

Turkish Journal of Medical Sciences



Turkish Journal
of
Medical Sciences

Effects of Aerobic Exercise Training on the Heart rate-Work rate Relationship and Estimation of Anaerobic Threshold in Obese Females

Oğuz ÖZÇELİK

Haluk KELEŞTİMUR

Department of Physiology, Faculty of Medicine, Firat University, Elazığ -TURKEY

 [Keywords](#)
 [Authors](#)



medsci@tubitak.gov.tr

[Scientific Journals Home Page](#)

Abstract: Aim: The purpose of this study was to assess the effects of aerobic training on the relationship between the heart rate deflection point and anaerobic threshold (AT). Patients and Methods: Seventeen untrained, obese subjects (body mass index: $39.5 \pm 1.2 \text{ kg/m}^2$) completed 2 incremental ramp exercise tests (15 W/min) up to the point of exhaustion using an electromagnetically-braked cycle ergometer; once at the onset and once at the end of a 4-week period. All subjects participated in a regular anaerobic exercise training programme (45 min, 3 times per-week, for 4 weeks) combined with a hypocaloric diet. Heart rate was recorded with a polar monitor. AT was estimated using the ventilation-metabolism relationship, but was determined from capillary blood lactate samples. Results: Of all the subjects, only 4 (23.5%) had a heart rate deflection during pre-training, while 3 (17.6%) did during post-training conditions. Additionally, the heart rate deflection point overestimated (20.6%) the AT: $90.0 \pm 7.2 \text{ W}$ vs. $75.7 \pm 6.5 \text{ W}$ ($P = 0.01$). After training, the heart rate-work rate relationship changed in 7 subjects. Conclusion: These data indicated that a deflection point in heart rate does not often occur, and, when it does, it does not coincide with AT, either in pre-training or post-training conditions.

Key Words: Exercise test, heart rate deflection point, anaerobic threshold, obesity

Turk J Med Sci 2006; **36**(3): 165-170.

Full text: [pdf](#)

Other articles published in the same issue: [Turk J Med Sci,vol.36,iss.3.](#)