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Journal Abstract

Electrocardiography and echocardiography in athletic heart imagining D Biały, A Derkacz, H Nowosad, R Skalik, E Marszałek, R Poręba, M Protasiewicz, Z Zagrobelny

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The aim of the study was evaluation of electrocardiographic and echocardiographic parameters in athletes. "Athletic heart" characteristics were compared with fit persons' heart. 96 athletes participated in the study. Sportsmen were divided into: static (S), dynamic (D) and composite (SD) exercise groups and Polish (I), European (II), World (III) champions. 30 students from Sport Academy formed the control group (K). Electrocardiographic and echocardiographic examination were performed in everyone. As regards the type of exercise, the end-systolic left ventricular (LV) dimension was smaller in S in comparison with D and SD (28.9 vs 32.2 and 32.68 mm; P<0.05). LV mass was bigger in D in comparison with K (273.2 vs 218.6 g; P<0.05). Medium Pulmonary Artery Pressure (MPAP) in S and SD was lower in respect to D and K (11.75; 11.08 vs 15.52; 17.43 mm Hg; P<0.05). We observed lower heart rate in D, SD in comparison with K (58.64; 60.54 vs 68.8; P<0.05), bigger R wave amplitude in V5 (RV5) (21.65; 23.5 vs 15.03 mm; P<0.05) and V6 (RV6) (23.5 vs 15.3 mm; P<0.05) in group S in respect to K. LV mass was bigger in III than in K (261.3 vs 218.6 g; P<0.05). MPAP was lower in I and II in comparison with K (11.42; 13.13 vs 17.43 mmHg; P<0.05). HR was lower in categories I, II than in K (61.32; 60.13 vs 68.8; P<0.05), RV5 was bigger in I in comparison with K (19.5 vs 15.03 mm; P<0.05). The electrocardiography and echocardiography proves to find some significant differences between athletic and fit persons' heart especially as concerns MPAP, RV5, RV6 values.

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