Toxicity studies of selected medicinal plants

The selected 15 medicinal plants extracts namely Madhuca indica (bark), Ancardium occidentalis (bark), Basella alba (aerial parts), Echinaps echinatus (aerial parts), Holoptetea integrifolia (bark), Mangifera indica (kernels), Caesalpinia bounduc (Kernels), Limonia acidissima (bark), Bauhinia varigata (bark), Spondias mangifera (bark), Erythrina variegate (bark), Amaranthus viridis (areal parts), Pondanus odoratus (aerial parts), Ichnocarpus frutescens (aerial parts) and Cressa critica (aerial parts) were tested as per OECD guidelines for their invivo toxicity.

5.1. Materials and methods

Preparation of extracts for oral administration

The selected 15 plants were shade dried and coarsely powdered and extracted with ethyl alcohol and distilled water as described in Chapter 3. These, extracts were weighed separately to get dose of 3000 mg/kg and suspended in water using 1% CMC and administered orally to experimental animals.

Determination of Acute Toxicity

Acute toxicity study was carried out for all the selected plant extracts using female albino mice (20-30 g) those maintained under standard husbandry conditions. The maximum upper limit dose 3000 mg/kg of above mentioned extracts were administered orally to three female mice. The animals were observed continuously for one hour, then frequently for four hours and later at the end of 24 h. After administration of the extracts,
the animals were observed for behavioral changes. Further, animals were observed daily for 15 days, and mortality was recorded (OECD. Guidance, 2000)

5.2. Results and Discussion

Animals showed good tolerance to single doses of all extracts in doses as high 3 g/ kg and were non-lethal. At high doses of all extracts did not produce any noticeable signs of toxicity (physical and neurological responses) and mortality after once daily administration for fifteen days. Based on short-term profile (15 days), 1/10th and 1/30th dose of the extracts for experimental study was selected.

Since all the plant extracts selected did not showed any toxic effects, the author has further extended the work to study anti diabetic activity by in vivo models.