World Academy of Science, Engineering and Technology
International Journal of Sport and Health Sciences
Vol:8, No:08, 2014

The Effect of Aerobic Exercises on the Amount of Urea, Uric Acid and Creatine in Blood of Iranian Soccer Players

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Abstract : The purpose of this research was to study the effect of aerobic exercises with 75% heart beats on the amount of urea, uric acid and creatine in blood of Iranian soccer national U-23 players. 27 players were selected according to the following demographic specifications: age: 21.4±1.60 years old; weight: 68±9.4 kg; height: 174.2±8.6 cm. Urea, uric acid and creatine in blood are considered as dependent variations where as 40 minutes running on a track with maximum 75% heart beats are independent variations. Heart beat and blood pressure in rest time, age, height, and weight are considered as the controlled variations. Maximum heart beats are recorded under maximum exercises (8 minutes and 150-250 watt energy) on ergo meter. Then, in order to determine independent variations, 75% maximum heart beats are considered for each player. Blood is taken twice (before and after determining independence variation). Moreover, the players are given a few instructions to be fulfilled 24 hours before the main exercises. Laboratory analysis method for blood urea sample is deacetyl ammoniom, for uric acid Karvy test and for creatine pyric acid. 'T' formula is applied for analyzing statistical data in dependent groups with degree of freedom 7 (d.f=7) urea and uric acid contain P>0.01 and P>0.05 for creatine. 1. Aerobic exercise can effect on the concentration of urea of blood as well as uric acid and creatine in blood serum and increase the amount of them. 2. Urea of blood serum increases from 26.75±2.59 to 28.9±2.67 (25%) with 40 minutes running and 75% heart beat. 3. Aerobic exercise causes uric acid increase 12.5% from 5.7±0.52 (before exercise) to 6.1±0.71 (after exercise). Creatine of blood serum increases from 1.36±0.27 (before exercise) to 1.85±0.49 (after exercise). We came to this result that during aerobic exercise catabolism of protein substrate increases. Moreover, augmentation of urea, uric acid and creatine in blood serum as metabolic poisons causes disorder in kidney. Also, tendons and joints are affected by these poisons. Appropriate diet and exercise can prevent production of these poisons resulted from heavy exercise.

Keywords : aerobic exercise, urea, uric acid, creatine, blood, soccer national players
Conference Title : ICPESS 2014 : International Conference on Physical Education and Sport Science
Conference Location : Paris, France
Conference Dates : August 28-29, 2014