

COLIHENZ

CITICOLINE TABLET 500 mg & 2 ml / 4 ml INJECTION

COLIHENZ-P

CITICOLINE WITH PIRACETAM TABLETS 500 mg & 400 mg / 500 mg & 800 mg



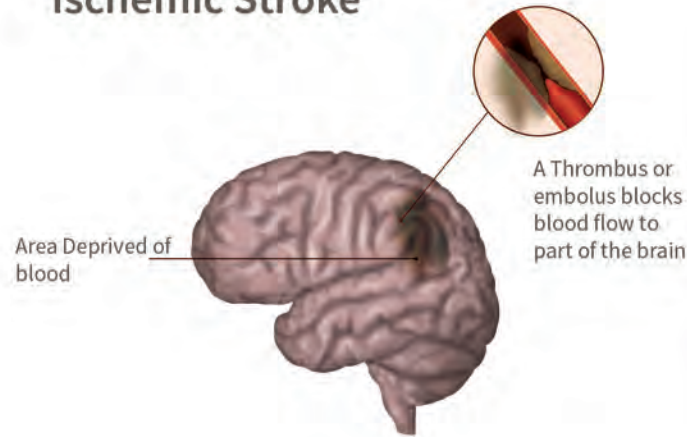
Background

Stroke is a type of cerebrovascular disease that involves the vessels of the central nervous system. It usually occurs with sudden onset due to a burst of cerebral arteries, hemorrhage or occlusion by a thrombus or other particles ischemia, leading to focal brain dysfunction. Immediately, nerve cells depleted of oxygen in the involved vascular territory will be functionally disturbed and die if the circulation is not promptly restored.

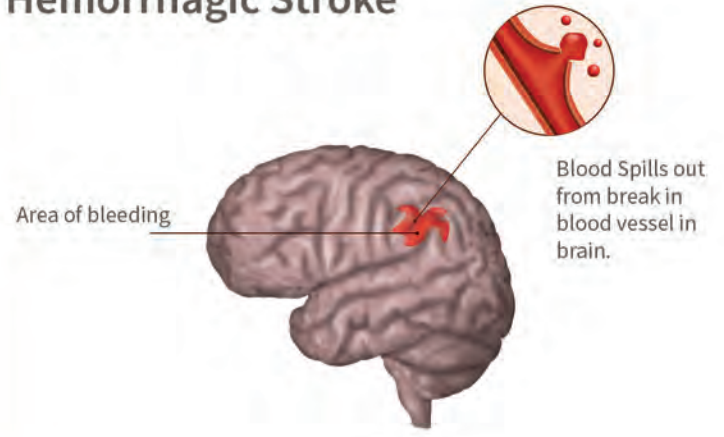
Cerebral infarction is not a single disease and there are two main types of stroke: *ischemic or hemorrhagic*

Types Of Stroke

Ischemic Stroke



Hemorrhagic Stroke



Prevalence

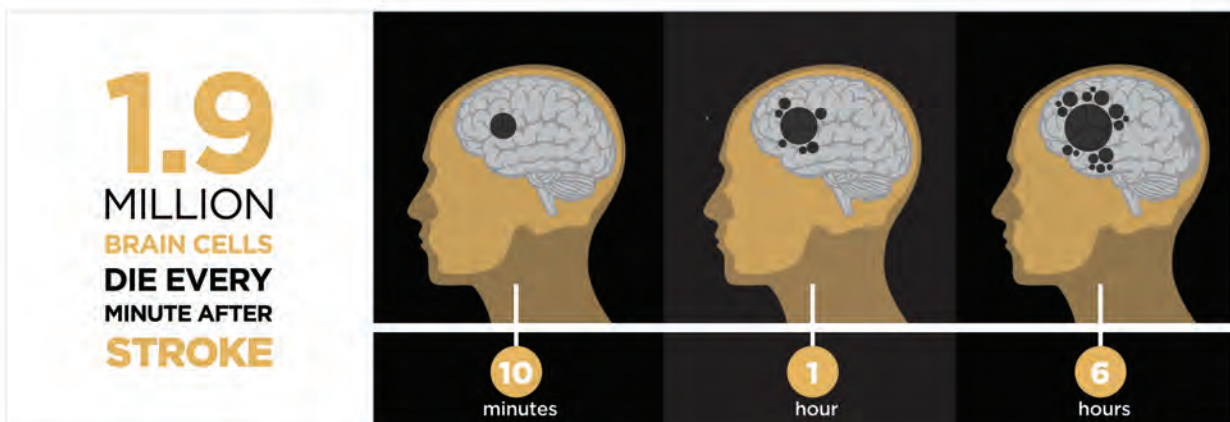
Stroke is the **third main cause of death** after heart disease and cancer, and the first cause of severe disability.

