INTRODUCTION

Medicinal plant *Andrographis paniculata* belong to the family ‘Acanthaceae’ which nick name-Kalmegh, Maha tita and Kalpanath. It is an annual herb that can grow from 30-100 cm tall. The stem is distinctly four angular. Leaves are opposite, simple and narrowly egg-shaped to lance shaped. Flowers are in lax, auxiliary and terminal racemes or panicles combined into a pyramidal inflorescence. *A. paniculata* is distributed in tropical region of Asia, India, Hong Kong, Thailand, Brunel, Singapore and Bengaladesh. It can be found in a variety of habitats, such as plains, hill sides, coastlines and cultivated area such as roadsides, farms and waste lands. The climatic requirement for the plant is hot and humid conditions with ample sunshine. Depending upon area of cultivation harvesting is done in October to November. The flowering and fruiting is done throughout the year especially from August to May.

*Andrographis paniculata* has long been used in Indian system of medicine “Ayurveda”. Medicinal properties of plants had been mentioned in pharmacopoeias of India, Korea and China. Local herbal healers use *A. paniculata* to prevent and cure from fever, intestinal worm and infections. Herbal medicines have been main source of traditional medicines. The active principle compounds of plant activate metabolism through liver due to which many necrotic debris remove rapidly and cure mostly physiologically disorder in human body.

The plant possess febrifuge, tonic alternative, stomachic, anthelmintic and cholagogue properties and also used in different types of liver complaints, colic constipation, cholera, dysentery, diarrhoea, diabetes, dyspepsia, general debility, hook work infection, hyper acidity, influenza, bronchitis, malaria, swellings and itches, piles, gonorrhea, scabies, stomach disorder and stomachache. It is also used as a cure for torpid liver and jaundice. In many part of India it is used as curative or preventives in snake venom poisoning. It is chiefly used is viral hepatitis, diminished appetite and drug induced liver damage. All above properties of *A. paniculata* are prescribed by Ayurvedic physician for clinical treatment. A decoction of the plant is used as a blood purifier and a cure for torpid.

Leaves contain two bitter substances lactones named andrographolide and kalmeghin. The ash contains sodium chloride and potassium salts. Plant is very rich in chlorophyte. The plant have diterpenoids, andrographolide, 14-deoxy-11-oxo-andrographolide, 14-deoxy-11,12-didehydroandrographolide, 14-deoxy andrographalids and neoandrographolide. The roots gives
flavones apeigenin-7, 4′-dio-O-methyl ether, 5-hydroxy-7, 8, 2′, 3′-tetra methoxy flavone, andrographin and panicolin and α-sitosterol. Leaves of kalmegh contain homoandrographolide, andrographosterol and andrographone.

Active compounds of Kalmegh sold in market by different trade names Acene-n-pimple cream (Himalaya wellness), Liv 52 (Himalaya Drugs Company), Lerbohep (Lupin Herbal Laboratory), Sage Liverex (Sage Herbals), Purodil syrup (Aimil Pharmaceuticals). Most of Vaidya suggest decognition for different types of physiological disorder in human beings. Villagers used this plant leaves for first aid treatment of different insect bite and infections. Researches conducted in past decades have confirmed that A. paniculata if properly administrated, has a surprisingly broad range of pharmacological effects, some of them are extremely beneficial as follows-

1. Abortifacient – can abort pregnancy
2. Acrid (hot) – in this case, slightly rubefacient to the skin.
3. Analgesic – Pain killer
5. Antidiarrhoeal and intestinal effects- effective against bacterial dysentery and diarrhoea.
6. Anti-inflammatory activity – A. paniculata is also used as a folk medicine for fever, pain reduction and disorders of intestinal tract.
7. Antimalarial activity – A. paniculata is found to considerably inhibit the multiplication of Plasmodium berghei.
8. Anti oxidant activity – fight against free radicals.
10. Antisnake venom - fight against snake venom.
13. Cancerolytic- fights even kill cancer cells.
15. Choleretic – alters the properties and flow of bile.
16. Depurative- cleans and purifies the system particularly the blood.