

Antioxidant and toxicological evaluation of *Cassia sophera* in streptozotocin-induced diabetic Wistar rats

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ABSTRACT

Background Multiple-organ failure is the main cause of death in diabetes mellitus (DM). Hyperglycemia-induced oxidative stress is responsible for major diabetic complications, including multiple-organ failure. Medicinal plants possessing antioxidant activity may reduce oxidative stress and improve the functions of various organs affected by hyperglycemia. **Objectives** This study was designed to evaluate the antioxidant effect of Aqueous Extract of *Cassia sophera* (AECS) in streptozotocin (STZ)-induced diabetic Wistar rats. **Materials and Methods** AECS (200 mg/kg body weight (bw)) and the standard antidiabetic drug glibenclamide (10 mg/kgbw) were administered orally by gavaging for 28 days. **Results** Oral administration of AECS inhibited STZ-induced increase in lipid peroxidation (LPO), aspartate transaminase (AST), alanine transaminase (ALT), alkaline phosphatase (ALP), bilirubin, creatinine and urea in liver of diabetic rats. Significant increase in activity of superoxide dismutase (SOD), catalase (CAT) and glutathione peroxidase (GPx), and a reduced level of glutathione (GSH), were observed in the liver, kidney, pancreas and testis on AECS treatment. **Conclusion** The results demonstrate that AECS is not only useful in controlling blood glucose, but also has antioxidant potential to protect the liver, kidney, pancreas and testis against damage caused by hyperglycemia-induced oxidative stress.

KEYWORDS

Antioxidants . *Cassia sophera* . streptozotocin

REFERENCES