One third of fatal strokes occur before **age 65 years**.

For all stroke types combined, the mortality varies from country to country between **20 and 250 per 100,000 per year**.

In the USA strokes are the cause of **150,000 deaths per annum**.

The incidence of stroke is estimated to be about **150 per 100,000 population per year** in industrial countries.



Heart & Stroke Foundation: Stroke report 2015

Reference

European Stroke Organization

a Ho

Clinical Effectiveness

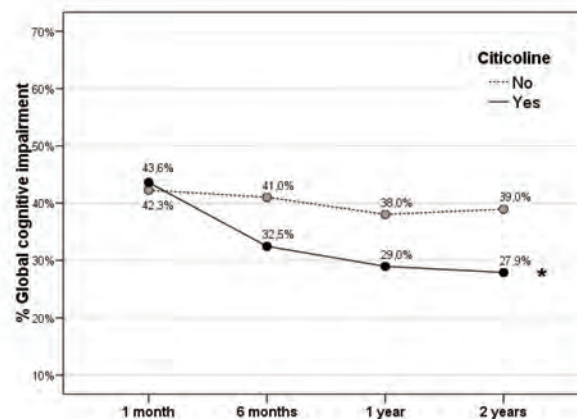
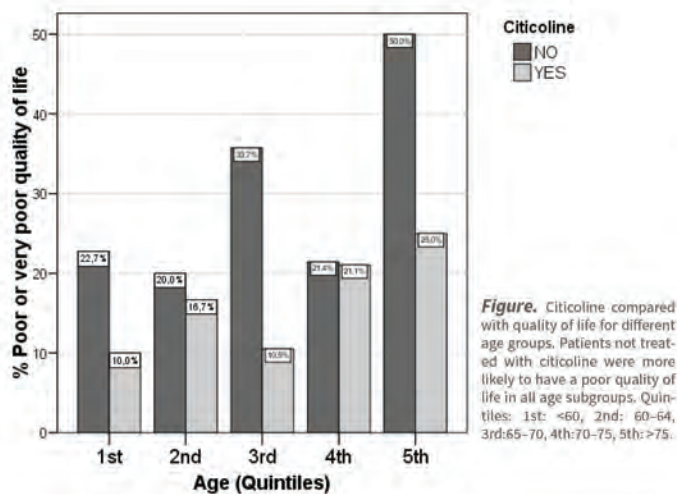
International Journal of Molecular Sciences, 2016

“ Long-Term Treatment with Citicoline Prevents Cognitive Decline and Predicts a Better Quality of Life after a First Ischemic Stroke ”

A total of 163 patients who had suffered a first ischaemic stroke were assessed after 2 years.

86 patients (52.8%) were being treated with citicoline and 77 (47.2%) were not.

Quality of life of patients at 2-year follow-up according to the EuroQoL-5D questionnaire



Conclusion

Treatment with long-term citicoline is associated with a better QoL and improves cognitive status 2 years after a first ischemic stroke.

