

EARLY GLYCOTOXIN EXPOSURE INDUCES EX-VIVO LEFT VENTRICULAR DYSFUNCTION IN ADULT RATS

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The exposure of the fetus/neonate to glycotoxins via the placenta or breast milk, such as the methylglyoxal (MG), has been related to short- and long-term disorders in its development. The aim of this study was to evaluate the effects of early exposure to methylglyoxal, during the lactation phase, on cardiac parameters at adulthood. All the experimental procedures were approved by the ethics committee of animal use of UFG (007/21). Eight pregnant rats were separated into: vehicle group (VEH); and MG group, MG (60 mg/kg), the treatment was carried out from PN3 to PN14. The litters were standardized 4 male and 4 female pups. At PN120, hearts were mounted in a Langendorff apparatus. 10' of basal, 30' ischemia and 30' of reperfusion were performed. Intraventricular systolic (ISP) and diastolic (IDP) pressure, dP/dt + and - were recorded. AUC of each experiment was calculated, and the results were compared using two-way ANOVA with Sidak's post-hoc test. Despite of no difference in the heart-to-body weight ratio, MG hearts presented reduced basal LV contractility in both male ($p<0.01$) and female ($p<0.01$) offspring. After ischemia, MG groups still presented decreased LV contractility in both male and female offspring ($p<0.05$). Glycotoxins exposure during the lactation leads to reduced intrinsic contractility at adulthood and reduced chances of surviving ischemic events.

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