ABSTRACT

Ayurveda is an ancient system of medicine of Indian subcontinent. Today in India, Nepal and Srilanka, Ayurveda is used by a number of people and is also gaining popularity in the west. Now it has become an integral part of Indian traditional system of medicine. Using plant sources for illness has been a practice as old as mankind. But the major lacuna for all these medical systems is lack of proper scientific evidence. Hence the present study was aimed as a small step towards explaining of particular selected plants. Plants were selected for three chronic problems namely Ulcer, hepatotoxicity and cognitive problems for establishing their efficacy in accordance with modern scientific system namely, allopathy.

Drugs(Plants) were selected for four chronic problems namely Ulcers, Hepatotoxicity, Memory loss and Urolithiasis. The plants were choosen after consultation with the practitioners of the respective medical systems.

In the light of the foregoing, the author has selected the following 22 important medicinal plants, which are available abundantly throughout the state of Andhra Pradesh are used till today by the rural people for various treatments. The studies were carried out to give a scientific evidence and support on the usage of these plant drugs.

Crude extracts tested were Wedelia calendulacea (WC), Pongamia pinnata (PP), Selaginella bryopteris (SB), Cissampelos muronata (CM), Ginkgo biloba (GB), Vitex nigundo (VN), Picrasma quassioides (PQ), Solanum xanthocarpum (SX), Purarea tuberose (PT), Achillea millfolium (AM), Ficus bengalensis (FB), Sida cordifolia (SC), Tephrosia pupuria (TP), Trichopus zeylanicus (TZ), Withania somnifera (WS), Daucus carota (DC), Glycosmis pentaphylla (GP), Mikania cordata (MC), Morina oleflera (MO), Asparagus racemosus (AR), Macrotyloma uniflorum (MU) and Melia
azadiracta (MA). All these plant extracts were tested for Antiulcer, Hepatoprotective, Nootropic and Antiurolithiatic activity.

The Institutional Animal Ethics Committee approved the study protocol for all the above (IAEC/HCOP/01/2009, IAEC/HCOP/01/2009, IAEC/HCOP/06/2010).

All the plant extracts were subjected to the following tests:

1. Preliminary phytochemical screening for knowing their major chemical constituents.
3. AntiUlcer activity: The animal models chosen for antiulcer activity were:
   i) Aspirin plus pylorus ligation induced gastric ulcer in albino rats (antisecretory mechanism)
   ii) HCl-Ethanol induced ulcer (cytoprotective mechanism)
   iii) Water immersion stress induced ulcer in albino rats(proton pump inhibition mechanism)
4. Hepatoprotective activity: The animal model selected for Hepatoprotective activity was
   i) Paracetamol induced liver injury in albino rats
5. Nootropic and antioxidant activity: The animal models chosen for nootropic activity were:
   i) Scopolamine-induced cognitive deficits in rats on Elevated-plus maze.
   ii) Aluminium-induced cognitive deficits in rats on Elevated-plus maze.

In vitro Antioxidant activity:

As there is growing acceptance for the role of free radicals in chronic neurological, neuropsychological disorders and other diseases and the benefits of drugs with inherent antioxidant activity, addition of antioxidants as adjuvants, or including diet rich in antioxidants along
with conventional medicine, the plant extract was tested for its antioxidant activity.

The antioxidant activity was determined by

i) Nitric oxide radical scavenging activity
ii) DPPH radical scavenging activity

6. Antiurolithiatic activity: The animal model chosen for antiurolithiatic activity was-
   i) Foreign body insertion technique

This research study provided useful information for treatment of diseases like Ulcer, hepatic diseases, memory loss and Urolithiasis.