

## THE INFLUENCE OF ONE SESSION OF INTENSIVE PHYSICAL ACTIVITY ON THE AMOUNT OF TESTOSTERONE, CORTISOL, INSULIN AND GLUCOSE HORMONE IN ELITE ATHLETES' BLOOD SERUM HEMOSTAT

### **Abstract**

*The aim of this study was to investigate hormonal responses (Testosterone, Cortisol, Insulin) and Glucose density after acute exercise in elite athletes. Methods: 27 elite athletes, who acquired between athletes of the Iranian Premier League, divide into two endurance and speedy group. Before and after the acute exercise, blood samples were drawn to determine serum Testosterone, Cortisol, Insulin and Glucose. The blood samples were analysis in the laboratory with Radio Immuno Assay methods. For statistics analysis of lab data, we used paired sample t-test. Results: Results showed an increase in hormones and Glucose density in both group and decrease Insulin in endurance group. Also Cortisol and Glucose significantly increased in endurance group ( $p \leq 0.05$ ), but in speedy group Testosterone significantly increased after acute exercises ( $p \leq 0.05$ ). Conclusion: Exercises, chiefly, acute exercises is causing an increase of anabolic hormonal change. Therefore, athletes can use these acute exercises to increase sport capacity.*

**Key words:** physical activity, blood, serum, hormones

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