International Standard Serial Number (ISSN): 2249-6807

International Journal of Institutional Pharmacy and Life Sciences 2(2): March-April 2012

INTERNATIONAL JOURNAL OF INSTITUTIONAL PHARMACY AND LIFE SCIENCES

Pharmaceutical Sciences **Review Article……!!!**

Received: 18-03-2012; Accepted: 24-03-2012

PHARMACOGNOSTIC PLANTS AND JAUNDICE AN UNCLAIMED RELATION

Deepak Prashar[1]*, Lalit Kumar[1], Rajesh Kumar[2], Narender Thakur[1], Sunil Kumar[1], Kailash Chaudhary[1]

1. Department of Pharmaceutical Sciences, Vinayaka College of Pharmacy, Kullu (H.P.), India
2. Department of Pharmaceutical Sciences, Laureate College of Pharmacy, Kathog (H.P.), India

Keywords:

Herbal, Jaundice, Pharmacognosy, Biodiversity

For Correspondence:

Deepak Prashar

Department of Pharmaceutical Sciences, Vinayaka College of Pharmacy, Kullu (H.P.), India

E-mail:

prashardeepak99@yahoo.in

ABSTRACT

Medicinal plants are always there when it comes to the treatment of diseases. Directly or indirectly the herbal treatment becomes an integral part of our life. The active chemical constituents of the herbal plants generate its pharmacological effect and thereby prove its effectiveness. In the present review, the unending relation between Pharmacognosy and medicinal herbs are high lightened. Moreover, the herbal plants used in the treatment of jaundice became the limelight of this review article.

INTRODUCTION

Jaundice is a disease accompanied by the yellow coloration of the skin, mucus membranes and eyes[1]. The yellow coloring comes from bilirubin which is the byproduct of old red blood cells. Jaundice affects the liver in conditions like hepatitis or liver cancer. It may also seem as an indication of obstruction in the biliary tract because of gallstones or pancreatic cancer[2]. The jaundice treatment in India is accompanied by both pharmaceutical as well as traditional therapies. The traditional therapy used for the jaundice treatment has originated from the stream of Pharmaceutical Science i.e. Pharmacognosy. As far as the literature goes there are many evidences which support the fact that the herbs can be used for the successful treatment of this problem[3-6].

PHARMACOGNOSTIC APPROACH OF TREATMENT

With the new advancement in technology the world's health sector is moving towards rationalization. Although, the theory of rationalization is based upon the medicinal commercial preparations which proves effective. But still the fact is that the herbal preparations too have claimed some pharmacological role in treating jaundice. Table 1 enlisted some of the medicinal plants used in the treatment of jaundice and hepatitis.

Table 1: List of Medicinal Plants[7-20]

Botanical Name	Family	Chemical Constituents	Part Used	Habitat
Adiantum capillus	Adiantaceae	Flavinoids, terpenoids, tannins, mucilage, volatile oil, capillerine, mucin, gallic acid, sugar, kaempferol, quercetol and luteol	Leaves	All along the Himalayas from Kashmir to Sikkim between altitudes of 1800 and 2700 m.
Argyrolobium roseum	Papilionaceae	Flavonid glycoside, Vitexin and D-pinitol	Whole plant	
Berberis lycium	Berberdiaceae	Alkaloids umbellatine, barberin, barbamine, starch grains and tannins	Leaves	Northwestern Himalayas, Nilgiris, Kullu and Kumaon
Boerhaavia procumbens	Nyctaginaceae	Alkaloids, tricontanol, hentriacontane, sitosterol, ursolic acid, flavone, glucose	Whole plant	Throughout India as a weed

