

Poster

85 A SURVEY ON THE EFFECT OF AEROBIC EXERCISES ON FUNCTION AND STRUCTURE OF HEART IN DIABETIC MALE RATS OF SPRAGUE DAWLEY-ALBINO SPECIES

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The aim of this research was to study the effect of aerobic physical exercises on the performance and heart structure of diabetic mice. Thus, 48 male mice from Sprague Dawley race with the weight of 150–300 g were bought and divided randomly in four groups, each including 12 mice. These four groups consisted of the control group with physical exercise, the control group without physical exercise, diabetic group without physical exercise and diabetic group with physical exercise. These mice were affected by diabetes by the injection of streptozotocin. The exercise protocol included three procedures: the first 4 weeks with the speed of 12 m in a minute during the time of 10 min, the second 4 weeks with the speed of 22–23 m in a minute during the time of 40 min and the final 4 weeks with the speed of 23–25 m on a minute during the time of 1 h. In this research, the levels of blood sugar and the lipoproteins were measured by enzyme method and the blood pressure, thickness and cavity of heart by sensitive electrodes and echocardiography. The results showed that after 4 weeks of physical exercise, the levels of sugar, blood pressure and lipoproteins had not changed anyway but after 12 weeks of physical exercise, it was determined that the levels of blood sugar and blood pressure in diabetic group with physical exercise have decreased meaningfully ($p < 0.05$). In addition, this low blood sugar and low blood pressure had a positive and meaningful relation with each other. Also the thickness and cavity of the ventricle in the diabetic group with physical exercise had increased but the changes in blood sugar had just meaningful relation with the changes in the thickness of the ventricle ($p < 0.05$).