

عنوان مقاله:

The Effect of Creatine Monohydrate Loading on Downhill Running-induced Inflammatory Response in Elite Male Mountaineers

محل انتشار:

مجله دانشگاه علوم پزشکی کرمان، دوره 19، شماره 5 (سال: 1391)

تعداد صفحات اصل مقاله: 13

نویسندگان:

A Jafari - Associate Professor of Exercise & Sport Physiology, University of Tabriz, Tabriz, Iran

F Etemadiyan - Postgraduate of Exercise & Sport Physiology

J Bashiri - Assistant Professor of Exercise & Sport Physiology, Islamic Azad University, Tabriz Branch, Tabriz, Iran

خلاصه مقاله:

Abstract Background & Aims: In regard to the limited studies about the effect of creatine on exercise-induced inflammatory responses, the present study was conducted to identify the effect of creatine monohydrate loading on response of serum C-reactive protein (CRP), interleukin-6 (IL-6) and peripheral blood leucocytes following one bout downhill running in male mountain climbers. **Methods:** Twenty volunteer young male mountain climbers (aged 24.5 ± 1.82 year, fat = $10.42 \pm 1.96\%$, and $VO_{2max} = 53.56 \pm 2.36$ ml/kg/min) in a quasi-experimental, randomized and double-blind design were allocated equally into supplement and placebo groups. After five consecutive days supplementation (0.3 g/kg body weight/day creatine monohydrate or dextrose), all subjects were participated in one bout downhill running protocol on a treadmill (-15% incline) for 30 minutes with 65% heart rate reserve (HRR). Changes in inflammatory indices were determined in four phases (baseline, after the supplement period, immediately and 24 hours after the exercise). Data were analyzed by repeated measure ANOVA, Bonferroni and independent t-test at 0.05 . **Results:** Creatine loading had only significant effect on the basal serum level of IL-6 ($P < 0.05$). Moreover, the CRP, IL-6 and peripheral blood leukocytes counts in both groups showed significant increase following the exercise protocol ($P < 0.05$) and remained higher than the baseline levels for 24 hours. However, the range of inflammatory indices alterations in supplement group was significantly lower than in placebo group ($P < 0.05$). **Conclusion:** According to our present results, it can be concluded that creatine monohydrate loading might probably reduce exercise-induced inflammatory response following 30 min downhill running in elite male mountain climbers.

کلمات کلیدی:

Creatine, Running, C-reactive protein, Interleukin-6, Leukocytosis

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