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Antioxidant, anti-diabetic and renal protective properties of *Stevia rebaudiana*

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Stevia rebaudiana has been used for the treatment of diabetes in, for example, Brazil, although a positive effect on anti-diabetic and its complications has not been unequivocally demonstrated. Streptozotocin is a potential source of oxidative stress that induces genotoxicity. The effects of stevia leaves and its extracted polyphenols on streptozotocin induced diabetic rats were studied. It can be hypothesized that supplementation of polyphenols extract from stevia to the diet causes a reduction in diabetes and its complications. Several indices were analyzed to assess the modulation of the streptozotocin induced oxidative stress, toxicity and blood glucose levels by stevia. The results showed a reduction of blood glucose, ALT and AST, and increment of insulin level in the stevia whole leaves powder and extracted polyphenols fed rats compared to control diabetic group. Its feeding also reduced the MDA concentration in liver and improved its antioxidant status through antioxidant enzymes. Glucose tolerance and insulin sensitivity were improved by their feeding. Streptozotocin induces kidney damage as evidenced by decreased glomerular filtration rate; this change was however alleviated in the stevia leaves and extracted polyphenol fed groups. The results suggested that stevia leaves do have a significant role in alleviating liver and kidney damage in the STZ-diabetic rats besides its hypoglycaemic effect. It might be adequate to conclude that stevia leaves could protect rats against streptozotocin induced diabetes, reduce the risk of oxidative stress and ameliorate liver and kidney damage.

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Serum homocysteine level as a risk factor acute coronary syndrome

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Acute coronary syndrome is one of the leading cause of all cause mortality as far as cardiac cause of death is concerned. Serum homocysteine has emerged as one of the independent risk factors for acute coronary syndrome. It causes damage to the endothelium of the arteries and leads to thrombosis. Elevated homocysteine cause endothelial cell injury which induces oxidative stress to the endothelium and reduces nitric oxide, it may also generate free radicals and inhibit production of other antioxidants. Endothelial injury is followed by platelet aggregation and thrombus formation. Here my study strongly proves that elevated homocysteine level is really a risk factor for acute coronary syndrome.

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