

88

COMPARISON OF PR AND S-T SEGMENT RESPONSES OF GRADED TREADMILL TEST AMONG SPORTS MEN

Harish Kumar, S K Verma, Deresey Mekonnen *Department of Sports Science, Punjabi University, Patiala, Punjab, India*

10.1136/bjism.2010.078725.88

The study was conducted on a total of 30 male volunteers in the age range of 16–22 years. The subjects were grouped into aerobic, anaerobic and sedentary groups based on their training specialty. The aerobic group consisted of eight trained cyclists while the anaerobic group consisted of three sprinters, four footballers and five wrestlers. Both the aerobic and anaerobic groups were trained for a year and above. The sedentary groups

comprised of 10 students from different departments of Punjabi University, Patiala and were not taking part in any regular exercise programme. The main aim of the study was to compare the ECG responses to graded treadmill exercise among the aerobic, anaerobic and sedentary groups as well as to report the effect of intensity of exercise on the ECG. All the subjects of the study were administered a graded treadmill test using modified Bruce protocol that consisted of nine stages each of which lasted for 3 min. All the subjects completed all the nine stages. Exercise test was performed on electrical treadmill. Heart rate and ECG responses were monitored by using a standard 12-lead system with a computerised electrocardiograph machine. The grade of the treadmill was kept constant for the first three stages (0%) and then starting from stage 4 grade was increased to 12% whereafter it was progressively increased by 2% until stage 9–22%. The speed of the treadmill belt was 2.70 km/h in the first three stages thereafter gradually increased to 4.00, 5.40, 6.70, 8.00, 8.80 and 9.60 km/h at stage 4, 5, 6, 7, 8 and 9, respectively. The workload or intensity was 4.80, 7.10, 10.00 and 14.00 MET at stages 3, 4, 5 and 6, respectively; and 20 MET through stage 7 to 9. The duration and amplitudes of the ECG waves (P, QRS, T) and various segments (PR & ST) and intervals (PR, QT, TP and RR) were measured manually from ECG graph paper printed with a paper speed of 25 mm/s.