

عنوان مقاله:

Survey on neuroprotective effects of *Artemisia aucheri* on alpha motoneurons degeneration of spinal cord ventral horn after sciatic nerve compression

محل انتشار:

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خلاصه مقاله:

Damage to the peripheral nerves, leading to neuronal degeneration and stimulates a series of morphological and biochemical changes in neurons, which are concentrated in the injured region and also observed in the cell body of neurons of the spinal cord. The aim of this study was to assess the protective effects of aqueous extract of *Artemisia aucheri* on neuron density of ventral horn of the spinal cord after sciatic nerve compression. This study, was carried out on 30 male Wistar rats which were randomly divided into 5 groups: group A (control), group B (compression), group C (compression, and treatment with 50 mg/kg aqueous extract), group D (compression and treatment with 75 mg/kg aqueous extract), and group E (compression and treatment with 100 mg/kg aqueous extract). Mice were anesthetized and the skin of the right thigh was incised, then the sciatic nerve was compressed using a surgical forceps for 60 seconds. Then the skin and muscles were sutured. Administration of the aqueous extract with group specific doses was performed for three weeks, with one injection per week. After 28 days of compression, the rats, were put under the perfusion method and tissue samples were taken of their lumbar spinal cord (L4, L5). After tissue processes, cutting and toluidine blue staining, neuronal density was calculated by disector method. Statistical analysis was performed by Student's t-test and one way ANOVA using SPSS (version 19). The results showed that neuronal density in the compression group decreased significantly compared to the control group ($P < 0.001$). Neuronal density in the treatment groups with doses of 50, 75 & 100 mg/kg showed a significant increase compared to the compression group ($P < 0.01$), which reflects the positive effects of aqueous extract of *Artemisia*. The aqueous extract of *Artemisia aucheri* has protective effects on motor neurons of the anterior horn of the spinal cord. This could be due to antioxidant and anti inflammatory factors present in the aqueous extract of *Artemisia aucheri* leaves that induce regeneration process in injured neurons and prevent degeneration intensity.

کلمات کلیدی:

Artemisia aucheri, Neuroprotection, Wallerian degeneration, Nerve injury

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