

EFFECT OF EXERCISE IN THE BIOCHEMICAL PROFILE, REPRODUCTIVE OUTCOME, AND FETAL ANOMALY OF DIABETIC RATS

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Background and aims: *Diabetes mellitus* in pregnancy causes miscarriage and congenital anomaly in the offspring. The aim of this study was to characterize biochemical profile, reproductive outcome, and anomaly frequencies in the conceptus of an animal model of diabetic pregnancy exposed to exercise program.

Methods: Female rats were made manifestly diabetic by a single i.v. injection of streptozotocin one week prior to mating. Control females received no injection at all. Rats were submitted to the moderate exercise (swimming program) in different moments: from prior, day 0 and day 7 to end of pregnancy. The pregnancies were interrupted on gestational day 21. The uterine content was inspected and maternal blood samples collected for biochemical analysis.

Results: Control and diabetic rats exposed to swimming presented no glycemia alteration and their fetuses at birth had lower weight. The exercise in diabetic rats caused increased high density lipoprotein (HDL)-cholesterol level and live fetus number, and decreased embryonic death rate. The swimming program did not alter external and visceral anomaly frequencies, but increased skeletal anomalies (sternebra) in fetuses from diabetic rats.

Conclusion: Maternal diabetes associated to swimming program caused fetal low weight and decreased ossification sites, contributing with fetal growth restriction.

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