Comparison of Carbohydrate Supplementation With and Without Amino Acid Following a session of Exhaustive Exercise Training on Lactate , Glucose and Heart Rate Responses

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Purpose: The aim of this study was to compare the effect of carbohydrate supplementation with the amino acid and without it, after an exhaustive physical activity on blood glucose response, elimination of lactic acid and heart rate recovery period. Method: 24 male students, aged between 18 and 25 years, who were matched physically and anthropometric and had the physical and mental health and they were non-smoker, non-alcoholic and athletes (they had exercise at least 8 hours per week). They were ed as research subjects, based on Non-random purposive (samples available), and after fill out a consent form. Subjects were randomly divided into three groups: experimental group 1 (CHO, n=8), experimental group 2 (BCAAs & CHO, n=8), and control group (n=8). The subjects in the control group was given water, immediately after the end of the Bruce protocol, to a rate of 5 ml per kilogram of body weight. But it was given to the experimental group 1, 8% carbohydrate solution (70 percent glucose and 30 percent fructose) to 5 cc per kg body weight. And the experimental group 2 were given, drinks BCAA, which consists of 77 mg per kg of body weight, in a ratio of 50: 30: 20 respectively for leucine, valine and isoleucine in 5 ml water with 8.6% carbohydrate (total of 8 percent and ISO caloric solution with Group 1). The variables were measured (heart rate, lactate and glucose), for each of the three groups, before (after at least 10 hours overnight fasting) and after the test Bruce (immediately after the test, MINS 30 and MINS 60). ANOVA statistical method, and the variance with repeated measures was used. Findings: The results showed that, at 30 and 60 min recovery period, heart rate of control group carbohydrates

group and amino acids with carbohydrates group was significantly higher. And also, heart rate subjects in group amino acids together with carbohydrates was lower than the other two groups. Also at 30 and 60 minutes of recovery period, blood glucose of control group carbohydrates group and amino acids with carbohydrate group was significantly lower. And blood glucose of amino acid and carbohydrate group participants, was lower than the other two groups.For lactate variable at the 30 minute of recovery period, between the control group and the amino acids with carbohydrates group, and between the control group and carbohydrates group, the difference was significant. Also, lactate variable, in the 60th minute of recovery period, between the control group and the amino acids with carbohydrates group, and between carbohydrate group and control group, the difference was significant. Conclusion: The results showed that amino acid supplementation with carbohydrates, causes a further reduction in Heart rate, blood glucose and lactate levels after 30 and 60 minute of recovery period, compared to a carbohydrate supplement. Key words: carbohydrates, amino acids, exhaustive exercise, recovery period.

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