

LOW PROTEIN DIET DURING PERIPUBERTAL PHASE PROGRAMS TO CARDIOVASCULAR DYSFUNCTION IN ADULT RATS

Anna Rebeka Oliveira Ferreira¹, Maiara Vanusa Guedes Ribeiro, Guilherme Bernado Cornelio Coelho, Silvano Piovan, Gabriel Kian Guimarães Lopes, Leticia Ferreira Barbosa, Paulo Cezar de Freitas Mathias, Kesia Palma-Rigo

¹anna.rebeka108@gmail.com, PBC/UEM, 0000-0001-5147-5856

Perinatal malnutrition has a devastation effect later in life. This study evaluated whether protein restriction in adolescent rats programs hypertension regarding cardiac dysfunction. CEUA approved the experimental protocol under nº 3353060421. 30-day-old Wistar male rats were fed a low protein diet (4%) for the next thirty days and subsequently fed a 20.5% normal protein diet for the next 60-days with normal diet (LP group). Control rats (NP group) were fed a normal protein diet throughout life. Cardiovascular system function was evaluated with 120-days-old. Statistical analyses were performed with T-Student test. LP animals displayed an inferior body mass and nose-tail length ($P=0.0001$; $P=0.01$) and also rising retroperitoneal fat ($P=0.03$). LP rats exhibited a higher in mean arterial blood pressure ($p=0.05$). In the echocardiogram, LP group showed an increased in the diameter ($p=0.01$, $p=0.02$), interventricular septum ($p=0.040$ e $p=0.03$) and the in posterior wall ($p=0.01$ e $p=0.03$) of the left ventricle in diastole and systole respectively. Protein restriction in peripubertal period leads to hypertension in adulthood, sustained by greater cardiac dysfunction.

Keywords: Protein Restriction, Hypertension, Cardiovascular System

Funding: CNPq, CAPES and INSPAM/JBS

