



## Evaluation of Cardiac Troponin I (CTnI) Response to a Soccer Game in Adolescent Male Soccer Players

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### Abstract

**Introduction:** The purpose of the present research was to examine the response of cardiac biomarkers to a soccer game in adolescent male soccer players.

**Methodology:** For this purpose, 22 soccer players of bargh Tehran's young team (average age  $44/0 \pm 39/15$  years,  $89/7 \pm 13/60$  kg weight, height  $28/7 \pm 65/173$  cm, body mass index  $98 / 1 \pm 89/19$  kg.m<sup>2</sup>) were chosen for sampling. Before the soccer game, player's maximum oxygen consumption was assessed by examining the periodic-recovery Yo-Yo ( $69/4 \pm 54/53$  maximal oxygen consumption ml / kg / min). As well as to determine the intensity of the game, video analysis, through which the players running during the race (in running  $85/2020 \pm 82/7302$  meters) was assessed. Friendly soccer game to be held in accordance with FIFA standards. For a detailed review changes in cTnI, percentage of plasma volume were measured at each stage.

Finally, players according to their specialized posts, were divided into teams 4-4-2 combination. Blood samples before the race, 30 minutes, 2 hours and 24 hours after the soccer game the players were taken from the brachial vein. The results were statistically analyzed using SPSS version 22 were investigated. were used In the statistical analysis for the Shapiro–Wilk test normality test data and the analysis of variance with repeated measures was used to assess differences between different sampling times and because of significant differences, post hoc test to determine the differences between Bonferroni correction different sampling procedures.

**Results:** The findings showed that soccer game can increase rates of cardiac troponin I in 30 minutes and 2 hours after the soccer game in adolescent soccer players and cardiac troponin I levels 24 hours after the game significantly lower than their peak values.

**Discussion:** Given that changes in cardiac troponin I level within the normal physiological and increasing it is also temporary, It seems that the rise in cardiac troponin I in youth soccer after a soccer game, rather than a pathological response and cardiac damage, mostly related to a physiological response of the heart And football in this age group due to risk of heart damage is not considered safe.

**Keywords:** CTnI, Soccer Game, Adolescent Male, Soccer Player