ORIGINAL ARTICLE

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Blood lactate changes in various exercise intensities in breast cancer patients compared to healthy controls

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Back ground: breast cancer treatments and some extra agents using for reducing cancer treatment side effects may affect carbohydrate metabolism and glycolysis and these changes can prolonged. Lactate is the final production of glycolysis and major source of energy during exercise. Regarding to great encouragement of breast cancer patients to exercise, we aimed to investigate blood lactate changes in various exercise intensities in breast cancer patients compared to healthy controls.

Materials and Methods: we recruited ten breast cancer patients who had diagnosed with stage I to III breast carcinoma, had 45±3/4 years old, completed treatment at least 5 months ago and ten healthy controls that were matched with these breast cancer patients regarding to age, physical activity, and menstrual condition. Then subjects run on a treadmill for 12 minute at two various intensities (60% and 80% of maximum heart rate). After and before each 12-minute periods, we measured blood lactate levels.

Results: every 20 subjects could complete the exercise tests. We found that there were no significant differences in lactate response between breast cancer patients and healthy controls at moderate and vigorous intensity exercises.

Conclusion: It seems that there are no differences in lactate responses to exercise between post-treated breast cancer patients and healthy people. However, further research is needed to investigate lactate and other metabolic biomarkers responses to exercise in these patients.

Keywords: Breast cancer, Exercise intensities, Blood lactate changes.

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