**ARGIDON**

**Instructions**

**on medical use of the drug**

**Trade name of the drug:** Argidon.

**INN:** Arginine hydrochloride.

**Dosage form:** Solution for infusion, for intravenous administration.

**Composition:** *1 ml of solution contains:*

*active substance:* arginine hydrochloride 42 mg;

*excipient:* water for injection.

**Description:** clear, colorless or slightly yellowish-brown liquid;

pH 5.0–6.5.

**Pharmaco-therapeutic group:**

Additional solutions for intravenous administration. Amino acids. Arginine.

hydrochloride

**ATX code** : B05XB01.

**Pharmacological properties:**

*Pharmacodynamics:*

Arginine (α- amino -δ- guanidinovaleric acid) is an amino acid that belongs to class of conditionally essential amino acids and is active and versatile cellular regulator of numerous vital functions of the body, exhibits protective effects that are important in a critical condition of the body. The drug exhibits antihypoxic, membrane stabilizing, cytoprotective, antioxidant, antiradical, detoxification activity, manifests itself as active regulator of intermediate metabolism and energy supply processes, plays a certain role in maintaining hormonal balance in the body. It is known that arginine increases the blood levels of insulin, glucagon, somatotropic hormone and prolactin, takes part in the synthesis of proline, polyamine, agmatine, is included in processes of fibrinogenolysis, spermatogenesis, exhibits membrane depolarizing action.

Arginine is one of the main substrates in the urea synthesis cycle in the liver.

The hypoammonemic effect of the drug is realized by activating the conversion ammonia into urea. Exhibits a hepatoprotective effect due to antioxidant, antihypoxic and membrane-stabilizing activity, has a positive effect on processes of energy supply in hepatocytes.

Arginine is a substrate for NO synthase , an enzyme that catalyzes the synthesis of nitric oxide in endothelial cells. The drug activates guanylate cyclase and increases the level cyclical guanosine monophosphate (cGMP) in the vascular endothelium, reduces activation and adhesion of leukocytes and platelets to the vascular endothelium, suppresses protein synthesis adhesion of VCAM-1 and MCP-1, thus preventing the formation and development atherosclerotic plaques, suppresses the synthesis of endothelin-1, which is powerful vasoconstrictor and stimulator of proliferation and migration of smooth tissues myocytes vascular wall. Arginine also suppresses the synthesis of asymmetric dimethylarginine – a powerful endogenous stimulator of oxidative stress. A drug stimulates the activity of the thymus gland, which produces T cells, regulates blood glucose levels during exercise. Has an acid-forming effect action and helps correct acid-base balance.

*Pharmacokinetics:*

With continuous intravenous infusion, the maximum concentration of arginine hydrochloride in the blood plasma is observed 20–30 minutes after the start of administration. A drug penetrates the placental barrier, is filtered in the renal glomeruli, however almost completely reabsorbed in the renal tubules.

**Indications for use***:*

- metabolic alkalosis;
- hyperammonemia;
- atherosclerosis of the vessels of the heart and brain, atherosclerosis of peripheral vessels, including manifestations of intermittent claudication;
- diabetic angiopathy;
- arterial hypertension;
- chronic heart failure;
- hypercholesterolemia;
- chronic obstructive pulmonary diseases, pulmonary hypertension;

- fetal growth retardation and preeclampsia as part of complex therapy.

**Directions for use and dosage:**

The drug is administered intravenously at a rate of 10 drops per minute for the first 10–15 minutes, then the rate of administration can be increased to 30 drops per minute.

The daily dose of the drug is 100 ml of solution. 100 ml contains 20 mmol arginine and 20 mmol chlorides.

In case of severe circulatory disorders in the central and peripheral vessels, with pronounced phenomena of intoxication, hypoxia, asthenic conditions, dose of the drug can be increased to 200 ml per day.

The maximum rate of administration of the infusion solution should not exceed 20 mmol /hour.

For the treatment of metabolic alkalosis, the dose can be calculated as follows:

$$\frac{\text{arginine hydrochloride (mmol)}}{\text{excess alkalis (Be) ( mmol /l)}} \times 0.3 \times \text{body weight (kg)}$$

Administration should begin with half the calculated dose. Possible additional correction should be carried out after receiving the results of the updated acid-base balance.

**Side effects:**

*General disorders:* hyperthermia, feeling of heat, body aches.

*From the musculoskeletal system:* joint pain.

*From the digestive tract:* dry mouth, nausea, vomiting.

*From the skin and subcutaneous tissue:* changes at the injection site, including hyperemia, itching sensation, pale skin up to acrocyanosis.

*From the immune system:* anaphylactic shock, hypersensitivity reactions, including rashes, urticaria, angioedema.

*From the respiratory system, chest and mediastinum:* shortness of breath.

*From the cardiovascular system:* fluctuations in blood pressure,

changes in heart rate, pain in the heart area.

*From the nervous system:* headache, dizziness, feeling of fear, weakness,

convulsions, tremors, more often when the recommended rate of administration is exceeded.

*Laboratory indicators:* hyperkalemia.

**Contraindications:**

- hypersensitivity to the drug and a history of allergic reactions;

- severe renal dysfunction;

- hyperchloremic acidosis;

- the use of potassium-sparing diuretics, as well as spironolactone;

- myocardial infarction (including history).

**Drug interactions:**

When using the drug, it is necessary to take into account that it can cause

severe and persistent hyperkalemia against the background of renal failure in patients,

who are taking or have taken spironolactone. Preliminary application

potassium-sparing diuretics may also help increase levels

blood potassium concentration. When used simultaneously with aminophylline, it is possible

increase in insulin levels in the blood. Arginine is incompatible with thiopental.

*Incompatibility:* The drug is incompatible with thiopental.

**Special instructions:**

In patients with renal impairment, the

diuresis and plasma potassium levels, since the drug may contribute to the development

hyperkalemia.

The drug is used with caution in cases of dysfunction of the endocrine glands.

Argidone can stimulate the secretion of insulin and growth hormone.

If you experience a feeling of dry mouth, you should check your blood sugar levels.

Should be used with caution in cases of electrolyte imbalance or illness.

kidney

If symptoms of asthenia increase while taking the drug, treatment should be discontinued.

The drug is used with caution in patients with angina pectoris.

**Use during pregnancy or breastfeeding:**

The drug crosses the placenta, so it can be used during pregnancy

only when the expected benefit to the mother outweighs the potential risk to the fetus.

There are no data regarding the use of the drug during breastfeeding.

**Children:**

The drug is used for children aged 3 years and older.

**The ability to influence reaction speed when driving or with others**

**mechanisms:**

When driving a vehicle or operating other machinery, you should:

use caution as the drug may cause dizziness.

**Overdose:**

*Symptoms:* renal failure, hypoglycemia, metabolic acidosis.

*Treatment:* In case of overdose, the drug infusion must be stopped. Should

monitor physiological responses and maintain vital functions

body. If necessary, introduce alkalizing agents and agents for

establishing diuresis (saluretics), electrolyte solutions (0.9% sodium chloride solution),

5% glucose solution. Therapy is symptomatic.

**Release form:**

100 ml in bottle No 1 per package.

**Storage conditions:**

Store at a temperature not exceeding 25 °C.

Keep out of the reach of children.

**Best before date:**

2 years.

Do not use after expiration date.

**Conditions for dispensing from pharmacies:**

On prescription.

**Made for:**

**MAXX PHARM LTD.**

**London, Great Britain**