Citicoline is a drug available in several countries worldwide. Among the European Union countries, citicoline is registered as a Rx product in France, Italy, Spain, Bulgaria and Portugal. It’s also registered as a drug in other important countries out of Europe (Russia, Mexico, Japan, Brazil, India, Algeria, Argentina, Egypt, etc), being present up to 80 countries as a Prescription Medicine.

The main indications of the use of citicoline are:

1. Acute ischemic stroke and its sequelae
2. Traumatic brain injury (TBI) and its sequelae

For these diseases citicoline combine neurovascular protection and repair effects. Citicoline acts at several levels of the ischemic cascade and a series of brain repair effects have been reported [1]. Citicoline has been extensively studied in clinical trials with over 11,000 patients and volunteers who have various neurological disorders, including acute ischemic stroke [2-10]. In all these studies, citicoline had a similar safety profile as compared with placebo [2]. In a pooled analysis with individual patient data of randomised clinical trials, with an odds ratio of 0.64 (95% CI 0.54-0.72). And these effects are cost-effective [13,14].

For the sequelar phase, the efficacy of the drug is based on a Cochrane Systematic Review [18] based in 14 Placebo-Controlled, by


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Randomized Clinical Trials qualified as “Highest Quality Trials (A)” by The Cochrane Collaboration in which was demonstrated that citicoline has a positive effect on memory and behaviour, especially in patients with chronic cerebrovascular diseases. It also was demonstrated in the Cochrane Review that Clinical Global Impression was also improved by Citicoline. Recently, these data have been confirmed in two new studies, in which the authors concluded that citicoline treatment for 12 months in patients with first-ever ischemic stroke is safe and probably effective in improving post-stroke cognitive decline, thus citicoline appears to be a promising agent to improve recovery after stroke [19]. In the IDEALE study it was demonstrated that citicoline maintained the cognitive score on MMSE in patients diagnosed with Mild vascular Cognitive Impairment [21]. There is evidence also of a positive effect of citicoline on the recovery of motor sequelae after stroke when added to rehabilitation programs (Figure 2)[21].

Regarding the efficacy in TBI, the evidence of efficacy is provided by several trials collected in many reviews 2 and in a new published meta-analysis based on all comparative trials of citicoline (Figure 3) [22], with also positive data on the treatment of neuropsychological deficits after TBI [23].

Figure 2: Effect of the treatment with citicoline (1 g/d/8 weeks) in post-stroke hemiplegic patients under rehabilitation on the improvement of at least 1 degree on the Hemiplegia Function Test, in upper (a) and lower limbs (b).

Competing Interests

The authors have no competing interests with the work presented in this manuscript.

References

Figure 3: Forest Plot of the meta-analysis on TBI based on the random-effects model. OR 1.815 (95% CI=1.302;2.530).


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