1st INTERNATIONAL SYMPOSIUM of DOHaD and Pandemic: LESSONS FROM COVID-19
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1º SIMPÓSIO INTERNACIONAL de DOHaD e Pandemia: LIÇÕES DO COVID-19
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MATERNAL FOOD RESTRICTION DURING LACTATION PROMOTES RENAL DYSFUNCTION IN THE MALE OFFSPRING AT ADULTHOOD

Maria Eduarda R. da Silva[1], Keilah V. N. Cavalcante, Marcos Divino Ferreira-Junior, Ariel Penha Carvalho da Mota, Isadora Silva Rosa, Jose Antonio Barbosa Lima Sobrinho, Rodrigo Mello Gomes
[1]maria.silva234@discente.ufg.br, PPGCB /UFG, 0009-0002-0410-2528

The aim of this work is to evaluate the renal function and the morphology of the kidneys in the offspring, of both sexes, of mothers who underwent a 50% food restriction during lactation. Pregnant Wistar rats were divided into two experimental groups: Control group (CO) fed with standard diet and Food restriction (FR) fed with standard diet restricted to 50% of the daily food intake of CO mothers. The intervention was carried out from the 1st to the 14th day of lactation, after from the 14th to the 21st day of lactation. The offspring of both groups were fed with standard diet and water *ad libitum* until 120-day-old. At the end of the experimental period 24-hour urine collection was performed. After euthanasia biochemical and histological analysis were performed. Male and female FR offspring showed no change in body weight or kidney weight compared to control counterparts. Male FR showed a reduction in the glomerular filtration rate (CO 3.22±0.35 *vs* FR 2.25±0.12; ml/min) and increased total urinary protein (CO 82.82±11.79 *vs* FR 123.8±8.37; mg/dL) compared to the CO offspring. We observed a reduction in glomerular area in the male FR (CO 7259±271.7 *vs* FR 6349±106.3; μm^2) in comparison to CO offspring. In conclusion, maternal food restriction causes functional and morphological kidney damage in adult males, being a sex-specific response since females did not show alterations.

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