Equisetum debile	Equisetaceae	Moisture, ash, lipid, protein, Na, K, Ca, P, Cb, Cu, Ni, Zn, Cr,carbohydrates, ascorbic acid, folic acid and niacin	Whole plant	----------
Carissa opaca	Apocynaceae	Carissone, palmatic acid, benzyl salicylate, benzyl benzoate, farnesene	Leaves	Throughout the country in dry regions, especially in Punjab and Kashmir
Cichorium intybus	Astraceae	Gummy water, cellulose, inulin, fiber, ash, glycoside, stearin, mannites, tartaric acid, betaine, choline, lactones, esculine, esculetin, cichoriin, umbelliferone, scopoletin, 6,7-dihydroxy caumarin, volatile matter, anthocynin, fatty acid, methyl esters, vanillin, 5-hydroxy methyl 2-furfural, 2-acetylpyrole, furfural, phenyl acetic acid, 2-(5-hydroxy methyl 2-formylpyrol-1-yl)-3-methyl-3-pentanoic lactone, and phenylacetaldehyde	Whole plant	Native to Europe; commonly occurs in North West India, Tamil Nadu and parts of Andhra Pradesh.
Cucumis sativus	Cucurbitaceae	Methyl-phytosterol, amyrin, multiflorenol, methylenecycloartenol, cycloartenol, tirucallol, protein, isopentenyl adenosine trialcolhol	Fruit	Cultivated for its edible fruits which are usually used as Salad vegetable.
Cuscuta reflexa	Cuscutaceae	Scoparone, melanettin, quercetin, hyperoside, phenolic compounds, and caffeoylquinic acids	Whole plant	A parasitic climber common throughout India up to 3000 m
Hordeum vulgare	Poaceae	Arginine, histidine, lysine, tyrosine, tryptophan, phenylalanine, cystine, methionine, threonine, leucine, isoleucine, valine and glycine	Seeds	Cultivated as food crop in Uttar Pradesh, West Bengal,

				Bihar, Madhya Pradesh, Rajasthan, Haryana, Punjab, Himachal Pradesh and Jammu and Kashmir
Justacia adhatoda	Acanthaceae	Essential oils, alkaloids vasicine, vasicinone, deoxyvasicine, maiontone, vasicinolone, vasicol, peganine, sitosterol, glucoside and kaempferol	Roots	----------
Morus alba	Moraceae	Ascorbic acid, carotene, vitamin D, glutathione, calcium, copper, zinc, boron, manganese, volatile oil, iron, thiamine, nicotinic acid, riboflavin, drying oil, tannins, pentahydroxyflavone, pentahydroxy benzopherene and maclurin	Fruit	Native to China; cultivated in Punjab, Uttar Pradesh, Kashmir and North-Western Himalayas
Morus nigra	Moraceae	Olcancolic acid, apigenin, cyclocommunol, morusin, cyclomorusin, kuwanon C, daucosterol, ursolic acid, 63-sitosterol	Fruit	Native to West Asia; cultivated in Kashmir, also grown in Darjeeling
Myrsine africana	Myrsinaceae	Embelin, vilangin methylene bis (2,5-dihydroxy-4-undecyl-3,6- benzoquinone), embolic acid,querctiol	Leaves	Outer Himalayas from Kashmir to Nepal and in Khasi Hills at 300–2700 m
Oxalis corniculata	Oxalidaceae	Glyxylic acid, oxalic acid, vitexin, isovitexin, netural lipids, glycolipids, vitamin c, phaspholipids, fatty acids and tocopherols	Leaves	Throughout the warmer parts of India
Phyllanthus emblica	Euphorbiaceae	Alanine, aspartic acid, glumatic acid, lysine, proline, protein, fat, carbohydrates fibers, minerals, iron, niacin,	Fruit	Native to tropical Southeast Asia; distributed

