4. AIMS AND OBJECTIVES

So far, no effective measures are available for the treatment of liver diseases. The different medical, surgical and therapeutic methods used at present are inadequate and with generally poor results. Also, some of the modern drugs which are given to treat liver diseases may themselves cause liver damage. The aim and objectives of this study is to investigate the Antioxidant and Hepatoprotective activity from two different medicinal plants of *Acalypha communis* Müll. Arg. and *Lindera communis* Hemsl.

PLAN OF STUDY

- Literature review
- Selection of the medicinal plants.
- Collection & Authentication of the crude drugs.
- Cleaning, shade drying and granulation of the crude drugs.
- Extraction of the granules of the crude drugs.
- Phytochemical screening of the extracts of the crude drugs.
- Qualitative evaluation of the plants extract using HPTLC Method

PHARMACOLOGICAL EVALUATION OF THE INDIVIDUAL EXTRACTS

- Acute toxicity studies as per OECD Guidelines 423

*IN VITRO*

î Antioxidant activity

*IN VIVO*

î Antioxidant activity

❖ Investigation of the following Anti-oxidant parameters:

- Measurement of Catalase (CAT)
- Measurement of Superoxide dismutase (SOD)
- Measurement of Glutathione peroxidase (GPX)
- Measurement of Lipid peroxidation (LPO)
• Glutathione –S-transferase (GST)
• Reduced glutathione (GSH)

**IN VITRO**

- Hepatoprotective activity

**IN VIVO:**

- Hepatoprotective activity
  • Paracetamol induced model (2g/kg p.o)
  • D-Galactosamine induced model (400mg/kg p.o)
  • Thioacetamide induced model (100mg/kg i.p)
  • Rifampicin induced model (100mg/kg p.o)

- Investigation of the following biochemical parameters:
  • Serum glutamate oxalate transaminase (SGOT)
  • Serum glutamate pyruvate transaminase (SGPT)
  • Alkaline phosphatase (ALP)
  • Total protein and bilirubin level

- Histopathological studies
- Result & discussion.
- Summary and conclusion
- Future prospective
- Bibliography

Expected outcome of the research

The chief active constituents of the plants extracts may minimize the side effects and increase the therapeutic value of the extracts.