

Original Paper

Effect of Coenzyme Q10 supplementation on lipid peroxidation indices in soccer player

Shirvani H (Ph.D)

Assistant Professor, Exercise Physiology Research Center, Baqiyatallah University of Medical Sciences, Tehran, Iran.

Abstract

Background and Objective: Extensive exercise may be disrupting oxidant and antioxidant balance and cause the phenomenon of oxidative stress in human and decrease athletics performance. This study was done to determine the effect of coenzyme Q10 supplementation for two weeks on markers of lipid peroxidation in soccer player.

Methods: In this queze – experimental study, 36 soccer players (mean age, 20.08 ± 1.12 years, weight 63.28 ± 1.65 kg and maximal oxygen uptake 53.12 ± 0.98 ml per kg/bw) divided into three groups for 14 days and the desired experiment was done during this period of time. Soccer players in control group did not receive the supplements and exercise. Subjects in placebo group were received 5 mg/kg/bw aspartame capsules. Subjects in supplement group were received 5 mg/kg/bw of Ubiquinone-10. Soccer players also performed two 90-minute soccer matches with less than 48 hours. Blood samples 24 hours before and after the period were collected. Malondialdehyde (MDA), lactate dehydrogenase (LDH), creatine kinase (CK) and aspartate aminotransferase (AST) levels were measured.

Results: Serum level of MDA and AST after two consecutive football matches was significantly increased in the placebo group in compared to supplementation and placebo groups ($P < 0.05$). The serum levels of AST and MDA in supplementation group did not significantly increased when compared to control and placebo groups.

Conclusion: Short-term supplementation of coenzyme Q10 before and during of the two consecutive soccer matches can prevent the elevation of lipid Peroxidation indices.

Keywords: Oxidative Stress, Coenzyme Q10, Malondialdehyde, Lactate dehydrogenase, Creatine kinase, Aspartate aminotransferase, Soccer

Corresponding Author: Shirvani H (Ph.D), E-mail: shirvani.h2006@gmail.com

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