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High fat diet induced obesity and changes mesenteric fat lipolysis

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Obesity is a multifactorial disease not well understood. This work was performed to analyze the effect of a high fat diet administration on mesenteric fat lipolysis, triglycerides synthesis and circulating levels of insulin, glucose and triglycerides. For this purpose, adult male rats were fed with a High Fat Diet (HFD), obesity group or standard rat chow, control group, for three months. At this point, animals were sacrificed by decapitation to avoid stress effects. Immediately after, mesenteric fat was aseptically dissected and together with the plasma from the trunk blood were kept to -80ºC until analyzed. Relative gene expression was performed by RT-qPCR. As expected, plasma levels of insulin, triglycerides and blood glucose levels were increased in HFD as compared to control group. Relative expression of *Atgl* gene was not modified either by HFD or photoperiod phase. HFD decreased *DAGT1, HSL* and perilipin relative gene expression in dark phase of photoperiod, while *DAGT2* was decreased in the light phase. However, HFD feeding markedly increased *CGI-58* relative gene expression in the dark phase, but no differences were found in the light phase of the photoperiod. The results suggest that obesity modify the expression genes of the proteins involved in lipid metabolism in mesenteric fat.

Biography

Diego Fajardo is currently a Pharmacy student - Department of Biochemistry and Molecular Biology at Universidad Complutense de Madrid. His interest is in medical research.

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