

**P 4429****Obesity trigger insulin and glucose tolerance and alters IL6 levels**

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Introduction: Obesity is major risk factor for the onset of metabolic disorders as diabetes mellitus and insulin resistance. On other hand obesity is considered an inflammatory factor that can contribute with disease development. The aim of this study was investigate the effects of obesity upon the glucose and insulin metabolism and IL6 levels on liver. Methods: Thirty rats were divided into 2 groups: Control - standard chow (CT) that and Cafeteria diet (CD). This study was performed by 6 weeks. Were evaluated the delta weight and Lee index, glucose and insulin tolerance test and IL6 levels on liver. Data analysis were evaluated using Student's *t*-test, one way ANOVA/SNK or Mann Whitney test. Differences were considered significant at  $P < 0.05$  and the results were expressed as mean $\pm$ SEM or median (min-max). This study was approved by Ethics Committee of CEUA/HCPA: 11-0544. Results: Delta weight (CT: 64.2 $\pm$ 5.49 and CD: 94.86 $\pm$ 8.82,  $P=0.006$ ); Lee Index (CT: 2.90 $\pm$ 0.14 and CD: 3.47 $\pm$ 0.17,  $P=0.008$ ); GTT (CT - 0min: 325.50 $\pm$ 26.5; 30min: 84.50 $\pm$ 8.44; 60min: 56.30 $\pm$ 16.32; 90min: 37.11 $\pm$ 19.73; 120min: 21.50 $\pm$ 4.11 and CD- 0min: 391.20 $\pm$ 41.76; 30min: 84.50 $\pm$ 8.44; 60min: 56.30 $\pm$ 16.32; 90min: 37.11 $\pm$ 19.73; 120min: 21.50 $\pm$ 4.11;  $P < 0.05$ ;  $n=10$ ); ITT (CT - immediately: 325.50 $\pm$ 26.5; 15min: 96.90 $\pm$ 10.21; 30min: 198.30 $\pm$ 32.62; 45min: 134.80 $\pm$ 25.67; 60min: 106.90 $\pm$ 14.39 and CD- immediately: 391.20 $\pm$ 41.76; 15min: 103.40 $\pm$ 9.87; 30min: 55.90 $\pm$ 4.09; 45min: 42.40 $\pm$ 24.61; 60min: 41.90 $\pm$ 20.07;  $P < 0.05$ ,  $n=10$ ) and IL6 levels showed significant differences between groups (CT: median: 0.67 (minimum: 0.54 and maximum: 0.86) CD: median: 0.82 (min: 0.65 and max: 0.98,  $P=0.04$ ,  $n=8$ ). Conclusion: Exposure to cafeteria diet for 6 weeks induces obesity on animal models. In previous study with the same model was not demonstrated differences in fasting glucose, but the challenge with glucose and insulin clearly demonstrates that obese animals showed changes on glucose and insulin tolerance curve. These results suggest that fasting glucose per se may not be sufficient to detect early changes in glucose and insulin metabolism. In addition the IL6 levels were increased on CD group in hepatic tissue suggesting a pro-inflammatory state in this tissue that may be contributing to changes in hepatic metabolism of insulin and glucose. Apoio financeiro: FIFE / HCPA, PIBIC CNPq / HCPA, FAPERGS BIC / UFRGS, CNPq, CAPES. Keywords: IL6, obesity, TTG, TTI. Projeto 11.0455