UNIVERSIDADE FEDERAL DE MINAS GERAIS

INSTITUTO DE CIÊNCIAS BIOLÓGICAS

Testicular histomorphometry of Wistar rats with type 2 diabetes mellitus induced by hypercaloric diet

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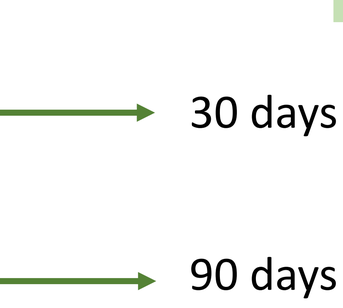
INTODUCTION

Diabetes mellitus (DM) is a chronic disease related to metabolic disorders such as hyperglycemia due to peripheral resistance and/or low insulin production. Differently of type 1 DM, an autoimmune disease characterized by a loss of function of pancreatic ß-cells to secrete insulin, type 2 DM is correlated with a sedentary lifestyle, high calorie diets, obesity and stress. Type 2 DM has been diagnosed earlier in the population and, according to the WHO, in 2014 there were about 442 million people with diabetes in the world. So, knowing that diabetes has systemic consequences, there is a concern about male fertility.

METHODOLOGY

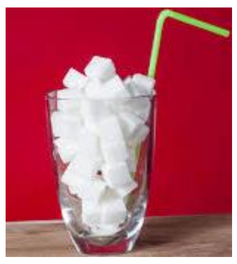
30 days

90 days



HIGH FAT

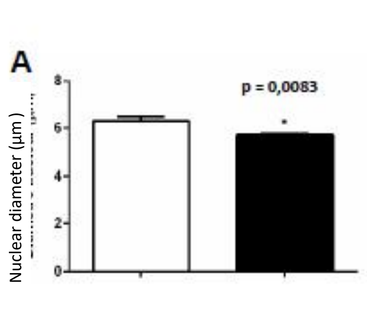
+

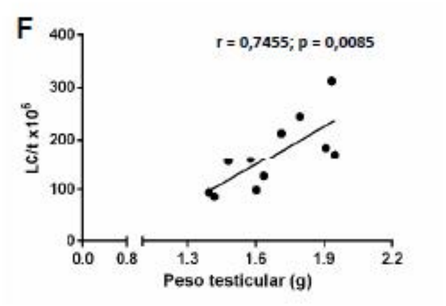


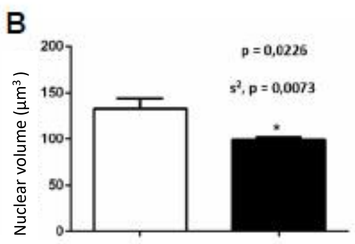
FRUCTOSE
30% W/V

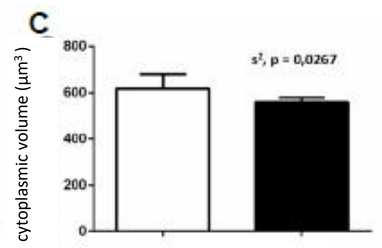
RESULTS

