

## Chapter Seven

# Summary

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- This study revealed that stem of *Coscinium fenestratum* and rhizomes of *Curculigo orchioides* possessed anti-hepatotoxic and antioxidant activities in carbon tetrachloride(  $\text{CCl}_4$  ) - induced rat model of hepatotoxicity.
- Administration of methanol extracts of *C. fenestratum* stem ( MECF ) at the dose of 60 mg / kg body weight, and those of *C. orchioides* rhizomes ( MECO ) at the dose of 70 mg / kg body weight evoked the maximum hepatoprotective activity , as indicated by the restoration of altered values of different parameters in hepatotoxic rats to near-normalcy. The different parameters considered were the activities of aspartate aminotransferase ( AST ), alanine aminotransferase ( ALT ), alkaline phosphatase ( ALP ), gamma glutamyl transpeptidase ( GGT ) and lactate dehydrogenase ( LDH ) in serum, and that of glucose-6-phosphate dehydrogenase ( G-6-PD ) in liver, and also the levels of protein and lipid profiles in liver / kidney and sera of different groups of experimental albino rats.
- MECF and MECO elicited antioxidant activity in  $\text{CCl}_4$ -treated rats, as manifested by the attainment of normalcy in the altered values of thiobarbituric acid reactive substances ( TBARS ), conjugated dienes ( CD ), superoxide dismutase ( SOD ), catalase ( CAT ), glutathione peroxidase ( GPX ),

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glutathione -S- transferase ( GST ) and glutathione reductase ( GR ) in the liver and kidney of drug co-administered animals.

- Histopathological observations of the liver tissues of various experimental groups further corroborated the biochemical findings.
  - Hepatoprotective / antioxidant principle was isolated from MECF, and was characterized as **berberine**. The purified compound ( berberine ) evoked hepatoprotective / antioxidant effect at the dose of 10 mg / kg body weight.
  - This study validates the traditional uses of *C. fenestratum* and *C. orchioides* for treatment of hepatic disorders.
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