



The survey of troponin in professional and amateur runners after endurance exercises

Poster Presentation

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Abstract

Introduction: Available scientific data related to cardiac troponin I (cTnI) release after intermittent exercises is limited. It is also of interest to determine the concentration of troponin in the runner of track and field. This study had two objectives: evaluate the level of troponin in professional and amateur runners after endurance exercises.

Methods: Thirty runners (15 professional adults 27.3±4.1 years, 15 amateur adults 29.6±2.9 years) participated in a protocol of endurance exercises that consists of the distance exercises with principles of interval and distance exercises.

Results: After endurance exercises cTnI levels increased (pre: median [range]; 0.006 [0.001–0.026]; peak post: 0.024 [0.004–0.244] µg/L; p=0.000), with substantial individual variability in peak values. Findings showed that professional runners had higher baseline and post-exercise cTnI levels than amateur runners (p<0.05). Peak cTnI exceeded the upper reference limit (URL) in the 26% of players.

Conclusions: The current results suggest that endurance exercises can increase the level of cTnI, which is mediated especially by professional runners.

Keywords

Endurance Exercises; cardiac troponin I; runners

References:

1. Scharhag J, George K, Shave R, Urhausen A, Kindermann W. Exercise-associated increases in cardiac biomarkers. *Med Sci Sports Exer* 2008;40:1408–15.
2. Shave R, Oxborough D. Exercise-induced cardiac injury: evidence from novel imaging techniques and highly sensitive cardiac troponin assays. *Prog Cardiovasc Dis* 2012;54:407–15.
3. Serrano-Ostáriz E, Legaz-Arrese A, Terreros-Blanco JL, López-Ramón M, Cremades-Arroyos D, Carranza-García LE, et al. Cardiac biomarkers and exercise duration and intensity during a cycle-touring event. *Clin J Sport Med* 2009;19:293–9.
4. Shave R, Ross P, Low D, George K, Gaze D. Cardiac troponin I is released following high-intensity short-duration exercise in healthy humans. *Int J Cardiol* 2010;145:337–9.