1st INTERNATIONAL SYMPOSIUM of DOHaD and Pandemic: LESSONS FROM COVID-19
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HIGH-FAT DIET IN THE PERI-PUBERTAL PERIOD PROGRAMS CARDIOVASCULAR DYSFUNCTION IN ADULT MALE WISTAR RATS

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Stress during peri-pubertal period can determine no communicable disease in adulthood. This study aims to evaluate whether high fat diet exposure during adolescence induces long-term cardiovascular dysfunctions. The ethic committee approved the animal protocol nº 1527130815. Wistar rats, 30-days-old, were feed to a high fat diet (HFD, 35% lard w/w) until 60-days-old, then fed a normal fat diet for a further 60 days dietary recovery. Control animals ate normal fat diet throughout life. Body weight and food intake were evaluated weekly. At PN120, cardiovascular and histological analysis were done. Student´s T test were applied. PN120, feed by HFD during adolescence increase systolic and diastolic blood pressure (upper 10% and 4%, respectively; $p < 0.05$ and $p < 0.005$). Using ganglionic blocker, hexamethonium (30 mg/kg, iv), blood pressure was greater in the HFD rats (26%; $p < 0,01$). Increased perivascular and interstitial fibrosis (42% and 62% respectively; $p<0,01$ and $p<0,001$) were observed in the HFD rats, accompanied by a left ventricular hypertrophy (29%; $p<0,001$). Rats who were fed with HFD during peri-pubertal age present hypertension, hyperactivity of the vascular sympathetic nervous system and morphological cardiac alterations in adulthood. Current study remarks that adolescence is a plastic phase which permit to programs diseases later in life.

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