

عنوان مقاله:

Neuroprotective effects of voluntary wheel running and eribotrya japonica flower extract on Parkinsonian rats

محل انتشار:

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خلاصه مقاله:

Backgrounds: The loss of dopamine-secreting cells and the decrease in the status of antioxidant is associated with incidents of Parkinson's disease. The purpose of the present study was to determine the protective effect of a ۱۲-weeks voluntary wheel running (VWR) along with the injection of eribotrya japonica flower extract (EJFE, ۲۰۰ mg/kg body weight, ۳ days a week) on cerebral dopamine neurotrophic factor (CDNF), superoxide dismutase (SOD), and malondialdehyde (MDA) in the cerebral cortex of a rat model of Parkinson's disease (PD). **Method:** To do so, the rats were trained for ۱۲ weeks with and without EJFE prior to the induction of Parkinson. In order to obtain the Parkinsonian model, ۶-hydroxydopamine (۶-OHDA) (Δ μ L) was injected intracerebrally. Data were statistically analyzed by one-way analysis of variance followed by LSD post-hoc test ($P < ۰.۰۵$). **Results:** ۶-OHDA injection significantly decreased the CDNF contents, and SOD activity while it increased MDA levels in cerebral cortex of the Parkinsonian control group. The pre-training of PD rats with and without EJFE increased the CDNF content and SOD activity and also decreased MDA levels. **Conclusion:** Preconditioning by VWR and EJFE may be effective in reducing the consequences of toxins resulted in Parkinson's disease.

کلمات کلیدی:

Parkinson's disease, Voluntary wheel running, Eriobotrya japonica flower extract, Cerebral dopamine neurotrophic factor, Superoxide dismutase, Malondialdehyde

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