Clinical Effectiveness of Piracetam in Dementia

Piracetam improves learning and memory by facilitating release of acetylcholine and excitatory amino acids, and this effect might lead to increases in flow and energy metabolism.¹

Piracetam as an adjuvant to speech therapy improves recovery of various language functions, and this effect is accompanied by a significant increase of task-related flow activation in eloquent areas of the left hemisphere.¹

Approved by CDSCO for the treatment of acute stroke²

PIRACETAM BENEFITS

Memory and Learning
Dyslexia

Cognitive Decline
Neuroprotective Qualities

ope When it's Needed Most

Reference

1. Stroke.;31:2112-2116:2000
2. CDSCO;2010

COLIHENZ

CITICOLINE TABLET 500 mg & 2 ml / 4 ml INJECTION

COLIHENZ-P

CITICOLINE WITH PIRACETAM TABLETS 500 mg & 400 mg / 500 mg & 800 mg

Description:

COLIHENZ is a film coated tablet containing citicoline in the strength of 500 mg tablet and 2 ml/ 4 ml injection. Citicoline appears useful for improving both the structural integrity and functionality of the neuronal membrane that may assist in membrane repair.

COLIHENZ-P is a film coated tablet containing citicoline in combination with piracetam in the strength of 500 mg with 400 mg respectively and 500 mg with 800 mg respectively.

Mechanism of Action:

Citicoline

The brain uses choline preferentially for acetylcholine synthesis, which can limit the amount of choline available for phosphatidylcholine production. When the demand for acetylcholine increases or choline stores in the brain are low, phospholipids in the neuronal membrane can be catabolized to supply the needed choline. Exogenous citicoline thus helps preserve the structural and functional integrity of the neuronal membrane.

In an in vitro study, citicoline at high concentrations stimulated brain acetylcholinesterase (AChE) along with Na⁺/K⁺-ATPase. The postulated mechanism involves bioconversion of citicoline to phosphatidylcholine.

Neuronal Membrane Repair:

Citicoline has been investigated as a therapy for stroke patients. Three mechanisms are postulated:

- (1) repair of neuronal membranes via increased synthesis of phosphatidylcholine;
- (2) repair of damaged cholinergic neurons via potentiation of acetylcholine production;
- (3) reduction of free fatty acid buildup at the site of stroke-induced nerve damage. In addition to phosphatidylcholine, citicoline serves as an intermediate in the synthesis of sphingomyelin, another neuronal membrane phospholipid component. Citicoline has shown the potential to restore post-ischemic sphingomyelin levels.

Piracetam:

Available data suggest that piracetam basic mechanism of action is neither cell nor organ specific. Piracetam binds physically in a dose-dependent manner to the polar head of phospholipids membrane models, inducing the restoration of the membrane lamellar structure characterised by the formation of mobile drug-phospholipid complexes. This probably accounts for an improved membrane stability, allowing the membrane and transmembrane proteins to maintain or recover the three-dimensional structure or folding essential to exert their function. Piracetam has neuronal and vascular effects.

Indication:

- Post Stroke rehabilitation
- In cognitive deficits
- Brain trauma

Dosage:

Citicoline:

- Most effective oral dosages for citicoline range from 500 - 2,000 mg daily.
- I.V. and I.M. administrations also use similar dosages.

Piracetam:

- The standard piracetam dose for adults is between 1,200 - 4,800mg a day.
- The largest effective dose is 1,600mg, taken three times a day for a total of 4,800mg.

Presentation: Available as a strip of 10 tablets and as 2 ml & 4 ml injections.

Storage: Store protected from light and moisture at a temperature not exceeding 30°C.

La Renon Healthcare Pvt. Ltd.

207-208 ISCON Elegance | Circle P | Prahlad Nagar Cross Roads
S.G.Highway | Ahmedabad - 380015 | Gujarat | India.
Phone: +91-79-6616-8998 | Fax: +91-79-6616-8998
E-Mail: info@larenon.com | www.larenon.com

HELLO

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