Patient information leaflet

CITOLEPT

Trade name: CITOLEPT

International nonproprietary name: Citicoline

Pharmaceutical form: solution for intravenous and intramuscular injection

Composition per ampoule	**125 mg/mL**	**250 mg/mL**
Active substance:		
Citicoline sodium (equivalent to Citicoline)	500 mg	1000 mg
Excipients:		
1 M hydrochloric acid or 1 M sodium hydroxide	up to pH 6,5-7,5	up to pH 6,5-7,5
Water for injection	up to 4 ml	up to 4 ml

Description: clear colorless liquid.

Pharmacotherapeutic group: nootropic agent.

ATC code: N06BX06

Pharmacological properties

Pharmacodynamic Properties

Citicoline is a natural endogenous compound that is an intermediate metabolite in the synthesis of phosphatidylcholine, one of the main structural components of the cell membrane.

It has a wide spectrum of action - it helps to restore damaged cell membranes, inhibits the action of phospholipases, prevents the excessive formation of free radicals, and also prevents cell death by acting on the mechanisms of apoptosis. In the acute period of stroke, citicoline reduces the amount of brain tissue damage, improves cholinergic transmission. In traumatic brain injury, it reduces the duration of post-traumatic coma and the severity of neurological symptoms, moreover, it helps to reduce the duration of the recovery period.

In brain chronic hypoxia, citicoline is effective in the treatment of cognitive disorders, such as memory impairment, lack of initiative, difficulties in performing daily activities and self-care. Increases the level of attention and consciousness, and also reduces the manifestation of amnesia.

Citicoline is effective in the treatment of sensory and motor neurological disorders of degenerative and vascular etiology.

Pharmacokinetic Properties

Metabolism: after intravenous administration, citicoline is rapidly hydrolyzed into choline and cytidine and delivered to various tissues of the body.

Distribution: The administered citicoline is widely distributed in brain structures, with a quick incorporation of the choline fraction in structural phospholipids and the cytidine fraction in cytidinic nucleotides and nucleic acids. Citicoline reaches the brain and it is actively incorporated to cellular, cytoplasmatic and mitochondrial membranes, taking part of the structural phospholipids fraction.

Excretion: Only a small amount of the dose appears in urine and faeces (< 3 %). Approximately 12 % of the dose is eliminated via expired CO_2. In the urinary excretion of the

drug, two phases can be distinguished: a first phase, around 36 hours, where the excretion speed rapidly decreases, and a second phase where excretion speed decreases much slower. The same happens with expired CO_2, the elimination speed rapidly decreases after approximately 15 hours and later it decreases much slower.

Indications for use

- Ischemic stroke, acute phase (as a part of complex therapy);
- Rehabilitation period of ischemic and hemorrhagic stroke;
- Traumatic Brain injury and its neurological sequelae, acute phase (as a part of complex therapy) and rehabilitation period;
- Cognitive and behavioural impairment secondary to chronic vascular and degenerative cerebral disorders.

Contraindications

- Hypersensitivity to any component;
- It must not be prescribed for patients with expressed vagotonia (high tone of the parasympathetic part of the autonomic nervous system);
- In the absence of sufficient clinical data, it is not recommended for use in children under 18 years.

Pregnancy and breast-feeding

There are no adequate data from the use of citicoline in pregnant women. Although no negative effects have been found in animal studies, citicoline is prescribed during pregnancy only in cases when the expected therapeutic benefit to the mother is higher than any possible risk to the fetus.

If citicoline is prescribed in lactation period, the breastfeeding must be stopped, as the allocation

data of citicoline with human milk are absent.

Posology and method of administration

Dosage recommendations

The acute phase of ischemic stroke and traumatic brain injury: 1,000 mg every 12 hours from the first day after diagnosis, treatment duration of at least 6 weeks.

Maximum daily dose is 2,000 mg.

Rehabilitation period of ischemic and hemorrhagic stroke, rehabilitation period of traumatic brain injury, cognitive and behavioral impairment secondary to chronic vascular and degenerative cerebral disorders:

Administered intravenously or intramuscularly at 500-2000 mg of citicoline daily. The dosage and duration of treatment depend on the severity of symptoms.

Elderly

CITOLEPT does not need any specific dose adjustment for this age group.

It must be administered immediately after the opening of the ampoule.

CITOLEPT is administered intramuscularly, intravenously by bolus (from 3 to 5 minutes depending on the administered dose) or by drop infusion (dripping speed - 40-60 drops per minute).

The intravenous (i.v.) route of administration is preferred over the intramuscular (i.m.) route. With i.m. administration, repeated administration of the drug in the same place should be avoided.

CITOLEPT is compatible with all types of intravenous isotonic solutions and dextrose solutions.

Undesirable effects

Undesirable effects are grouped by frequency of occurrence: very common (> 1/10), common (≥ 1/100 to < 1/10), uncommon (≥ 1/1,000 to < 1/100), rare (≥ 1/10,000 to < 1/1,000), very rare (<1/10,000), not known.
Very rare (include individual notifications): allergic reactions (rash, itching, anaphylactic shock), headache, dizziness, fever, tremor, nausea, vomiting, diarrhea, hallucinations, edema, shortness of breath, insomnia, agitation, loss of appetite, numbness in paralyzed limbs, changes in liver enzymes. In some cases, citicoline can stimulate the parasympathetic system and also cause a short-term change in blood pressure.
Tell your doctor if any of the side effects listed in the leaflet get worse or you notice any other side effects not listed in this leaflet.

Overdose
Given the low toxicity of the medicine, no case of overdose has been reported.

Interaction with other medicinal products
Citicoline potentiates the effects of levodopa.

Special warnings
CITOLEPT is injected by slow intravenous route (from 3 to 5 minutes depending on the administered dose).
With intravenous drop perfusion, the dripping speed should be 40-60 drops per minute.
In case of persistent intracranial hemorrhage, it is recommended not to exceed the dose of CITOLEPT 1,000 mg per day, the medicine is administered intravenously at a rate of 30 drops per minute.
This medicine contains less than 1 mmol sodium (23 mg) per tablet, that is to say essentially 'sodium-free'.

Effects on ability to drive and use machines
During the use of the medicine, care should be taken when driving and when engaging in other potentially hazardous activities that require an increased concentration of attention and speed of psychomotor reactions.

Pharmaceutical form and presentation
Solution for intravenous and intramuscular injections, 125 mg/mL and 250 mg/mL.
4 ml in colourless glass ampoules from neutral glass with a colored break ring or with a colored dot and a notch. One, two or three colored rings and/or two-dimensional barcode and/or alphanumeric coding or without additional color rings, two-dimensional barcode, alphanumeric coding are additionally applied to the ampoules.
5 ampoules in a blister pack made of PVC film or polymer film or without film.
1 blister pack with patient information leaflet for use in a carton.

Storage conditions
Store below 25 ºC.
Keep out of the reach of children.

Shelf-life
4 years. Do not use after the expiration date.

Prescription status
On prescription.