Chapter VI

Summary
6. Summary:

The wealth of India is stored in the enormous natural flora which has been gifted to her with a wide diversity of agro climatic conditions. It has all types of climatic conditions, varying from temperate in the Himalayas, Tropical in South India, dry in central India, humid wet in Assam and Kerala. These conditions are favourable for the growth of variety of medicinal and aromatic plants. India is considered as the Botanical garden of the World. India has more than 2,200 species of medicinal and essential oil containing plants. Western Ghats is considered as one of the ecological hotspots of the World which harbors a good number of medicinal plants. Experts feel that the drugs of natural origin with their wide range of action shall play an important role in health care particularly in the rural areas of the India. There are more than 2000 registered drug manufacturers in the country. In China medicinal plants had been in use since 5,000 B.C.

According to the World Health Organization (WHO) reports 80% of the World’s people depend on traditional medicine for their health care needs today. In the present study six indigenous medicinal plants *Adhatoda vasica, Alstonia scholaris, Mimosa pudica, Tabernaemontana coronariae, Asparagus racemosus* and *Leucas aspera* were studied.

**Isolation of constituents from *Adhatoda vasica* and *Alstonia scholaris*:**

The chloroform extract of leaf of *Alstonia scholaris* was eluted with hexane and ethyl acetate, the methanolic extract of flower of *Alstonia scholaris* was extracted with methanol and sodium phosphate and the methanolic extract of *Adhatoda vasica* was
eluted with 1, 4 dioxane and ammonia. Three compounds were isolated. They are ursolic acid, vasicine and 1-(4 hydroxycyclohexyl) – nondec – 1, 15 –dien – 8 –one.

The microbial evaluation of the plant extract of Adhatoda vasica, Asparagus racemosus, Leucas aspera, Mimosa pudica, Alstonia scholaris and Tabernaemontana coronariae was carried out to evaluate the antimicrobial property. Maximum zone of inhibition was observed in diethyl ether extract of Mimosa pudica on Bacillus subtilis.

**Wound healing activity:**

The wound healing activity of methanol extract of Alstonia scholaris was investigated using wound models like excision wound, incision wound and dead space wound. The wound healing activity of methanolic extract of Alstonia scholaris was significant compared to the aqueous extract of Alstonia scholaris.

**Analgesic activity:**

The analgesic activity of the methanolic and aqueous extract of Alstonia scholaris was studied by using tail flick method. The methanolic extract showed a significant analgesic activity compared to the aqueous extract.

**Hepatoprotective activity:**

In the present study hepatoprotective activity of methanolic extract of Alstonia scholaris was found to be significant.

Statistical analysis of the results were performed using one way ANOVA and Dunnet ‘t’ test method.
Metal ion analysis:

The analysis of metal ions was done by digesting known volume of the plant residue in concentrated sulphuric acid and making the volume up to 50 ml. Standard solutions were also prepared. Atomic absorption spectrometer was calibrated using different concentrations of the standard solutions. Then unknown solution was scanned. The plant residues showed the presence of iron, zinc, copper and lead.

7. Conclusion:

In the present study six indigenous medicinal plants *Adhatoda vasica, Mimosa pudica, Alstonia scholaris, Asparagus racemosus, Leucas aspera* and *Tabernaemontana coronariae* were studied. Preliminary phytochemical studies of different plant extracts were done and three compounds were isolated. The wound healing activity, analgesic activity and hepatoprotective activity were studied for the leaf extracts of *Alstonia scholaris*. Antibacterial activity of different plants extracts were studied and metal ions were analyzed from the plant residues.