		chromium and copper		throughout India; also planted in public parks
Phyllanthus niruri	Euphorbiaceae	Phyllanthine, hypophyllanthine, flavonoids quercetin, astralgin, quercitrin, isoquercitrin, rutine and alkaloids	Roots	Native to America
Pistacia integerrima	Anacardiacceae	Tannins, essential oil, resin, triterpenic acid, pistacienoic acid, triterpene alcohol and triterpenoic acid	Fruit	The Himalayas from Indus to Kumaon
Plantago ovata	Plantaginaceae	Glycoside, mucilage, tannin, bitter principal, vitamin C, nicotinic acid and fixed oil	Fruit, Seeds	Cultivated in parts of Rajasthan and Maharashtra
Prunus domestica	Rosaceae	D-glactose, D-mannose, Larabinose, D-xylose, L-rhamnose, glucuronic acid, flavonoid, kaempferol, dihydrokaempferol, kaempferide and prudomestin	Fruit	Cultivated in Kashmir, Himachal Pradesh and Kumaon
Punica granatum	Punicaceae	Citric acid, sorbitol, mannitol, pelletierine, isoquercetrin, Bsitosterol, friedelin, D-mannitol, estrone, glucose, fructose, sucrose, maltose, oxalic acid and organic acid	Fruit, Seeds	Native to Iran; but cultivated throughout India
Raphanus sativus	Brassicaceae	Raphanin, glycosinolates, enzymes, trace elements, acids, aldehydes, anthocyanin, pectin, proteins and vitamin C	Root	Cultivated in Uttar Pradesh, Punjab, Maharashtra and Gujarat
Rhus chinensis	Anacardiaceae	Gallotannins, gallotannic acid, gallic acid and m- digallic acid	Fruit, Root	The temperate Himalayas from Kashmir to Bhutan at 1300–2400 m
Rumex hastatus	Polygonaceae	Nepalin, nepodin and rumicin	Leaves	Western Himalayas from Kumaon to

				Kashmir, between 300-2400m
Saccharum officinarum	Poaceae	Abscisic acid, apigenin, glycoside, methyl lapigenin, arabinose, arunodin, benzoic acid, campesterol, coumarin, cylindrin, orientin, fructose, glactose, glucose, phytosterol, saccharans, schaftoside, sucrose, invert sugar, ether, tricin and vicenin	Stem	Uttar Pradesh, Bihar and Punjab
Silybum marianum	Asteraceae	Flavoligrans, silybin, isosilybin, dehyrosilybin, silydianin, silychristin, silymarine	Leaves	Western Himalayas at 1800 and Kashmir at 2400 m, also grown in gardens
Tamarindus indica	Caesalpinaceae	Tartaric acid, citric acid, maleic acid, potassium bitartarate, oxalic acid, kerenal, polysaccharides, fkavonoid, glycoside, vetixen, orientin, homoorientin and hordenine	Fruit, Roots	Indigenous to tropical Africa; now distributed throughout the plains and sub-Himalayan tracts of India
Taraxacum officinale	Asteraceae	Taraxacin, taraxacerine, cerylalcohol, lactuce-roltaraxacin, choline, inulin, tannin, etereal oil, vitamin C, xanthophylls, potassium and vitamin A	Rhizome	Temperate Himalayas, Khasi Hills, Mishmi Hills, Gujarat and in hills of South India
Viola serpens	Violaceae	Glycoside methyl salicylate, viola quercitrin, alkaloid voiline gum, mucilage, sugar and saponin	Whole plant	
Woodfordia fruticosa	Lythraceae	Ellagic acid, sitosterol, polystachoside, ocatocosauol, myricetin-3-glactoside, cyaniding-3, crrysophanol- 8-0-B-Dglucopyranoside	Flower	Throughout North India, rather scarce in South India

BIODIVERSITY OF HERBAL PLANTS IN JAUNDICE TREATMENT[21]

In the limelight of the present review the biodiversity of these herbal plants could be established. These herbs are being distributed all over the world. But the plants used for the jaundice treatment are basically from the Asian continent. The Himalayas are proving to be one of the essential sources of these medicinal herbs. The diverse biotic and abiotic conditions of these areas are further boosting the commercialist and herbal researchers to invest both time and money.

