For the use of a Neurologists or a Hospital or a Laboratory Only

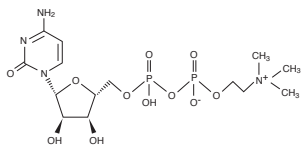
STROLIN-OD

Citicoline Controlled Release Tablets

Citicoline Prolonged-release Tablets I.P.
Each film coated prolonged-release tablet contains :
Citicoline Sodium I.P. equivalent to Citicoline ..... 1000 mg
Colour : Titanium Dioxide I.P.

Description:

Citicoline is a polarized molecule with a molecular weight of 488.33. The monosodium salt of citicoline (molecular weight: 510.31) is a white, crystalline, spongy, very hygroscopic powder that is soluble in water and almost insoluble in alcohol.



Introduction:

Citicoline is a pyrimidine 5-nucleotide which serves as an essential precursor in the synthesis of lecithin (phosphatidylcholine) and other phospholipids.

Pharmacology:

The extensive damage caused by stroke requires regeneration of axons and synapses of neurons, so new membrane production is essential for the repair. Citicoline is postulated to achieve a therapeutic effect in stroke due to its ability to increase the synthesis of phosphatidylcholine, the primary neuronal membrane component. It also enhances acetylcholine synthesis, and thus ameliorates symptoms caused by the stroke induced loss of cholinergic neurons.

Another mechanism by which citicoline may influence acute effect on the outcome of stroke patients relates to its ability to reduce free fatty acid accumulation at the site of injury, which prevents further damage. Citicoline prevents or reduces the effects of ischemia and / or hypoxia in major part of animals and cellular models studies and acts in the cranial traumatic forms, reduces and limits the injuries to the membranes of the nerve cells, re-establishes the sensitivity and the function of the regulatory intracellular enzymes and accelerates the re-absorption of the cerebral oedema. Results of experimental and clinical studies support the use of citicoline for increasing, maintaining and repairing the membranes and the neuronal function in situations such as ischemia and traumatic injuries. In patients with senile dementia, citicoline reduces the evolution of damage.

Pharmacokinetics:

Citicoline is well absorbed after oral administration. Citicoline has an absolute bioavailability of approximately 99%. Citicoline is metabolized in the liver to free choline. The liver is capable of synthesizing lecithin from choline and resynthesizing citicoline from cytidine and choline.

Due to difficulties in detecting plasma levels of citicoline itself, assays have been performed for free choline or total plasma radioactivity in terms of citicoline equivalents. Plasma choline levels are elevated significantly after oral administration. Two peaks of plasma citicoline equivalents have been reported after oral doses of radiolabelled citicoline (300mg). An initial peak is observed in approximately 1 hour (1.5mcg / ml). Presumably related to a mixture of unchanged citicoline and its metabolites (choline and cytidine diphosphate). A second peak of approximately 3mcg/ml is seen 24 hours post dose, and may be due to delayed absorption of the drug or continued metabolite accumulation over this time period. Choline derived from citicoline crosses the blood brain barrier, presumably serving as a source for acetylcholine and phosphatidylcholine (lecithin) synthesis. The major part of a dose of citicoline appears to be incorporated into tissues and / or used in

biosynthetic / biodegradation pathways, including lecithin / lipid membrane synthesis.

Small quantity of a dose is recovered in urine (2% to 3%) and in feces (less than 1%). Approximately 12% of a dose is eliminated as respiratory carbon dioxide. Elimination half life of citicoline is 3.5 hours (first peak concentration), 125 hours (second peak concentration).

Results of bioavailability study of citicoline controlled release tablet 1000 mg revealed that mean C_{max} of choline is 8 hours (6-12 hours) and the elimination half life of choline is 27 hours.

Indications:

Citicoline controlled release tablet is indicated for the treatment of patients with serious cerebral injuries of vascular traumatic nature with or without loss of consciousness and for the treatment of degenerative damages and chronic cerebral vascular injuries in senile dementia.

Contraindications:

Hypersensitivity to citicoline or any other component of the formulation.

Warnings and Precautions:

Citicoline may cause hypotension and in case necessary the hypotensive effect can be treated with corticosteroids or sympathomimetics.

Pregnancy & Lactation:

There are no adequate and well controlled studies of citicoline during pregnancy and lactation. Citicoline should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus. Caution should be exercised during breast-feeding because it is not known whether citicoline is excreted in human breast milk.

Drug Interactions:

Citicoline must not be used with medicines containing meclophenoxates (or centrophenoxine). Citicoline increases the effects of L-dopa.

Side Effects:

Skin rash, insomnia occurrence or intensification of numbness of paralysed / limbs (when used in patients with post apoplectic hemiplegia), nausea, abnormal laboratory values for liver function and feeling of warmth are commonly observed side effects (<1.5%).

Headache, dizziness, excitation, convulsions, anorexia, transient diplopia, transient blood pressure changes, malaise, shock, distressed feeling of the chest and dyspnea may be observed in few patients (<0.1%)

Dosage and Administration:

The usually recommended dose of Citicoline CR is 1000 mg daily once a day.

Elderly: No dosage adjustment is necessary in elderly.

Tablet should be swallowed whole, not to be chewed.

Crimped mass of tablet is excreted through stool.

Expiry Date:

Do not use later than the date of expiry.

Storage

Store below 25^{O}C, protected from light and moisture.

Keep out of reach of children

Presentation:

Strolin-OD is available in strip of 10 tablets.

MARKETED BY

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