

Hepatoprotective activity of *Ocimum sanctum* alcoholic leaf extract against paracetamol-induced liver damage in Albino rats

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ABSTRACT

Background There is a lack of reliable hepatoprotective drugs in modern medicine to prevent and treat drug-induced liver damage. Leaves of Sacred/Holy Basil, i.e. Green Tulsi (*Ocimum sanctum*), belonging to family Lamiaceae are used traditionally for their hepatoprotective effect. We wanted to evaluate the hepatoprotective activity of *Ocimum sanctum* and observe whether synergistic hepatoprotection exists with silymarin.

Materials and Methods Albino rats (150-200 g) were divided into five groups. Groups A and B were normal and experimental controls, respectively. Groups C, D and E received the alcoholic extract of *Ocimum Sanctum* leaves (OSE) 200 mg/kg BW/day, silymarin 100 mg/kg BW/day and OSE 100 mg/kg BW/day + silymarin 50 mg/kg BW/day p.o., respectively, for 10 days. Hepatotoxicity was induced in Groups B, C, D and E on the eighth day with paracetamol 2 g/kg BW/day. The hepatoprotective effect was evaluated by performing an assay of the serum proteins, albumin globulin ratio, alkaline phosphatase, transaminases and liver histopathology. The assay results were presented as mean and standard error of mean (SEM) for each group. The study group was compared with the control group by one-way ANOVA, followed by Bonferoni's test. A P-value of <0.01 was considered significant. Results In groups C, D and E, liver enzymes and albumin globulin ratio were significantly ($P < 0.01$) closer to normal than in group B. Reduction in sinusoidal congestion, cloudy swelling and fatty changes and regenerative areas of the liver were observed on histopathological examination in groups C, D and E, whereas group B showed only hepatic necrosis. Conclusion The *Ocimum sanctum* alcoholic leaf extract shows significant hepatoprotective activity and synergism with silymarin.

KEYWORDS

Hepatoprotective . hepatotoxicity . *Ocimum sanctum* . paracetamol . silymarin

REFERENCES