CONCLUSION

Most herbal medicines still need to be studied scientifically, although the experience obtained from their traditional use over the years should not be ignored. As there is not enough evidence produced by common scientific approaches to answer questions of safety and efficacy about most of the herbal medicines now in use, the rational use and further development of herbal medicines will be supported by further appropriate scientific studies of these products, and thus the development of criteria is required for such studies.

REFERENCES

1. http://www.medterms.com
2. Wahab MA, Yousaf M, Hossain ME. Some indigenous medicinal knowledge for treating jaundice in Chittagong hill tracts Bangladesh. Hamdard Med 2004; 4: 55-58.
3. Ahmed M, Khan MA, Zafar M, Sultana S. Treatment of common ailments by plant- based remedies among the people of district Attock (Punjab) of Northern Pakistan. Afr J Tradit Complement Altern Med 2007; 4(1): 112-120.
4. Natale AD, Pollio A. Plants species in the folk medicine of Montecorvino Rovella (inland Campania Italy). J Ethnopharmacol 2007; 109: 295-303.
5. Ghorbani A. Studies on pharmaceutical ethnobotany in the region of Turkmen Sahra, north of Iran. J Ethnopharmacol 2005; 102: 58-68.
6. Inam B, Sultana K, Qureshi RA, Malik S. A checklist of plants of Bhogarmang, Siran Valley, N.W.F.P., Pakistan. Hamdard Med 2000; 43(4):62-75.
7. Prajapati ND, Purohit SS, Sharma AK, Kumar T. A Hand book of Medicinal Plants. 3rd Edition. Agrobios Hindustan Printing Press, Jodhpur 2006.
8. Gupta PO, Method of treating diabetes using plant *Argyrolobium roseum* extract and a process for isolation of extract from the said plant. CSIR New Delhi, India 2005.

9. Ram G, Bhan MK, Ahuja A, Meena SR, Kaul MK, Gupta KK, Jolly RL, Khajuria RK. Variability and selection on different *Argyrolobium roseum* accessions for morphological traits and yield. Genet Resour Crop Evol 2007; 54(3): 649-654.
10. Tyler V, Bradly, Pharmacognosy, 8th edition, K.M. Varghese Company, Bombay, 1981: 250.
11. Mangrio SM, Dahot MU, Leghari SM. Chemical constituents of *Equisetum debile* Roxb. Pakistan J Plants Sci 1995; 1(1): 41-48.
12. Rai SK, Mallavarapu GR, Rai SP, Constituents of the flower oil of *Carissa opaca* growing in the Aravalli mountain range at New Delhi. Flavour Fragr J 2005; 21(2): 304-305.
13. Zafar R, Ali SM. *Cichorium intybus* Linn. A review. Hamdard Med 1998; 41(4): 98- 109.
14. Haq I, Hussain M. Medicinal plants of Mansehra. Hamdard Med 1993; 36(3): 63-100.
15. Wang L, Wang HQ, Chen RY. Studies on chemical constituents from bark of *Morus nigra*. Zhongguo Zhong Yao Za Zhi 2007; 32 (23): 2497-2499.
16. Haq I, Rehman, Medicinal plants of upper Swat Pakistan. Hamdard Med 1990; 33(3): 51-68.
17. Hussein, Medicinal plants in Libya, Arab Encyclopedia, Beirut. Lebanon, 1983: 807-822.
18. Ikram M, Hussain SF. Compendium of medicinal plants. P.C.S.I.R,Peshawer, 1978: 123-147.
19. Nadkarni KM. Indian Materia Medica, 3rd edition. Popular Books, Bombay, 1976: 225-270.
20. Foster S. Milk thistle, *Silybum marianum.* American Botanical Council Austin. 1991: 7.
21. Khare CP. Encyclopedia of Indian medicinal plants, Springer business media, 2007: 458.