



King Saud University  
Saudi Journal of Biological Sciences

www.ksu.edu.sa  
www.sciencedirect.com



ORIGINAL ARTICLE

## Influences of crude extract of tea leaves, *Camellia sinensis*, on streptozotocin diabetic male albino mice

Atef M. Al-Attar <sup>a,\*</sup>, Talal A. Zari <sup>b</sup>

<sup>a</sup> Department of Biological Sciences, Faculty of Sciences, King Abdul Aziz University, P.O. Box 139109, Jeddah 21323, Saudi Arabia

<sup>b</sup> Department of Biological Sciences, Faculty of Sciences, King Abdul Aziz University, P.O. Box 80203, Jeddah 21589, Saudi Arabia

Received 8 May 2010; revised 18 May 2010; accepted 18 May 2010

Available online 26 May 2010

### KEYWORDS

Streptozotocin;  
Diabetes;  
Tea leaves;  
Body weight;  
Serum chemistry;  
Mice

**Abstract** Natural remedies from medicinal plants are considered to be effective and safe alternative treatment for diabetes mellitus. The aim of the present study was to investigate the hypoglycemic activity of the crude tea leaves extract on streptozotocin (STZ)-induced diabetic mice. The average body weight of animals with diabetes and their percentage changes of body weight gain after 15 and 30 days were significantly lower than that of the normal control mice. In diabetic mice, supplementation with tea leaves extract decreased the loss of body weight. After 15 and 30 days, significant increases in the levels of serum glucose, triglycerides, cholesterol, creatinine, urea, uric acid, glutamic pyruvic acid transaminase (GPT) and glutamic oxaloacetic acid transaminase (GOT) were noted in STZ-diabetic mice fed with normal diet. Also, the values of total protein in this group were statistically declined after 15 and 30 days. The levels of serum glucose and GPT were significantly elevated after 15 and 30 days in diabetic mice supplemented with tea leaves extract. Moreover, the level of serum GOT was notably increased after 30 days. Insignificant alterations were observed in the levels of serum triglycerides, cholesterol, total protein, creatinine, urea and uric acid in diabetic mice supplemented with tea leaves extract. Thus, the present results have shown that tea leaves extract has the antihyperglycemic, antihyperlipidemic, and antihyperproteinemic effects and consequently may alleviate liver and kidney damage associated with STZ-induced diabetes in mice.

© 2010 King Saud University. All rights reserved.