DAILY MOTOR ACTIVITY (NEAT) DURING FOOD RESTRICTION IN RATS

Bruno M. Andrade, Renata L. Araújo, Alvaro S. Padrón, Monique S. Leandro,

Denise P. de Carvalho.

Laboratório de Fisiologia Endócrina, Instituto de Biofísica Carlos Chagas Filho, UFRJ – Brazil

Introduction - Thyroid hormones (TH) levels and resting metabolic rate (RMR) are decreased during food restriction (FR). Daily motor activity (NEAT) is an important component of energy expenditure but no studies evaluated it during FR. The purpose of this study is to evaluate the effect of FR on NEAT, RMR, body weight, corporal composition and serum T3, T4 and TSH. Male Wistar rats were divided into control (C) and food restriction (60% of food intake) for 30 days. **Results -** Food restriction led to a significant reduction in body weight, retroperitoneal and inguinal fats, but no reduction in subcutaneous fat. Total protein did not differ between the groups. As previously reported, serum T3, T4 and TSH concentrations were significantly decreased during food restriction ($p<0.05$). These changes occur in parallel with a significant reduction in RMR. Also, a significant decrease in the NEAT was observed ($p<0.05$). **Conclusion -** Our results confirm that food restriction decreases body weight, RMR and serum TH. We show that NEAT is also significantly affected by FR. Further studies have to define to what extent decreased NEAT and RMR might be involved in the resistance to weight loss and the participation of decreased thyroid function on NEAT.

Financial support: PRONEX, CNPq, FAPERJ.