

عنوان مقاله:

Forced Swimming Exercise Alleviates Trigeminal Neuropathic Pain: Role of Oxidative Stress

محل انتشار:

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

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خلاصه مقاله:

Neuropathic pain is one of the most debilitating conditions following somatosensory system injuries. Oxidative stress as an important mechanism attracted so much consideration. Along with different pharmacological treatments, exercise as a non-medicinal method has an attenuating role in pain. The aim of this study is, if physical activity reduces trigeminal neuropathic pain, whether or not oxidative stress is involved. Materials and Methods: Twenty-eight female wistar rat, weighting 200 ± 20 g were divided into 4 groups (sham, neuropathy, neuropathy + single bout exercise, and neuropathy + 2-week exercise) with 7 rat in each group. Neuropathic pain induced by chronic constriction injury (CCI) of infraorbital nerve using 2 loose ligation around nerve. Mechanical allodynia was evaluated by Von Frey filament. Activity of the serum antioxidant enzymes superoxide dismutase, and glutathione peroxidase were evaluated by related rat ELISA kits. Behavioral data were analyzed by one-way analysis of variance. Enzymes assay data were analyzed through Kruskal-Wallis test. Results: our data showed that a single bout swimming exercise (45 minutes) and 2 weeks (45 minutes/ daily, 6 days per week) significantly reduced neuropathic pain compared to neuropathy (CCI) group ($P < 0.05$ and $P < 0.01$). Superoxide dismutase level showed no significant difference between groups (fig 2). Glutathione peroxidase level significantly increased ($P < 0.05$) in group received 2 weeks exercise respect to neuropathy group (fig 3). Conclusion: swimming exercise alleviates trigeminal neuropathic pain through enhancing antioxidant enzyme GPx level probably

کلمات کلیدی:

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