THE PRESENT STUDY

AIMS &
EXPERIMENTAL DESIGN
THE PRESENT STUDY

From the foregoing Review of Literature it has been revealed that despite immense reputation that *Embleca officinalis* enjoys in Ayurveda, it has not been comprehensively evaluated as an hepatoprotective against a wide variety of chemicals and drugs, specially drugs such as anti-TB drugs, which are given for longer period and consequently produce hepatotoxicity.

Therefore, the present study aims to investigate the hepatoprotective profile of three types of extracts from *Embleca officinalis* fruit (viz, 95 % alcoholic, 50 % hydroalcoholic, and aqueous) with a view to obtain such preparations in which maximum variety of chemical constituents could be segregated.

The hepatotoxins were carbon tetrachloride, acetaminophen (paracetamol, APAP), D-Galactosamine (D-GalN), and anti-TB drugs (rifampicn, pyrazinamide, isoniazid) either alone or in combination.
AIMS OF THE STUDY

- To investigate liver protective activity of *Emblica officinalis* against acute liver damage caused by CCl₄ and acetaminophen (paracetamol), and D-galactosamine

- To investigate the hepatoprotective activity of *Emblica officinalis* against anti-TB drugs given in short course (15 days), sub-acute (4 weeks) and sub-chronic (12 weeks) mode (alone or in combination)

- To investigate the anti-fibrotic activity of *Emblica officinalis* against two chemical toxins (CCl₄ and thioacetamide)

- Mode of action studies.
A. PREPARATION AND CHEMICAL PROFILING OF *Emblica officinalis* extracts

- Finger print profile: LC/LC-MS

B. BIOEVALUATION

- Cytotoxicity Profile (*in vitro*)
- Acute toxicity (*in vivo*)
- Anti-hepatotoxic activity (*in vitro*)
- Hepatoprotective activity (*in vivo*) in

  Acute liver damage: TOXINS;
  Acetaminophen
  Carbon tetrachloride
  D-galactosamine

  Chronic liver damage: TOXINS;
  Anti-Tb drugs

  Fibrosis: TOXINS:
  Carbon tetrachloride
  Thioacetamide

C. MODE OF ACTION STUDIES

- Anti-oxidant activity
- Intracellular Ca^{++} levels
- Apoptosis

D. HISTOPATHOLOGICAL STUDIES