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Effect of pretreatment with *Polyalthia longifolia var* (Annonaceae) on doxorubicin induced cardiotoxicity in rats

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Objective: The objective of present study was to investigate the cardio protective effect of *Polyalthia longifolia var* (Annonaceae) (PL) against the cardio toxicity of doxorubicin (Dox) in rats.

Methods: Male Wistar rats (200-250 g) were randomly divided into four groups. Group I- was control, group II- Dox (10 mg/kg i.v), groups III PL (300 mg/kg orally for 18 days) + (Dox (10 mg/kg i.v) and IV- PL (600 mg/kg orally for 18 days) + (Dox (10 mg/kg i.v). Dox (10 mg/kg i.v) was administered in group II, III and IV on day 16. After anesthetizing the animals on the 18th day electrocardiogram (ECG) was recorded and blood was investigated for creatine kinase-MB is enzyme (CK-MB), lactate dehydrogenase (LDH) and aspartate aminotransferase (AST) while determination of superoxide dismutase (SOD), reduced glutathione (GSH), lipid per oxidation (LPO) and histopathology was carried out for heart.

Results: Group 3 and 4 of animals showed decreased QT interval (p<0.01) and was non significant in ST interval and heart rate compared to group 2. Significant decrease in serum CK-MB and AST of group 3 (p<0.01) and group 4 (p<0.001) of animals was observed as compared to group II. In group 4 significant increase in the level of GSH (p<0.01) and decrease in MDA content (p<0.01) was observed as compared to group 2, whereas SOD was non-significant. Histopathological study 600 mg/kg treated group showed protection against myocardial toxicity induced by doxorubicin.

Conclusion: It is concluded that *Polyalthia longifolia Var* possessed cardio protective effect at dose of 600 mg/kg against doxorubicin induced cardio toxicity in rats.

Key Words: Antioxidant, electrocardiogram, histopathology, cardiotoxicity, tissue parameters

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