

عنوان مقاله:

Berberis vulgaris extract-based FerrOr nanocomposites affect NMDA1 function and physical activity: Analysis of Grin1 expression in Syrian mice model of Experimental autoimmune encephalomyelitis

محل انتشار:

دوفصلنامه طب گیاهی پیشرفته, دوره 6, شماره 2 (سال: 1399)

تعداد صفحات اصل مقاله: 26

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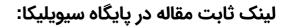
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خلاصه مقاله:

Background: Ionotropic glutamate NMDA receptors are multi-subunit proteins with few selective pharmacological ligands and are tentatively implicated in MS and other neurodegenerative disorders. The present study was aimed at evaluating the antioxidant properties of Berberis vulgaris extract-loaded magnetite nanoparticles on the Grin1 gene expression in NMDA receptor in EAE Syrian mice.Methods: EAE mice models were generated through active immunization with MBP and PTx and kept for days 9-1F until EAE signs appeared followed by administration of barberry extract loaded magnetic nanoparticles.Results: Pure BE concentrations did not show recovery signs until days Y-9, but partial recovery in tail movement was seen on days 11 and 1F, which was significant as compared to the control group in terms of improvement of the clinical scores. Meanwhile bare nanoparticles had neither disease recovery/progression properties nor EAE mice mortality as compared to controls, but 1 mg BE + Fe#OF reduced EAE symptom severity and resulted in significant improvement of hind limb sensitivity to toe pinching and improved tail movements. Meanwhile Y mg Be + Fe#OF showed much better sensitivity to toe pinching and complete tail recovery. qRT-PCR analysis showed a significant decrease in relative Grin1 expression in female mice after treatment with $\circ.Y$ and 1 mg BE. However, a profound decrease in Grin1 expression was seen at $\circ.Y$, 1 and Y mg BE + Fe#OF treated groups in a dose-dependent manner.Conclusion: The results indicated that Fe#OF+ BE could alleviate the EAE severity and progression

کلمات کلیدی: NMDA, neuroprotection, Grin۱, Syrian mice, Berberis vulgaris



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