عنوان مقاله:

The Prophylactic Capacity of Nepeta Menthoides (Ostokhodus) in Prevention of Spinal Motoneuron Injury

محل انتشار:

مجله دانشگاه علوم پزشکی کرمان, دوره 19, شماره 1 (سال: 1391)

تعداد صفحات اصل مقاله: 11

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خلاصه مقاله:

Background & Aims: Since apoptotic cell death plays a crucial role in many neurodegenerative diseases, control of apoptosis can be taken into account as a putative neuroprotective strategy. Due to the reported neuroprotective effect of the herbal medicine Nepeta Menthoides (Ostokhodus) on the axotomy-induced apoptosis in the spinal motoneurons, in the present study we have investigated its prophylactic capacity. Methods: In ۲۰ two-day neonate rats (one control and three experimental groups) the right sciatic nerve was transected and in all samples the left ventral horn was considered as internal control. The experimental groups received different doses of alcoholic extract of Ostokhodus intraperitoneally for ۳ days starting ۲۴ hours before axotomy, and the control group was treated with equal volume of normal saline similarly. At the end, in the ventral horn of the related spinal cord segments the mean number of survived motoneurons, and by means of TUNEL assay the apoptotic motoneurons were counted. Results: In all groups transection of sciatic nerve resulted in a significant reduction of motoneurons through apoptosis, which could be prevented significantly by administration of ۵۰۰ and ۱۰۰۰mg/kg of Ostokhodus. The drug administration from ۲۴ hours before axotomy did not result in any more prominent neuroprotection. Conclusion: The neuroprotective effect of Ostokhodus on axotomized motoneurons, which acts through inhibition of apoptosis, has no prophylactic effect and its administration before neural injury causes no more neuroprotective effect

کلمات کلیدی:

Neuroprotective agents, Nepeta Menthoides, Motor neurons, Apoptosis, Axotomy