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Serum Anti-Oxidation Enzymes Response to L-Carnitine Supplementation

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Abstract : Exercise training induced Inflammation and stress. Antioxidant, for example L- Carnitine has beneficial effects in immune system and increased antioxidant enzymes activity. L- Carnitine protects the tissue against the oxidative side effect and helps the body to protect against stress during and after acute exercise. The aim of this study was to determine the effect of L-Carnitine on the blood enzymes: GPX SOD, CAT and GR response. In this study, 20 basketball players girls participated. Subjects were randomly assigned into two groups; placebo and supplementation. Antioxidadision enzymes (Superoxide Dismutase, Catalase, Glutathione Reductase, Glutathione Peroxidase) evaluated. L-Carnitine supplement group orally daily received 3000 mg powder for 14 dys. Then all participates trained basketball exercise acute. Blood samples were drawn vein before and immediately after exercise. Superoxide Dismutase, Catalase, Glutathione Reductase, Glutathione Peroxidase were measured, and data was analyzed using repeated measure ANOVA, Bonferroni and t-test. Our results showed: SOD, GPX and GPX ($P < 0.05$) have a significant increase. These results suggest L-Carnitine supplementation may increase GPX SOD, CAT, and basal anti oxidative capacity. L-Carnitine can modulate the alterations of exercise oxidative damage in girl basketball players.

Keywords : l-carnitine, GPX, SOD, CAT, exercise, GR, anti-oxidant
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