

THE IMPACT ON LIPID METABOLISM, GLUCOSE AND LIVER FUNCTION OF GLUCOSE-FRUCTOSE DIET IN RATS

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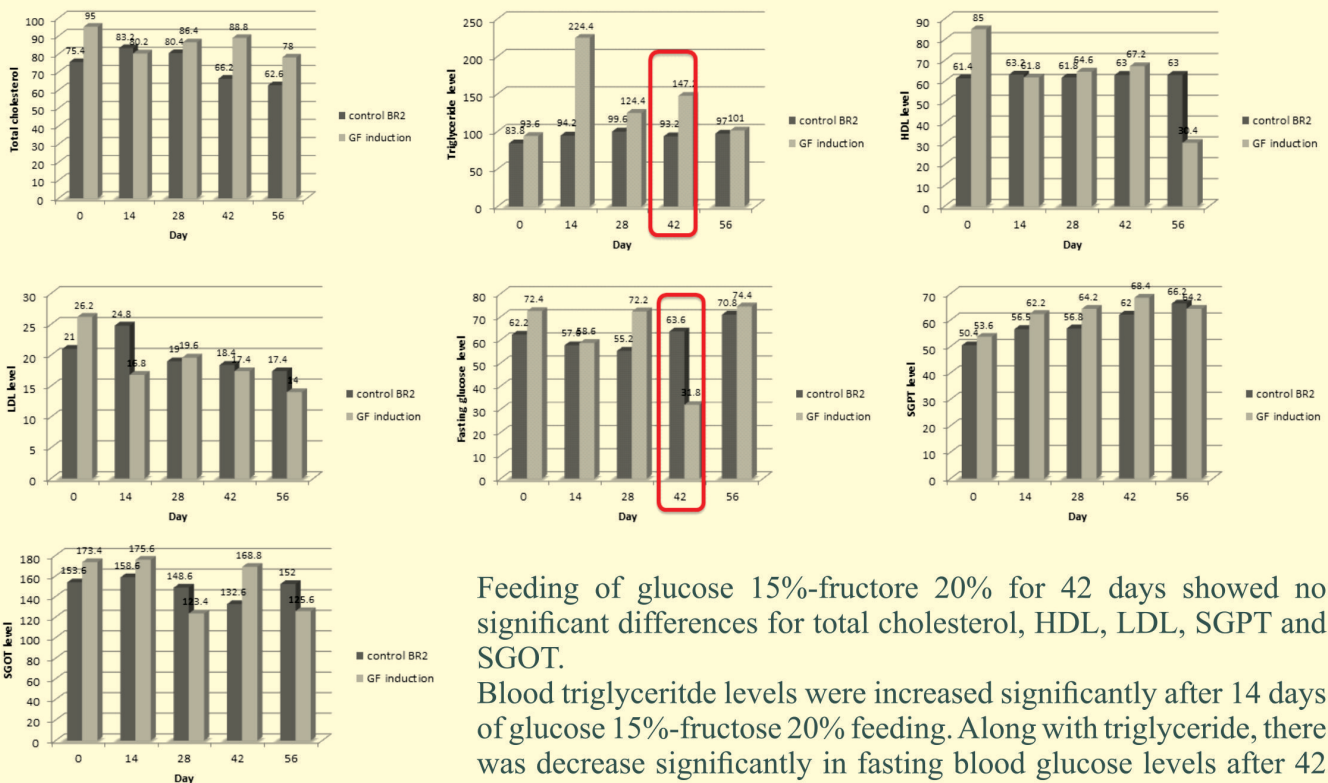
INTRODUCTION

The prevalence of diabetes mellitus has been increased since 2007 in Indonesia. It has been linked that the increased prevalence of type 2 diabetes and fatty liver by increased fructose supply. The purpose of this research is to explore whether the increased consumption of dietary fructose-glucose might be one of the environmental factor contributing to the accompanying abnormalities of lipid metabolism, glucose and liver function.

METHODS

Male Wistar rats weighing 150-170 g BW were fed diet containing BR2 (control group) and glucose 15%-fructose 20% (GF) for 8 weeks. Blood were collected and analyzed for various biochemical parameters like cholesterol, triglyceride, HDL, LDL, fasting glucose, serum glutamic pyruvic transaminase, and serum glutamic-oxaloacetic transaminase.

RESULTS and DISCUSSION



Feeding of glucose 15%-fructose 20% for 42 days showed no significant differences for total cholesterol, HDL, LDL, SGPT and SGOT.

Blood triglyceride levels were increased significantly after 14 days of glucose 15%-fructose 20% feeding. Along with triglyceride, there was decrease significantly in fasting blood glucose levels after 42 days of glucose 15%-fructose 20% feeding.

CONCLUSION

Our study demonstrated that rats given glucose 15%-fructose 20% for a period 42 days are suitable model for nonobese rats that present hypertriglyceridemia and hypoglycemia.

References

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