World Academy of Science, Engineering and Technology
International Journal of Nutrition and Food Engineering
Vol:12, No:02, 2018

Effect of Oral Immonoglobulin (IgY) Ingestion on Post Exercise Muscle Soreness and Muscle Damage Markers in Females

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Abstract : Intense resistance-type activity generally elicits delayed onset muscle soreness (DOMS) in individuals unaccustomed to such action. DOMS is a combination of contractile tissue microtrauma, osmotic pressure changes, alteration calcium regulation, and inflammation. Elevated muscle-specific enzyme creatine kinase (CK) is a marker of striated muscle damage. Avian immunoglobulin (IgY) mediates inflammation and may thereby reduce post-exercise DOMS. Purpose: The aim of this study was to compare the effect of oral IgY and placebo (Pl) on CK, serum relevels, and perceived pain following induced DOMS. Methods: Healthy college-aged females (N=16) were randomly divided into an experimental group (IgY) and a control group (PL). CK serum levels were recorded followed by 14 days of supplementation of either IgY or Pl at the following doses: days 1-2 =4.5 g, days 3-5 =9.0 g, and days 6-14 =13.5 g. Following the 14 d, lower limb DOMS was induced using two methods of resistance training. After 48 hours, subjects reported for a second blood draw. Results: One-way ANOVA resulted in the IgY group posting significantly less ($p < 0.05$) serum CK than the PL group. Furthermore, the IgY group experienced significantly less post-test perceived soreness than the Pl group. Conclusion: IgY supplementation lessens muscle CK levels and perceived muscle soreness following exercise, possibly due to an anti-inflammatory effect. It was suggested that IgY may serve as a buffer for DOMS thereby allowing the participant to continue vigorous exercise without discomfort.

Keywords : muscle, soreness, damage, serum
Conference Title : ICSEN 2018 : International Conference on Sport and Exercise Nutrition
Conference Location : Paris, France
Conference Dates : February 19-20, 2018