin, in addition, pyridoxine acts as a diuretic: it aids in lowering of high blood pressure.

Pyridoxine has been shown to have a positive effect on the production of norepinephrine and serotonin, increasing their production in depression, which is associated with its participation as a cofactor of DOPA decarboxylase in the synthesis of catecholamines.

Pyridoxine may prolong clotting time and inhibit platelet aggregation due to the binding of pyridoxal phosphate to fibrinogen and to specific amino groups on the platelet surface.

*Pharmacokinetic properties.*

It is metabolized in the liver with the formation of pharmacologically active metabolites (pyridoxal phosphate and pyridoxaminophosphate). Pyridoxal phosphate is 90% bound to plasma proteins. It penetrates well into all tissues. It accumulates mainly in the liver, less in the muscles and central nervous system (CNS). It penetrates through the placenta, excreted in breast milk. The half-life (T<sub>1/2</sub>) is 15 – 20 days. It is excreted by kidneys (with bile (2%) following intravenous administration, and during hemodialysis.

## **Clinical particulars.**

### ***Therapeutic indications.***

Hypo- and avitaminosis of vitamin B<sub>6</sub>. Comprehensive treatment of toxicosis of pregnant women, atherosclerosis, anemia (including sideroblastic), leukopenia, diseases of the nervous system (radiculitis, neuritis, neuralgia, parkinsonism, Little's disease), involutional depression, seborrheic and nonseborrheic dermatitis, herpes zoster, neurodermatitis, psoriasis, exudative diathesis, withdrawal from drunkenness and hangover syndrome. It is also prescribed for motion sickness, Meniere's disease. Pyridoxine hydrochloride prevents or reduces toxic effects (in particular, polyneuritis) during treatment with antituberculosis medicinal products. Treatment of pyridoxine-dependent seizures.

### ***Contraindications.***

Hypersensitivity to the components of the medicinal product. Gastric ulcer and duodenal ulcer (due to possible increase in acidity of gastric juice). Liver diseases that proceed with severe functional insufficiency. Ischemic heart disease.

### ***Interaction with other medicinal products and other forms of interaction.***

*Diuretics*: when used in combination with pyridoxine, the effect of diuretics is enhanced.

*Hormonal contraceptives, cycloserine, penicillamine, isoniazid, hydralazine sulfate, ethionamide, immunosuppressants*: when used in combination with pyridoxine weakens the effect of the latter.

*Hypnotics and sedatives*: when used in combination with pyridoxine reduces the hypnotic effect.

*Antiparkinsonian medicinal products*: when used in combination with pyridoxine, the effectiveness of the medicinal products for the treatment of Parkinson's disease decreases.

*Phenytoin*: when used in combination with pyridoxine, the effect of phenytoin is weakened.

*Corticosteroids*: when used in combination with pyridoxine, the amount of vitamin B<sub>6</sub> in the body decreases.

*Glutamic acid, asparcam*: when used in combination with pyridoxine increases resistance to hypoxia.

*Cardiac glycosides*: when used in combination with pyridoxine increases the synthesis of contractile proteins in the myocardium.

*Tricyclic antidepressants*: when used in combination with pyridoxine, the latter eliminates the side effects of tricyclic antidepressants associated with their anticholinergic activity (dry mouth, urinary retention).

*Chloramphenicol medicinal products with resorptive action*: when used in combination with pyridoxine the last warns of the ophthalmologic complications arising at long use of drugs of chloramphenicol of resorptive action (syntomycin, chloramphenicol).

### ***Special warnings and precautions for use.***

Use with caution in patients with a history of gastric and duodenal ulcers (due to possible increased acidity of gastric juice), with functional liver failure (pyridoxine in large doses may impair its function).

Pyridoxine metabolism is disturbed in case of regular alcohol consumption.

May lead to a false-positive urobilinogen test using Ehrlich's reagent.

### ***Fertility, pregnancy and lactation.***

The medicinal product is prescribed during pregnancy in toxicosis and vomiting in pregnant women. When prescribing the medicinal product during breastfeeding may inhibit lactation.

### ***Effects on ability to drive and use machines.***

Caution should be exercised when driving and operating complex machinery due to the possibility of nervous system adverse effects developing.

### ***Posology and method of administration.***

Pyridoxine-Darnitsa should be administered intramuscularly, intravenously or subcutaneously in

cases where oral administration is not possible.

The course of treatment is individual and is determined by the type and severity of the disease. Prepare the solution immediately before use; dilute a single dose of the medicinal product in 1 – 2 ml of water for injections or 0.9% sodium chloride solution.

#### Adults.

*Hypovitaminosis B<sub>6</sub>*: the medicinal product is prescribed in a daily dose of 50 – 100 mg (1 – 2 ml) for 1 – 2 injections. The course of treatment is 3 – 4 weeks.

*Sideroblastic anemia*: the medicinal product is administered intramuscularly in a daily dose of 100 mg (2 ml) 2 times per week. At the same time, it is recommended to take folic acid, riboflavin, vitamin B<sub>12</sub>).

*Depressions of involutional age*: the medicinal product is administered intramuscularly at a dose of 200 mg (4 ml) per day. The course of treatment is 20 – 25 injections.

*The use of the medicinal products of the isoniazid group*: the medicinal product is prescribed in a daily dose of 5 – 10 mg (0.1 – 2 ml) throughout the course of isoniazid treatment.

*Overdose of the medicinal products from the isoniazid group*: for every 1 g of overdose inject 1 g (20 ml) of pyridoxine intravenously at a rate of 0.5 g/min. In case of isoniazid overdose, more than 10 g of pyridoxine is administered intravenously at a dose of 4 g (80 ml), and then to intramuscularly by 1 g (20 ml) of the medicinal products every 30 minutes. The total daily dose is 70 – 350 mg/kg.

