12주 규칙적인 유산소 트레이닝이 중년의 제 2형 당뇨병환자의 회복기 심박수와 심혈관계 요인에 미치는 영향

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Abstract

Kim, Y.I., Son, W.I., Kim, J.K. The effect of 12 weeks aerobic training on heart rate recovery and cardiovascular factors in middle age type 2 diabetes mellitus *Exercise Science*. 17(4): 423-432, 2008. The purpose of this study was to examine effect of 12 weeks aerobic exercise training on HRR(heart rate recovery)and cardiovascular in middle age type 2 diabetes mellitus(T2DM) patients. Eighteen male subjects participated in this study. They were divide into T2DM with obese group(N=9) and Obesity(N=9). subjects participated in aerobic exercise training for 12 weeks. they started to exercise for 20~60 minutes per day, 3~5 times a weeks at 60~80% of HR_{max}(exercise intensity has been increased gradually). the results were compared according to baseline, 12weeks and all subjects. Weight and BMI, % body fat, fasting glucose, restHR, peakDBP were significantly decreased and peakVO₂, exercise time were significantly increased after 12 weeks aerobic exercise. also, HRR(heart rate recovery)were not significantly increased after 12weeks regular aerobic exercise training. Conclusionally, 12weeks aerobic exercise training may be effective on improvement of HRR(heart rate recovery) and cardiovascular factors in type 2 diabetes melletus(T2DM) patients.

초 록

김영일, 손원일, 김정규. 12주 규칙적인 유산소 트레이닝이 중년의 제 2형 당뇨 환자의 회복기심박수(HRR)와 심혈관계 요인에 미치는 영향. *운동과학*, 제17권 제4호. 423-432, 2008. 본 연구의 목적은 중년의 제 2형 당뇨 환자를 대상으로 12주간의 유산소 트레이닝이 회복기 심박수와 심혈관계 요인에 미치는 영향을 알기 위함이다. 본 연구 대상자들은 비만을 동반한 제 2형 당뇨병환자 9명과 단순 비만자 9명, 총 18명으로 구성되어 있으며 당뇨와 비만 이외의 합병증을 가지고 있는 사람은 연구 대상자에서 제외시켰다. 유산소 트레이닝은 12주 동안 최대심박수(HR_{max})의 60~80%로 주 3~5회, 20~60분간, 단계적으로 운동강도와 빈도, 시간을 점진적으로 증가시켰고 트레이닝 전과 후, 모든 대상자의 측정변인들을 비교하였다.

이상의 결과를 종합해 볼 때, 12주 유산소 트레이닝 후, 체중과 체지방률(BMI), 체지방률(%body fat), 공복시혈당(fasting glucose), 안정시 심박수(restHR), 이완기혈압(DBP)은 유의하게(P<.05) 감소하였고 최고산소소비량(PeakVO₂)과 운동시간(Exercise time)은 유의하게(P<.05) 증가하였다. 또한 회복기 심박수(HRR)는 12주 유산소 트레이닝으로 인해 유의하진 않았지만 증가함을 나타냈다.

결과적으로 12주 유산소 트레이닝은 제 2형 당뇨(T2DM)환자에서 회복기 심박수(HRR)와 심혈관계 요인(cardiovascular factors)을 증진시키는데 효과적 이었다.

Key words : type 2 diabetes mellitus, heart rate recovery, cardiovascular factors, autonomic dysfunction

주요어 : 제2형 당뇨, 회복기 심박수, 심혈관계 요인, 자율신경계 이상

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논문투고일 : 2008. 09. 30

심사일 : 2008. 10. 13

심사완료일 : 2008. 11. 15

K C I