عنوان مقاله:

Amelioration of amyloid beta (Aβ۱-۴۰) neurotoxicity by administration of silibinin; a behavioral and biochemical assessment

محل انتشار:

مجله علوم پایه پزشکی ایران, دوره 26, شماره 7 (سال: 1402)

تعداد صفحات اصل مقاله: 8

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خلاصه مقاله:

Objective(s): Alzheimer's disease (AD), the most common cause of dementia, is one of the leading causes of morbidity and death in the world. Currently, treatment mostly used to slow down the disease progression. Herbal remedies are considered by many in the community as a natural and safe treatment with fewer side effects. Silibinin, the active ingredient of Silybum marionum, has anti-oxidant, neurotrophic and neuroprotective characteristics. Therefore, here, the effect of different doses of Silibinin extract on oxidative stress and expression of neurotrophic factors was investigated. Materials and Methods: Forty eight male Wistar rats were randomly divided into sham, lesion; Aβ۱-۴۰ injection, lesion-treatment; Aβ۱-۴۰ injection followed by different doses of silibinin (۵۰, ۱۰۰, ۲۰۰ mg / kg) through gavage and lesion-vehicle group; Aβ۱-۴۰ injection + vehicle of silibinin. Morris water Maze (MWM) was done ۲۸ days after the last treatment. Hippocampal tissue was removed for biochemical analysis. Production of nitric oxide (NO) and reactive oxygen species (ROS), expression of BDNF/VEGF and cell viability were measured using Griess, fluorimetry, Western blotting and MTT techniques. Results: Different concentrations of silibinin improved behavioral performance in animals. Higher doses of Silibinin could improve memory and learning function through MWM. Also, increasing the concentration of silibinin resulted in decreased ROS and NO production in a dose-dependent .manner.Conclusion: Consequently, silibinin may act as a potential candidate for alleviating symptoms of AD

کلمات کلیدی:

Alzheimer's disease, amyloid, BDNF, Oxidative stress, Silibinin, VEGF