*Toxicosis of pregnant women*: the medicinal product is administered intramuscularly at a dose of 50 mg (1 mL) per day. The course of treatment is 10 – 20 injections.

*Pyridoxine-dependent anemia (macrocytic, hypochromic with increased iron levels in blood plasma)*: the medicinal product is prescribed in a daily dose of 50 – 200 mg (1 – 4 ml). The course of treatment is 1 – 2 months. If there is no effect, one should switch to another type of therapy.

*Pyridoxine-dependent syndrome, including pyridoxine-dependent seizures*: the medicinal product is administered intravenously or intramuscularly at a dose of 50 – 500 mg (1 – 10 ml) per day. Intravenously administered at a rate of 50 mg/min The course of treatment is 3 – 4 weeks.

*Parkinsonism*: the medicinal product is administered intramuscularly at a dose of 100 mg (2 ml) per day. The course of treatment is 20 – 25 days. The second course is prescribed after 2 – 3 months. According to another treatment regimen: The medicinal product is administered intramuscularly in an initial daily dose of 50 – 100 mg (1 – 2 ml), and then the dose should be daily increased by 50 mg (1 ml) up to 300 – 400 mg (6 – 8 ml) once a day. Treatment is carried out in courses of 12 – 15 days.

*Other indications*: the medicinal product is prescribed in a daily dose of 50-100 mg (1 – 2 ml) for 1 – 2 injections.

#### Children.

*Hypovitaminosis B<sub>6</sub>*: the dose of the medicinal product is prescribed by the doctor individually at the rate of 1 – 2 mg/kg of body weight per day. The course of treatment is 2 weeks.

*Pyridoxine-dependent seizures*: the medicinal product is administered intramuscularly or intravenously at a dose of 50 – 100 mg (1 – 2 ml) per day. Intravenously administered at a rate of 50 mg/min. Maximum doses for children have not been established.

*Overdose of the medicinal products from the isoniazid group*: Inject 1 g (20 ml) of pyridoxine intravenously for every 1 g of overdose. If the dose of isoniazid is unknown, pyridoxine should be administered at a rate of 70 mg/kg body weight. The maximum dose is 5 g (100 ml).

#### *Children.*

The medicinal product can be used in pediatric practice. It should be injected intramuscularly and intravenously. Doses and mode of administration depend on the pathology (see section "Posology and method of administration").

#### **Overdose.**

*Symptoms*: increased adverse effects; protein, carbohydrates and lipids metabolism disorders; degenerative changes in the central nervous system (peripheral neuropathy) and parenchymal organs (metabolic disorders associated with a significant decrease in the activity of nicotinamide coenzymes NAD and NADP and nicotinic acid deficiency). Symptoms of peripheral neuropathy:

hyperparesthesia, paresthesia, muscle weakness. Sensory neuropathies with progressive gait disturbances, numbness and tingling in the legs and arms, partial alopecia, decreased body resistance to infections, and decreased activity of the anticoagulant blood system may occur. Following the long-term use in large doses, hypervitaminosis B<sub>6</sub> is developed, which is characterized by a sharp decrease in protein content in muscle tissue and internal organs. In the early stages of hypervitaminosis B<sub>6</sub>, skin rashes, dizziness, and convulsions may occur. Following the withdrawal of the medicinal product, these symptoms disappear.

*Treatment.* Withdrawal of the medicinal product, symptomatic treatment.

***Undesirable effects.***

When using the medicinal product, the following adverse effects are possible:

*Cardiac disorders:* tachycardia, cardiac pain;

*Nervous system disorders:* headache, dizziness, drowsiness, agitation, discoordination, paresthesia, numbness in the extremities, the appearance of a feeling of compression in the extremities, a gloves and stocking symptom, loss of consciousness and the development of seizures following rapid intravenous administration;

*Respiratory, thoracic and mediastinal disorders:* labored respiration;

*Gastrointestinal disorders:* nausea, epigastric pain, heartburn, increased gastric secretion;

*Metabolism and nutrition disorders:* reduction of folic acid levels;

*Immune system, skin and subcutaneous tissue disorders:* hypersensitivity reactions, including anaphylactic shock, urticaria, rash, pruritus, skin redness, dermatitis, angioedema, photosensitization;

*Reproductive system and breast disorders:* inhibition of lactation in the lactogenic period;

*Administration site conditions:* changes at the injection site, including redness, itching, burning at the injection site;

*General disorders:* weakness, fever.

***Shelf life.***

3 years.

**Special precautions for storage.**

Store in the original package at a temperature below 25°C. Do not freeze.

Keep out of the reach of children.

***Incompatibilities.***

Do not mix pyridoxine solution in one syringe with thiamine solution (vitamin B<sub>1</sub>), cyanocobalamin solution (vitamin B<sub>12</sub>), alkaline solutions, iron salts, and oxidant solutions. Pyridoxine injections should preferably be given no earlier than 12 hours after thiamine injection. It is not recommended to mix in one infusion system or in one syringe with following medicinal products: adrenomimetics, ampicillin sodium, amphotericin B, ascorbic acid, other B vitamins, phytomenadione, dipyridamole, sodium oxyferriscarbon, phenothiazine derivatives (chlorpromazine), furosemide, ethamsilate, euphylline.

**Nature and contents of container.**

1 ml per ampoule; 10 ampoules in a blister container; 1 blister containers in a pack.

**Category of release.**

Prescription only medicine.

**Manufacturer**

PrJSC "Pharmaceutical firm "Darnitsa".

**The manufacturer's location and address of the place of business**

13, Boryspilska Street, Kyiv, 02093, Ukraine.

**Date of last revision.**

10.11.2016