

عنوان مقاله:

β -carotene Has the Neuroprotective Effects in Parkinson's Disease by Regulating Mitochondrial Apoptotic Pathway Genes

محل انتشار:

فصلنامه ژنتیک و ژنومیک انسانی، دوره 4، شماره 2 (سال: 1399)

تعداد صفحات اصل مقاله: 7

نویسنده:

خلاصه مقاله:

Background: Parkinson's disease (PD) is one of the most common neurodegenerative diseases that cause disability. Finding treatment options that have no side effects can be very important. Objectives: Therefore, in this study, the effect of β -carotene administration was investigated in the PD model of rats. Methods: Induction of Parkinson's disease in rats was done by injection of ϵ -hydroxydopamine (ϵ -OHDA) into the substantia nigra (SN). After induction rat behaviour was studied using an apomorphine-induced rotation test. The SN cells' viability was evaluated by MTT assay and apoptosis and necrosis were measured by flow cytometry. The expressions of bax and bcl-2 genes were also studied using RT-PCR technique. Data analysis was done by GraphPad Prism V.8 software. Results: The results showed a positive effect of β -carotene administration in PD rats, which led to improvement in apomorphine-induced rotation test, increased viability, and decreased apoptosis and necrosis of SN neurons. It also downregulated bax and overexpressed bcl-2 gene expressions ($P < 0.01$). Conclusions: β -carotene has therapeutic effects in PD conditions and its mechanism of action was attributed to .regulating the expressions of genes involved in mitochondrial apoptosis. Therefore, its study in a clinical setting is recommended

کلمات کلیدی:

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