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QUERCETIN: A GOOD CANDIDATE FOR TREATMENT OF DIABETES?

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Imbalance in oxidative stress and antioxidant defense plays key role in pathogenesis of diabetes. Agents with hypoglycemic, lipid-lowering, and antioxidant activity can be useful for ameliorating progression and development of diabetes and its related complications. Quercetin, a major flavonoid derived from plant source, demonstrated with many pharmacological effects including anti-inflammatory, anti tumor and antioxidant activity. The present study investigated the hypoglycemic effects and antioxidant activity of quercetin in experimental diabetes divided in three groups (n= 7) including healthy control, diabetic control and quercetin-treated diabetic rats. The levels of malondialdehyde as a marker of lipid peroxidation were measured by malondialdehyde (MDA) assay. Total antioxidant power evaluated using FRAP assay. Our findings showed MDA levels were increased and total antioxidant capacity was decreased in STZ-induced diabetic rats. Quercetin treatment (15mg/kg) showed significant increase in total antioxidant capacity (pvalue \leq 0.05). In applied dose, quercetin could treat hyperglycemia and ameliorate MDA levels. The present study demonstrated beneficial effects of quercetin including hypoglycemic and antioxidant activity via decrease in malondialdehyde and fasting blood glucose and increase in total antioxidant capacity in diabetic rats. Our results suggested quercetin is a good case for study to determine its therapeutic function on diabetes mellitus.

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