

## METABOLIC DYSFUNCTIONS OF PERIPUBERTAL PROTEIN RESTRICTION IN MALE RATS

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The current study investigate sound effects of low-protein diet (LP) during peripubertal period to induce metabolic dysfunctions. In our study (CEUA 2910011021), 30 days-old Wistar male rats received LP (4% protein) and control rats were fed a 20.5% protein diet, for 60 days (NP group). Biometric parameters was taken and glucose, total and HDL-cholesterol, and triglycerides were evaluated from plasma samples. Glycemia homeostasis was evaluated by OGTT and ITT, while hepatic parameters, including quantitative analysis of fat, triglycerides and cholesterol in the liver was evaluated ex vivo. At 60 days, LP rats showed inferior body mass ( $P=0.003$ ), food intake ( $P=0.05$ ), and nose-tail length ( $P=0.0001$ ), compared to NP. Regarding biochemical assays, LP rats showed higher serum glucose ( $P=0.008$ ); however, triglyceride ( $P=0.002$ ), total cholesterol ( $P=0.02$ ), and HDL levels ( $P<0.0001$ ) were lower in LP animals compared to NP group. LP rats also had minor glucose tolerance ( $P=0.02$ ) and greater insulin sensitivity ( $P=0.01$ ). In the hepatic parameters, LP rats showed an increase in liver fat ( $P<0.0001$ ), hepatic triglycerides ( $P<0.0001$ ), cholesterol ( $P<0.0001$ ), and liver weight ( $P<0.0001$ ). Considering the present data, peripuberty protein restriction induced metabolic and hepatic dysfunctions at the end of puberty. Therefore, malnourished adolescent animals are at higher risk of developing metabolic syndrome in adulthood.

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