

## Accepted Manuscript

Ameliorative effect of gossypin against gentamicin-induced nephrotoxicity in rats

Mohamed Katary, Ahmad Salahuddin

PII: S0024-3205(17)30092-9  
DOI: doi: [10.1016/j.lfs.2017.03.009](https://doi.org/10.1016/j.lfs.2017.03.009)  
Reference: LFS 15156  
To appear in: *Life Sciences*  
Received date: 29 December 2016  
Revised date: 8 March 2017  
Accepted date: 12 March 2017



Please cite this article as: Mohamed Katary, Ahmad Salahuddin , Ameliorative effect of gossypin against gentamicin-induced nephrotoxicity in rats. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. *Lfs*(2017), doi: [10.1016/j.lfs.2017.03.009](https://doi.org/10.1016/j.lfs.2017.03.009)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

## Ameliorative Effect of Gossypin against Gentamicin-Induced Nephrotoxicity in Rats

Mohamed Katary<sup>a</sup> and Ahmad Salahuddin<sup>b</sup>

<sup>a</sup>Pharmacology and Toxicology department, Faculty of Pharmacy, Damanhour University, Egypt.

<sup>b</sup>Biochemistry department, Faculty of Pharmacy, Damanhour University, Egypt.

### Corresponding Author:

Ahmad Salahuddin, Biochemistry department, Faculty of Pharmacy, Damanhour University, Egypt, telephone: +20 100 518 2320, email: salahuddin@pharm.dmu.edu.eg

### Abstract:

**Aim:** Gentamicin (GEN) is an aminoglycoside antibiotic employed in treatment of life-threatening gram-negative infections, but one of its major side effects is the induction of nephrotoxicity. Therefore, the aim of this work was to scrutinize the possible protective effect of gossypin against GEN-induced nephrotoxicity.

**Method:** Rats were randomly divided into four groups. First group served as a control, second group was injected with gossypin (10 mg/kg, orally) for 7 days, third group was injected with GEN (80 mg/kg, i.p.) and the fourth group was co-treated with GEN and gossypin for 7 days.

**Key finding:** GEN-treated group showed kidney dysfunction as proteinuria excretion rate, podocalyxin excretion rates, renal monocyte chemoattractant protein-1 (MCP-1), blood urea nitrogen (BUN) and plasma creatinine were significantly increased as well as tubular degeneration occur. The significant decrease in renal reduced glutathione (GSH) level, superoxide dismutase (SOD) and catalase (CAT) activities and an increase in thiobarbituric acid reactive substances (TBARs) level, indicated that GEN-induced nephrotoxicity through oxidative stress reactions. Also, GEN up-regulated both gene expression and renal levels of inflammatory cytokines TNF- $\alpha$  and IL-6. On the other hand, concurrent treatment of gossypin plus GEN

Download English Version:

<https://daneshyari.com/en/article/5556940>

Download Persian Version:

<https://daneshyari.com/article/5556940>

[Daneshyari.com](https://daneshyari.com)