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The bioflavonoid kaempferol attenuates circulatory lipids in experimental diabetic rats

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Flavonoids have anti-inflammatory and antioxidative effects and thus may protect against diabetic complications. Diabetes mellitus is associated with dyslipidemia, which is a significant risk factor for cardiovascular complications. This study was designed to investigate the effect of kaempferol on plasma and tissues lipid profiles in streptozotocin-induced diabetic rats. Diabetes was induced in adult male albino rats of the Wistar strain, weighing 180–200 g, by administration of streptozotocin (STZ) (40 mg/kg of body weight) intraperitoneally. The increased levels of plasma glucose and decreased levels of insulin were observed in diabetic rats and treatment with kaempferol significantly decreased the plasma glucose and increased the insulin levels towards normalcy. The levels of total cholesterol, triglycerides, free fatty acids and phospholipids were assayed in the plasma and tissues (liver, kidney and heart) besides lipoprotein-cholesterol (high density lipoprotein-cholesterol (HDL-C), low density lipoprotein-cholesterol (LDL-C) and very low density lipoprotein-cholesterol (VLDL-C)) were assayed in plasma. Total cholesterol, triglyceride, free fatty acid and phospholipid (LDL-C and VLDL-C in plasma only) levels significantly were increased in plasma and tissues, while plasma HDL-cholesterol significantly decreased in diabetic rats. Treatment with kaempferol prevented the above changes and improved towards normalcy. These results indicate that kaempferol can potentially ameliorate lipid abnormalities related to the risk of diabetes mellitus.

Biography

Govindasamy Chandramohan has completed his PhD from Annamalai University, India. He is currently working as an Assistant Professor in the Department of Community Health Sciences, College of Applied Medical Sciences, King Saud University, Saudi Arabia. He is having one patent for his novel antidiabetic drug invention. Senior Research Fellowship and University Research Studentship have been awarded for his doctoral research by Indian Council of Medical Research and Annamalai University respectively. He is very active in participation in scientific meeting and he has attended many scientific meetings. He has also served as a Session Chair Person and organizing committee member in various scientific international meetings. He has published a good number of papers in reputed international journals. He is serving as an Editorial Board Member and reviewer in reputed journals.

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