



The effect of herbal tea from *Balanitesaegyptiaca* fruits on streptozotocin-induced diabetes mellitus in rats

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Abstract: Diabetes mellitus and its complication are a worldwide health problem. Many plants have been used to improve glucose tolerance and insulin sensitivity in treatment strategies of diabetes mellitus. The present study investigated the potential therapeutic effects of herbal tea from *Balanitesaegyptiaca* fruits on certain biochemical markers in streptozotocin-induced diabetes mellitus in rats. Diabetes was induced in rats by single intraperitoneal injection of streptozotocin (STZ) with concentration of 60 mg/kg body weight. Herbal tea solutions of *B. aegyptiaca* fruits with different concentration 0.25, 0.5, and 1.0% were given to diabetic rats in replacement of drinking water. Diabetic control and normal control groups were given drinking water without herbal tea. The effects of *B. aegyptiaca* tea on blood glucose, total cholesterol, triglyceride, total protein, urea, creatinine and the activities of liver marker enzymes aspartate aminotransferase (AST), alanine aminotransferase (ALT), and antioxidants markers were examined in the plasma of control and treated rats. After four weeks of treatment with *B. aegyptiaca* tea; blood glucose, urea, creatinine, AST, ALT, total cholesterol and triglyceride was significantly reduced in diabetic rats. However, the levels of total protein and selected antioxidant enzymes activity were increased compared to diabetic control. Total antioxidant capacity was restored to near normal levels. The present results shown that herbal tea of *B. aegyptiaca* fruit has an anti-hyperglycemic effect and subsequently may improve hepatics and renal damage associated with STZ- induced diabetes mellitus in rats. Hence, the use of *B. aegyptiaca* fruit tea is applicable to approach health-promoting.

Key words: *Balanitesaegyptiaca*; Streptozotocin; Hypoglycemia; Antioxidant enzyme; Diabetes.