

## Hepatoprotective activity of methanolic extract of leaves of *Callistemon lanceolatus*

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### SUMMARY

Present study was undertaken to ascertain the hepatoprotective effect of dried leaves of *Callistemon lanceolatus* (Myrtaceae). Methanolic extract of dried leaves of *Callistemon lanceolatus* was subjected for hepatoprotective activity in Wistar strain of albino rats of either sex against  $\text{CCl}_4$  induced hepatic damage. SGOT, SGPT, ALP and Total Bilirubin were used as biochemical marker for assessment of the activity. The methanolic extract showed good protective action by reducing in the increased serum level of enzymes in the treated animals.

Key words : Hepatoprotective activity, *Callistemon lanceolatus*, Methanolic extract, Biochemical marker.

Today we find a renewed interest in traditional medicines. Modern medicines have little to offer for alleviation of hepatic ailments whereas most important representative are of phytoconstituents. *Callistemon lanceolatus* Sm. (Myrtaceae) is an ornamental tree commonly known as bottlebrush owing to its flower shape (Phillips. R. and Rix M., 1998). Extracts of the leaves, flowers and fruits contains 1,8-Cineole and  $\alpha$ -terpineole, methylated flavones respectively. The leaves contain volatile oil, reported to possess fungicidal and insecticidal activities (Mohamed E.I. and Amer S.A.A., 1992)

### MATERIALS AND METHODS

The leaves of *Callistemon lanceolatus* collected from medicinal plant material supplier and after collection authenticated K. N. K. Agriculture College Mandasaur (M.P.). The entire chemical procured from Sigma-Aldrich GmbH, Germany. The dried leaves were defatted with Petroleum ether (60-80°C) for 72 hours and extracted with 95% methanol in a Soxhlet assembly for 48-hours to get methanolic extract.

#### Qualitative Chemical Analysis

The methanolic extract was subjected for qualitative chemical tests, which showed presence of flavonoidal compounds (Handa, S. S. 1986).

#### Animal Used

Wistar strain of adult albino rats (150-180g) of either sex used in the experiment were allowed to acclimatize to the laboratory conditions for 7 days in plastic bottom hygiene cages prior to commencement of experiment at

a temperature of  $30\pm 2^\circ\text{C}$ . the animals were maintained with balanced diet and water *ad libitum*.

#### Drugs and chemicals

All biochemical and chemicals used for the experiments were of analytical grade.

#### Experimental procedure

Model selected: model described by Handa, S. S., 1986, was employed with some modifications.

Toxin solution: 10ml of liquid paraffin was triturated with 10ml of  $\text{CCl}_4$  to get a 50% solution of carbon tetrachloride.

Test sample: suspension was made in the 0.2% CMC solution

The animals were divided into three groups consisting of six rats each.

- The first group consisted of normal control rats, which received balanced diet and water *ad libitum*.
- The second group received single daily dose of  $\text{CCl}_4$  for 4 days (2.5ml/kg body weight (intra peritoneal)
- The third group was treated with the methanolic extract on all 4 days with 250mg/kg body weight (intra peritoneal) and  $\text{CCl}_4$ .

After 4 days, the animals were sacrificed and blood samples were collected from the inferior vena-cava by pricking the middle in the inferior vena-cava and sucked by the syringe.

To get the serum from the blood sample, freshly drawn blood was placed on the test tube and kept into

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