

عنوان مقاله:

Effect of Exercise Training on Tropomodulin- γ Gene Expression in Cerebellum of Diabetic Rats

محل انتشار:

مجله دیابت و چاقی ایران، دوره 11، شماره 1 (سال: 1397)

تعداد صفحات اصل مقاله: 10

نویسندگان:

.Seyed Jalal Taherabadi - Department of Sport Sciences, Lorestan University, Khoram Abad, Iran

.Masoud Rahmati - Department of Sport Sciences, Lorestan University, Khoram Abad, Iran

.Rahim Mirnasuri - Department of Sport Sciences, Lorestan University, Khoram Abad, Iran

.Abdolreza Kazemi - Department of Sport Sciences, Vali-E-Asr University of Rafsanjan, Kerman, Iran

خلاصه مقاله:

Objective: It is well documented that exercise training (ET) imposes beneficial effects on diabetes mellitus and its complication such as diabetic peripheral neuropathy (DPN). Regarding the importance of tropomodulin- γ (TMOD γ) in nervous system plasticity, this protein may be recognized as a candidate mechanism for ET-induced neuroplasticity. The aim of this study was to investigate the effects of ET on cerebellar gene expression of TMOD γ in rats with DPN. Materials and Methods: Animals were randomly divided into three groups: healthy control (C), diabetic control (DC) and diabetic trained (DT). Diabetes was induced by a single intraperitoneal injection of streptozotocin. Behavioral nociception assessment was carried out by Von Frey Filaments and tail-flick tests. TMOD γ gene expression was assessed by real time-PCR. Results: The mRNA levels of TMOD γ increased to ۰.۵۰-fold (P-value: ۰.۰۰۵) in comparison of the sedentary controls after ۶ weeks of DPN. Also, TMOD γ gene expression in DT group was decreased to -۰.۶۸-fold changes in comparison of the C group (P-value: ۰.۰۰۱). In addition, the TMOD γ gene expression in DT group was lower than the DC group (P-value: ۰.۰۰۰۱). Conclusion: The TMOD γ mRNA level in rat's cerebellum was affected by ET and DPN, but its exact physiological roles were not clarified. Hence, identifying the importance of TMOD γ in DPN .needs further research

کلمات کلیدی:

Diabetic peripheral neuropathy, Exercise training, Tropomodulin γ , Plasticity

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