Protective effect of quercitrin on lipids, lipoproteins and glycoproteins in streptozotocin-induced diabetic rats.

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ABSTRACT

The protective role of qurecitrin on lipids, lipoproteins, and glycoproteins in streptozotocin-induced diabetic rats has been studied. A single intraperitoneal injection of streptozotocin (50 mg kg—) to rats led to a significant ($P < 0.05$) increase in the levels of lipids (cholesterol, triglycerides, free fatty acids and phospholipids) in plasma and tissues (liver and kidney). The levels of low density and very low density lipoprotein (LDL and VLDL, respectively) cholesterol were increased, whereas the levels of high density lipoprotein (HDL) cholesterol were decreased significantly ($P < 0.05$) in plasma. Streptozotocin injection also increased the levels of glycoproteins such as hexose, hexosamine, fucose and sialic acid in plasma, liver and kidney. Oral administration of quercitrin to streptozotocin-induced diabetic rats significantly ($P < 0.05$) decreased the levels of lipids in plasma and tissues. The levels of plasma HDL-cholesterol increased and the levels of LDL- and VLDL-cholesterol decreased significantly ($P < 0.05$). The levels of glycoproteins were found to be significantly ($P < 0.05$) decreased in plasma, liver and kidney of quercitrin-treated diabetic rats. Quercitrin administration to normal rats did not exhibit any significant ($P < 0.05$) changes in any of the parameters studied. In conclusion, the beneficial effect of quercitrin on lipids, lipoproteins, and glycoproteins could be due to its antioxidant property.

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