

## عنوان مقاله:

Bone Marrow Stem Cell Therapy in Combination with Caffeic Acid Phenethyl Ester Improves Manifestations of Parkinson Disease in Rat Models

## محل انتشار:

سومین همایش بین المللی التهاب سیستم عصبی و سومین فستیوال دانشجویی علوم اعصاب (سال: 1398)

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## خلاصه مقاله:

Parkinson's disease (PD) is a progressive neurodegenerative motor control disorder and the second most debilitating disease of the nervous system, this disease mainly characterized by four specific symptoms: hands and feet tremor in rest, slowness of movement or bradykinesia, poor balance and stiffness in limbs. Propolis is a waxy substance produced by bees. It has anti-bacterial, anti-fungal, anti-parasitic, antioxidant and anti-inflammatory properties. Caffeic acid phenethyl ester (CAPE) is one of Propolis compounds which exerts an antioxidant compound. Stem cells have the capability to self-renew and differentiate to all types of cells, including blood, nervous and cartilage cells. Materials and Methods: In this study, the effect of CAPE and bone marrow stem cells in rat model of Parkinson disease were evaluated. Adult male albino Wistar rat weighing 200- 250 g were procured from the animal center of Semnan University of Medical Sciences. Rats were randomly divided into 6 groups (n=7). Rats were treated by intranasal administration of 1-methyl-4-phenyl-1, 2, 3, 6-tetrahydropyridine (MPTP). In this study PD rats were examined against the therapeutic groups that received CAPE and bone marrow stem cells. Results: Our study confirmed that intranasal administration of MPTP cause dopaminergic neuron reduction in substantia nigra. By intra peritoneal administration of CAPE (10  $\mu$ M) and injection of 2 $\times$  bone marrow stem cell, number of dopaminergic neuron increased, number of apoptotic neurons decreased and behavioral symptoms of rats were improved. Conclusions: Our data provide evidence, that bone marrow stem cells and pretreatment with CAPE, is beneficial treatment for Parkinson disease.

## کلمات کلیدی:

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