Centrepoint Journal (Science Edition)
Volume 18, No. 2, pages 139 – 146
http://www.unilorin.edu.ng/centrepoint

CPJ 2012123/18206

2141-3819/2012 $5.00 + 0.00
© 2012 University of Ilorin

Effects of Gliclazide on Uric Acid and C-reactive Protein in Alloxan Induced Diabetic Rats

L.S. Ojulari*[1], S.A. Biliaminu[2], E.O. Dangana[1], F.I. Abdulazeez[3], T.O. Ayinde[1], O.A. Adegoke[4]

[1]Department of Physiology, Faculty of Basic Medical Sciences, College of Health Sciences, University of Ilorin, Ilorin, Nigeria.
[2]Department of Chemical Pathology and Immunology, University of Ilorin, Ilorin, Nigeria.
[3]Department of Pharmacy, University of Ilorin, Ilorin, Nigeria.
[4]Department Physiology, College of Medicine, University of Lagos, Nigeria (E-mail: feyiade@hotmail.com)

(Received October 6, 2012; Accepted November 10, 2012)

ABSTRACT: **Background:** Diabetes mellitus represents one of the greatest threats to modern global health. It contributes to oxidative stress and also induces inflammation and hence severe complications. Several drugs have been introduced so far to salvage this metabolic disease alongside its complications. **Objectives:** This study was designed to investigate the effects of gliclazide on serum uric acid and C-reactive protein (a biomarker of inflammation) in alloxan-induced diabetic rats. **Materials and Methods:** Sixteen wistar rats were divided into 4 experimental groups with four rats each; Group A-control (Drug vehicle), Group B-diabetic, Group C- diabetic/gliclazide (10mg/kg twice daily for 28days) and Group D-normal/gliclazide (10mg/kg twice daily for 28 days). At the end of the experimental period (four weeks), animals in all groups were fasted for 12 hours and blood samples were taken by cardiac puncture for determination of serum uric acid and C-reactive protein (CRP) levels. **Results:** The study shows no significant statistical change in the serum uric acid levels ($p>0.05$) when the Experimental groups were compared with the controls. On the other hand, there was significant decrease ($p<0.05$) in CRP levels when values in the controls were compared with diabetic treated and normal treated groups. **Conclusion:** This finding may suggests that gliclazide possesses cardio-protective property since CRP has been implicated in atherosclerotic changes which is a common complication of diabetes mellitus. This may be through its anti-inflammatory effect by reducing the plasma concentration of IL-6, which is produced predominantly by macrophages and so prevents diabetic complications.

Keywords; Gliclazide, diabetes mellitus, uric acid, C-reactive protein

*Author to whom correspondence should be addressed.
E-mail: ojularis@yahoo.com, Phone: +2348032429067