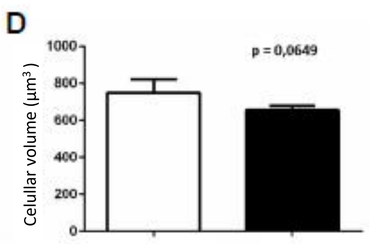
30 DAYS

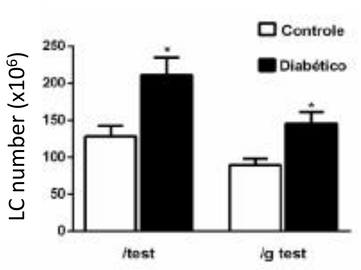


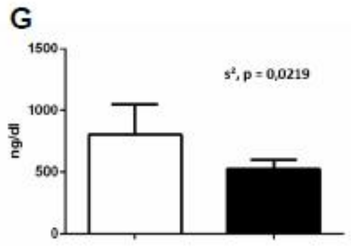


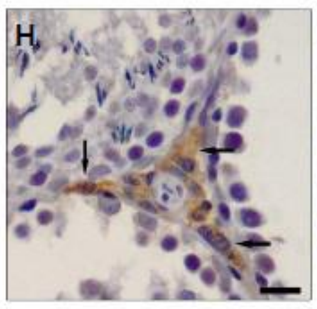


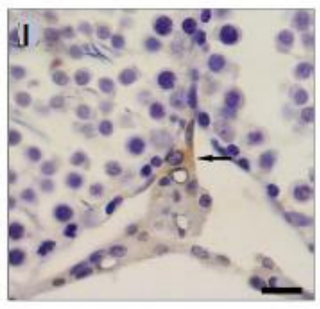


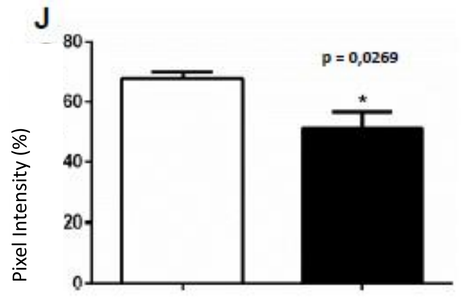




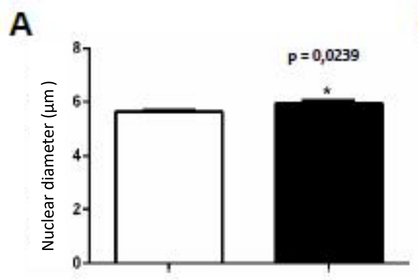


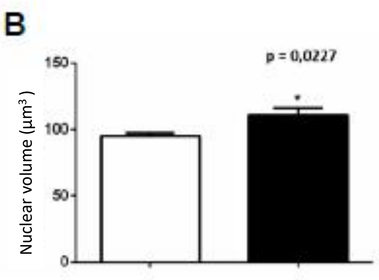


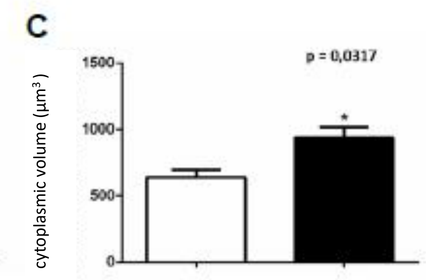


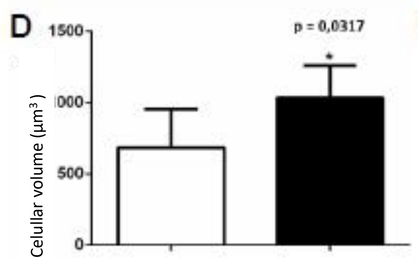


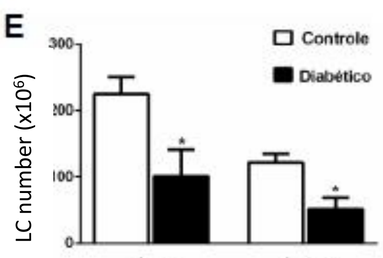
90 DAYS

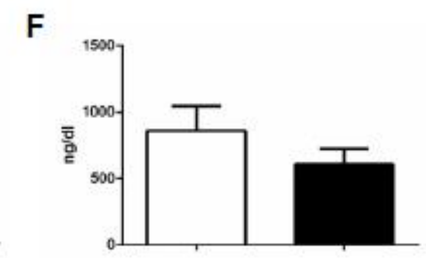


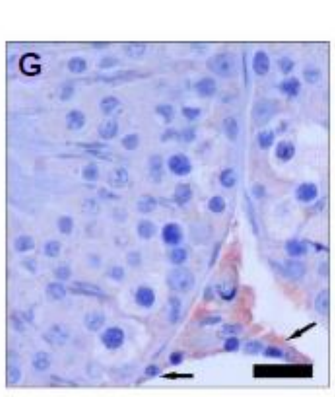


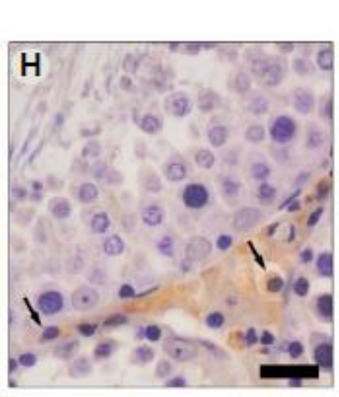


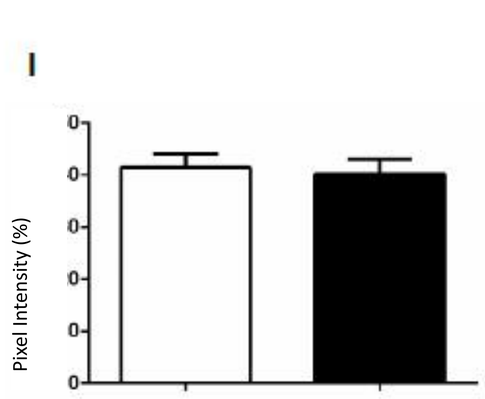












CONCLUSION

Leydig cells responded in a dichotomous way to the 30- and 90-day interventions. Compensatory hyperplasia, characterized by cells with smaller individual volume, represented the response of Leydig cells to intervention for 30 days. On the other hand, prolonged intervention with a hypercaloric diet generated a steroidogenic cell response typical of hypertrophy, where the cells increased their individual volume, mainly in the cytoplasmic compartment.

FAPEMIG

CAPES

CNPq
Conselho Nacional de Desenvolvimento Científico e Tecnológico