Poster

HEART RATE VARIABILITY CHANGES ON VOLLEYBALL PLAYERS AFTER A COMPETITION

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INTRODUCTION

Actually, heart rate variability (HRV) has increased its use for being a noninvasive technique to measure the workload of athletes and its ability to adapt to extreme conditions both internal and external (1). Based on the sympathetic and parasympathetic activity, measured changes in autonomic functions due to exercise (2). The purpose was to analyze changes on HRV after a competition and its recovery.

METHODS

Nine players gave their consent (age: 22.8±3.2, weight 85.3±6.1, height 190.2±5.5) and took part of the study on a National University Competition, which was approved by the ethics committeeCOBICIS. HRV was recorded for 15 minutes in the supine position using Polar Team² (3). Values were analyzed by KUBIOS software through an analysis of time parameters (MRR, SDRR, rMSSD, pRR50). The scatter plot Poincare was analyzed by the transverse axis and the longitudinal axis SD1 SD2.The first record was resting one day before starting the competition, the second was at the end of the last match, the recovery was monitored at 2, 24 and 48 hours after the competition and the last record was a week later.

RESULTS

Through HRV we found a statistical significancebetween samples 2 and 3 belonging to the end of the competition and two hours later, this behavior is reflected in the MRR (p=0.000), SDNN (p=0.010), pNN50 (p=0.000), SD1 (p=0.001) and SD2 (p=0.014), unlike the rMSSD (p=0.070) which shows no statistical significance.

DISCUSSION

A decrease in the HRV was observed at the end of the competition and two hours later, assuming a predominance of sympathetic activity and decreased parasympathetic activity caused by the stress of consecutive games played without permit suitable recovery (3, 4, 5). These results allow us to understand the impact of competition on physical performance and determine performance status.

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