

عنوان مقاله:

Effect of eight weeks of swimming training and CBD oil consumption on PI3K and ERK gene expression in the heart tissue of rats with myocardial infarction

محل انتشار:

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خلاصه مقاله:

Background and aims: Cannabidiol (CBD) oil consumption can positively contribute to controlling the cardiovascular risk factors. Exercise can also be effective in rehabilitating myocardial infarction by strengthening muscle tissue. This study, therefore, aimed to evaluate the effect of eight weeks of swimming training together with CBD oil consumption on PI3K and ERK gene expression in the heart tissue of rats with myocardial infarction. Methods: In this experimental trial, ۲۵ ovariectomized rats with myocardial infarction were divided into five groups, including ۱) control, ۲) MI ۳) MI +training, ۴) MI + supplement, and ۵) MI +training+ supplement groups. Myocardial ischemia was induced by subcutaneous injection of isoproterenol (۵۰ mg/kg intravenously) in myocardial infarction rats. Groups ۳ and ۴ received ۵۰ mg/kg CBD as gavage on a daily basis for eight weeks, and groups ۲ and ۴ performed swimming training five days a week. One-way analysis of variance (ANOVA) with Tukey's post hoc test was performed to analyze the findings ($P < ۰.۰۵$). Results: Induction of myocardial infarction contributed significantly to reducing PI3K and ERK gene expression in the heart tissue ($P = ۰.۰۰۱$). However, swimming training with CBD oil consumption contributed significantly to increasing PI3K ($P = ۰.۰۰۳$) and ERK ($P = ۰.۰۰۱$) gene expression in the heart tissue of rats with myocardial infarction. Conclusion: Seemingly, swimming training along with CBD oil consumption had more favorable effects on improvement of PI3K and ERK gene expression levels in myocardial infarction than either alone. Therefore, it was recommended that CBD oil together with swimming training should be employed when dealing with myocardial infarction.

کلمات کلیدی:

Swimming training, CBD oil, PI3K, ERK, Myocardial infarction

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