

Effect of 6 Weeks Aerobic Interval Exercise Training and use of Tamoxifen Drug on the Levels of IL-6 and IL-10 Tumor -Bearing in Breast Cancer bearing mice

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Abstract

Introduction: The adjuvant effects of regular exercise training help in the treatment of breast cancer. The aim of the present study was survey the effect of 6 weeks of interval exercise and use of tamoxifen drug on the of tumor IL-6 and IL-10 level in breast cancer bearing mice.

Method: Forty female Balb-C mice randomly divided in 4 groups (n=10), tumor control (CT) tumor Training (ET), and tumor tamoxifen (TT) Training- tamoxifen - tumor (ETT). After the orientation, one million cells were injected into each mouse, Group (TT) was given tamoxifen, Group (ET) performed interval exercise training for 6 weeks (5 days per week), and Group (ETT) in accordance with (ET) performed training and in accordance with (TT) was taking tamoxifen. Tumor volume was measured weekly by digital caliper, in the end mice were sacrificed, tumor tissue was collected and frozen at -70 ° C.

Results: In all groups except CT, IL-6 and IL-10 values respectively decreased and increased with training, these results were compatible with the rate of tumor growth.

Conclusion: The exercise training and taking tamoxifen decreased and increased level of IL-6 and IL-10 in tumor tissue respectively. The findings of this study can be argued that interval exercise training by reducing the amount of IL-6 and increasing of IL-10 can be of help in breast cancer treatment.

Keywords: Interval Exercise Training, Tamoxifen, IL-6, IL-10, Breast Cancer, Tumor Volume.