

Effects of Arm Exercise on Serum Glucose Response in Type 2 DM Patients

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摘要

Abstract

The aims of the study were to examine the influence of upper extremity exercise on glucose response and to establish a predictive model of changes in serum glucose under different exercise intensities and durations. Thirty-three type 2 DM patients who met the selection criteria were selected. An arm cycle ergometer exercise test was conducted, and then 12 arm exercise sessions were arranged based on different exercise intensities (40%, 60%, and 80% of maximal workload) and exercise durations (10, 20, 30, and 40 min). Serum glucose levels were measured before and after each exercise session. Serum glucose levels significantly decreased after arm exercise regardless of different intensities or durations. However, no interaction effect (intensity x duration) or main effect in exercise intensity was observed, but a significant main effect in exercise duration was observed ($F = 11.756, p < .0001$). Also exercise duration was a significant predictor of serum glucose changes after arm exercise. These results suggest that arm exercise can play a useful role in glycemic control for type 2 DM patients and exercise duration is a key factor in determining serum glucose response under upper-extremity exercise.