

ABSTRACT

Objective: To study hepatoprotective effect of aerial parts of *Cynodon dactylon*.

Methods: Liver damage was induced in Wister rats by administering CCl₄ (0.7 ml/kg, ip.) alternative days for one week. *Cynodon dactylon* (100,250,500 mg/kg, po.) was given for one week. Silymarin (100 mg/kg, p.o.) was given as a reference drug. Levels of marker enzymes (SGPT, SGOT, ALP) and bilirubin, triglycerides, cholesterol were estimated in serum. Histopathological studies were done to confirm the biochemical changes.

Estimation of Ascorbic acid was done to confirm the metabolic changes.

Results: The Mean \pm SEM serum SGPT, SGOT, ALP levels in control animals were 45.16 ± 1.2 , 39.61 ± 0.5 , 108.01 ± 0.86 IU/L respectively whereas in CCl₄ treated rats, the level rose to 415.73 ± 0.6 , 467.42 ± 0.9 , 869.54 ± 0.4 IU/L respectively. *Cynodon dactylon* (500 mg/kg) reduced the SGPT, SGOT and ALP levels to 57.01 ± 0.2 (96.80%), 61.28 ± 0.2 (94.93%), 110.69 ± 0.2 (99.64%) IU/L respectively. Silymarin reduced SGPT, SGOT and ALP levels to 42.64 ± 0.3 , 43.24 ± 0.3 , 96.09 ± 0.3 IU/L respectively. There was a significant increase in serum Bilirubin (total(102%), direct(101%)), Triglycerides (98.38%), and cholesterol levels(96.48%) after CCl₄, which was reversed by *Cynodon dactylon* and Silymarin. It also cause decreased the excretion of ascorbic acid in urine due to liver damage in rats. The rats treated with ethanolic extracts of *Cynodon dactylon* (100, 250, 500 mg/kg, po) prevents the rise in the levels of these enzymes. Ethanolic extract also prevented the decreased in secretion of ascorbic acid in urine in CCl₄ intoxicated control group. The hepatic damage in the animal treated with ethanolic extract was minimal with distinct preservation of structure and architectural frame of the

hepatic cells. Histopathological examination of the liver tissues supported the hepatoprotection.

Conclusion: Our data suggested that treatment with *Cynodon dactylon* extract enhanced the recovery from CCl₄-induced hepatotoxicity and the activity of the extract could be attributed to preservation of structural integrity of cell membrane of hepatocytes and maintaining normal function of the liver.

Key words: Carbon tetrachloride, *Cynodon dactylon*, Hepatoprotective activity, Ascorbic acid, Biochemical parameters.