The efficacy of doxocycline, rousovastatine and spironolactone on cardiotoxic effect of Doxorubicin in female albino rats

Ansam Jalal Aram Altelchy and Ansam N Al-Hassani
Hawler Medical University, Iraq

Background: Cardiotoxicity that caused by chemotherapy is a devastating disorder that impairs the ability of the heart to respond to physiological demands for increased cardiac output that may result in heart failure. Thus it led to the attempt to evaluate the efficacy of Doxycycline, Rosuvastatin and spironolacton in doxorubicin induced cardiotoxicity.

Aims of this study: To assess the ability of these drugs to attenuate doxorubicin induced Heart Failure in Rats and to compare among them regarding their ability to cause remarkable structural, biochemical, and histopathological changes that preserve normal cardiac function.

Methods: 46 female Albino Rats, 8-12 weeks old, were used in the study. They were divided in to 3 groups. The control group, Doxorubicin group and treatment group. All groups were treated for a period of 4 weeks. Mean serum (BNP), (CgA), (TC), (HDL), (LDL), (TG) and (UA) levels, in addition to the histopathological studies, are the estimated parameters used in this study.

Results: All drugs used in the treatment group showed a degree of cardioprotection effect againist doxorubicin induced cardiotoxicity and caused a significant reduction in mean serum BNP, CgA, Total cholesterol, TG, LDL, and Uric acid levels and increment in HDL as compared with Doxo group while Spironolactone appeared to be inferior in amelioration those parameters than the other drugs in the treatment group.

Conclusion: Rosuvastatine appeared to be the most beneficial in amelioration doxorubicin induced cardiac toxicity.

ansam_pharma@yahoo.com

Toxicological study of the ethanolic leaf extract of *Vernonia cinerea* (Linn.) Less (Asteraceae)

Ray Conrad E Hernandez, Jezreel Rollan M Javier, Alec Jacob S Lim, Darryl Van Q Pensotes, Edrick Glenn C Ramoran, Renz Kenneth G Cadiang and Rebecca G David
University of Santo Tomas, Philippines

In previous studies, *Vernonia cinerea* (Linn.) Less. (Asteraceae) was proven for its medicinal use as an anti-inflammatory, diuretic, hepatoprotective, and nephroprotective. In order to establish the safe use of the plant as a potential drug, ethanolic leaf extract of *V. cinerea* (Linn.) Less was evaluated for its angiogenicity, genotoxicity and mutagenicity. Angiogenicity was determined by Chorioallantoic Membrane (CAM) assay using ten-day-old duck eggs. Sterile filter discs containing 1 g/mL of the extract or plain normal saline solution were placed on the surface of the CAM after exposing the membrane by incision. Newly formed blood vessels were counted using AngioQuant software. Genotoxicity was identified *in vitro* using SOS-Chromotest kit with an extract concentration of 1000 mcg/mL in 14 two-fold dilutions. The test utilized a genetically modified strain of *Escherichia coli* to determine the cell's response to genetic damage. The degree of DNA damage was determined through different color densities. Deep blue color indicates genotoxicity. Mutagenicity was determined *in vitro* using Muta-Chromo Plate test kit which employs a mutant strain of *Salmonella typhimurium*, carrying mutation(s) in the coding for histidine biosynthesis which when exposed to a mutagen, undergoes reverse mutation. The number of wells were observed for a change in purple to yellow color and provided the data for analysis. Based on the results, there is sufficient evidence to suggest that the ethanolic leaf extract of *Vernonia cinerea* (Linn.) Less (Asteraceae) exhibits no angiogenic and genotoxic properties, but exhibits mutagenic properties.

setosnep8995@gmail.com