

9th World Congress on

PHARMACOLOGY

September 04-06, 2017 | Paris, France

Nephro-protective activity of Plumeria Rubra (PR) against cisplatin induced nephrotoxicity in experimental rats

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Nephrotoxicity is a dose-dependent side effect of cisplatin that limits its clinical utility. The protective effect of hydroalcoholic extract of Plumeria Rubra (PR) was studied against Cisplatin (CP) induced nephrotoxicity in rats. AR was administered orally at 3 dose levels (100, 200, 400 mg/kg). Vitamin E (250 mg/kg) was used as Standard nephroprotective agent. The kidney function test (estimation of serum creatinine, albumin, blood urea nitrogen [BUN]), oxidative stress study (estimation of superoxide dismutase [SOD], malondialdehyde [MDA] activity and histological examination of kidneys was conducted. The efficacy of PR was compared with CP treated group. The elevation in these serum biomarkers of renal damage, oxidative stress were significantly restored towards normal in PR treated groups. Additionally, histopathological examination of kidneys showed that PR markedly ameliorated CP induced renal tubular necrosis. PR was found effective at all doses, although high dose (400 mg/kg) was found to be more effective and comparable with standard group (Vitamin E 250 mg/kg). Present investigation revealed that PR resulted in dose dependant attenuation of CP induced renal damage in rats.

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