PHYTOCEE®

Hepatoprotective Potential of PHYTOCEE®: Effects on SOD, Catalase, and GSH

OBJECTIVE

To evaluate the hepatoprotective potential of PHYTOCEE® in carbon tetrachlorideinduced oxidative stress rat model study.

MATERIALS AND METHODS

Male rats (n=36) were randomly allotted to six groups each consisting of six animals. G1 was administered with vehicle control (demineralized water 10 ml/kg), G2 served as a negative control (CCl4 with olive oil in 1:1 ratio). The remaining four groups were administered orally with Vitamin C (20 mg/kg), or PHYTOCEE® (20, 100, 200 mg/kg). Vehicle, Vitamin C and PHYTOCEE® were administered for 10 days to the respective groups and all animals except in vehicle control group were challenged with carbon tetrachloride (1:1 in olive oil). Animals were euthanized; liver was excised, blotted and processed for the biochemical assays.

RESULTS

Table 1. Effect of PHYTOCEE® on SOD, catalase and GSH

Treatment Groups	SOD (U/mg protein)	Catalase (U/mg protein)	GSH (µmoles/g liver)
G1- Vehicle control	4.30±0.40	17.29±1.33	6.15±0.29
G2- CCl_4 control	3.68±0.37	12.73±0.78	9.42±0.42*
G3- Vitamin C (20 mg/kg)	5.00±0.39	17.24±1.43	7.83±0.57
G4-PHYTOCEE® (20 mg/kg)	5.06±0.36	18.86±1.93	8.06±0.37
G5-PHYTOCEE® (100 mg/kg)	4.59±0.53	17.76±2.54	8.05±0.24
G6-PHYTOCEE® (200 mg/kg)	4.95±0.52	16.89±1.60	7.49±0.46#

Values are expressed as mean ± SEM; n=6, *p≤ 0.05 vehicle control versus CCl4 control; #p≤0.05 CCl4 control versus treated groups; SOD, Superoxide dismutase, GSH, Reduced glutathione

CONCLUSIONS

- PHYTOCEE® administration modulated the GSH levels at the dose of 200 mg/kg revealing significant antioxidant effect.
- PHYTOCEE® administration markedly increased the activities of hepatic enzymatic antioxidant defenses i.e., SOD and catalase.
- PHYTOCEE® markedly reversed the effects of CCl4 induced oxidative stress and could protect the liver through its antioxidant defence mechanism.

OUTCOME

Hence, PHYTOCEE® was confirmed to possess antioxidant properties.