

Effect of Dietary Mushroom on Blood Glucose and Lipid Concentrations and Enzymes in Streptozotocin-induced Diabetic Rats.

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The purpose of this study was to investigate the effect of dietary mushroom powder on blood glucose and serum lipid concentrations and enzymes in diabetic rats. Four groups of rats were normal rats fed control diet(C), diabetic rats fed control diet(CD), normal rats fed mushroom powder diet(M), and diabetic rats fed mushroom powder diet(MD). Diabetes was induced by single injection of streptozotocin(60mg/kg B.W.). Diet and water intake were determined everyday. Blood glucose was determined every week, and serum cholesterol was determined every two weeks. After 5 weeks, rats were sacrificed, blood glucose, serum cholesterol, triglyceride and enzymes. HDL-cholesterol concentrations was determined and LDL-cholesterol concentration was calculated by equation. There were weight loss in diabetic rats, but diabetic rats fed mushroom powder(MD) showed less weight loss than those fed control diet(CD). Blood glucose of diabetic rats fed mushroom powder was lower than that of diabetic rats fed control diet($P<0.05$). Serum total cholesterol of rats fed mushroom powder was lower than that of rats fed control diet($P<0.05$). Serum triglyceride of diabetic rats was higher than that of normal rats. However, there were not significant difference between control diet groups and mushroom diet groups. Serum HDL-cholesterol levels of C group and CD group were higher than M group($P<0.05$), and MD group was not significantly different. But serum LDL-cholesterol levels of M group was lower than C group($P<0.05$). Enzyme activities of hepatic microsomal glucose 6-phosphatase(G6pase) and glutathione S-transferase(GST) were not significant. However, the activities of glutathione peroxidase(GSH-Px) was tended to increase in CD and MD group($P<0.05$). Glutathione reductase(GR) was decreased significantly. In conclusion, Dietary mushroom powder reduced blood glucose and cholesterol levels in streptozotocin-induced diabetic rats.