Abstract

Long duration exercise may lead to the occurrence of urine abnormalities. Aiming to investigate the effects of triathlon training and competition on the renal function, twelve male triathletes (32.60 ± 5.10 years, 175.04 ± 6.67m, 71.83 ± 7.42Kg) were studied during the 12-week training protocol and after a Half Ironman. Urine was collected in M-1 – beginning of the training season, M-2 – before the competition and M-3 – after the half ironman. Urine pH was measured using reagent strips, density with a refractometer, proteinuria by Bradford assay, creatinine with a colorimetric assay and blood cells by microscopy. Data were analyzed using Shapiro-Wilk test, One-Way ANOVA and Tukey-Kramer test (p < 0.05). Changes were found after the competition in the protein (M-1= 7.41 ± 2.48; M-2= 7.57 ± 3.74; M-3= 8.10 ± 76.21 mg/mL), creatinine (M-1= 157.66 ± 41.59; M-2= 177.68 ± 44.46; M-3= 316.46 ± 132.86 mg/mL), erythrocytes (M-1= 1060.00 ± 0.30; M-2= 1142.86 ± 377.96; M-3= 52555.56 ± 58.65 units/mL) and leucocytes (M-1= 2375.00 ± 744.02; M-2= 2090.00 ± 0.50; M-3= 5000.00 ± 2738.60 units/mL) excretion when compared to the other collection times. These effects are probably due to the exercise-induced modifications in the glomerular membrane and endocrine variables such as anti diuretic hormone, catecholamines and aldosterone.

Keywords

Key words, endurance training, half-ironman, kidney function, urine analysis.