

Evaluation of cardioprotective and antioxidant activity phytoconstituents from *Scilla hyacinthina* against Doxorubicin-induced myocardial necrosis in Albino rats

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The present study were designed to scientifically evaluate the cardioprotective potential of ethanolic extract of *Scilla hyacinthina* (Family: Hyacinthinae), a medicinal herb, on Doxorubicin (DOX) induced myocardial infarction (MI) in albino rats. DOX is one of the most effective chemotherapeutic drugs in cancer; however, its incidence of cardiotoxicity compromises its therapeutic index. DOX-induced heart failure is thought to be caused by reduction/oxidation cycling of DOX to generate oxidative stress and cardiomyocyte cell death. A Doxorubicin dose of 20 mg/kg was selected for the present study as this dose offered significant alteration in biochemical parameters and moderate necrosis in heart. Effect of SHA oral treatment for 14 days at two doses (250 mg and 500 mg/kg body weight) was evaluated against DOX-induced cardiac necrosis. Significant myocardial necrosis, depletion of endogenous antioxidants and biochemical parameters were observed in DOX-treated animals when compared with the normal animals. The pretreatment with SHA to DOX- induced rats significantly prevented the altered biochemical variation such as marker enzymes (SGPT, SGOT, CPK, and LDH), lipid profile (LDL, VLDL, TGs, HDL and Total cholesterol), and antioxidant parameters (SOD, GSH, CAT, GSH-Px, MDA, and GR) to near normal status. Serum urea, uric acid, and alkaline phosphate, which increased on DOX administration, registered near normal values on pretreatment with SHA. Histology of pretreated with SHA to DOX-induced heart showed a significant recovery from cell damage. The present findings have demonstrated that the cardioprotective effects of SHA in DOX-induced oxidative damage may be due to an augmentation of the endogenous antioxidants and inhibition of lipid peroxidation of membrane.

Biography

I, Prof. B.Senthilkumar completed my Ph.D. at the age of 29 years from University of Madras and joined as a lecturer in Zoology at PG center, Govt., of Pondicherry. Now, I am holding the position of Professor & Head of the department of Zoology, Thiruvalluvar University Which belongs to Government of Tamilnadu. I am supervising M.Phil and Ph.D. research scholars in the unit of Physiology. Our lab is funded by various Govt., funding agencies. I have published more than 52 papers in reputed journals and serving as an editorial board member of some reputed journals. Visited France and Spain regarding the collaborative research.

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