International Research Journal of Pharmaceutical and Applied Sciences (IRJPAS)
Available online at **www.irjpas.com**
Int. Res J Pharm. App Sci., 2013; 3(2):72-76

Review Article

AN UPDATED REVIEW ON HEPATOPROTECTIVE MEDICINAL PLANTS IN 2012

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(Received: 27 January, 2013; Accepted: 16 February, 2013; Published: 28 April, 2013)

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Abstract: Medicinal plants may serve as a vital source of potentially useful new compounds for the development of effective therapy to combat a variety of liver problems. Many herbs have been proven to be effectual as hepatoprotective agents while many more are claimed to be hepatoprotective but lack any such scientific evidence to support such claims. Developing a satisfactory herbal therapy to treat severe liver diseases requires systematic investigation of properties like anti-hepatotoxicity (antioxidants), stimulation of liver regeneration and choleretic activity. Formulation of herbal medicines with standards of safety and efficacy can revitalize treatment of liver disorders. The aim of this review is to elucidate the list of hepatoprotective medicinal plants, which are scientifically proved during jan-dec 2011.

Key**words:** Medicinal plants, hepatoprotective agents, treatment of liver disorders

INTRODUCTION

Medicinal plants play a key role in the human health care. About 80% of the world population relies on the use of traditional medicine which is predominantly based on plant materials[1]. The traditional medicine refers to a broad range of ancient natural health care practices including folk/tribal practices as well as Ayurveda, Siddha and Unani. These medical practices originated from time immemorial and developed gradually, to a large extent, by relying or based on practical experiences without significant references to modern scientific principles.

It is estimated that about 7,500 plants are used in local health traditions in, mostly, rural and tribal villages of India. Out of these, the real medicinal value of over 4,000 plants is either little known or hitherto unknown to the mainstream population. The classical systems of medicine such as Ayurveda, Siddha, Amchi, Unani and Tibetan use about 1,200 plants[2]. A detailed investigation and documentation of plants used in local health traditions and pharmacological evaluation of these plants and their taxonomical relatives can lead to the development of invaluable plant drugs for many dreaded diseases. Random screening of plants has not proved economically effective[3].

Liver damage is very common since liver has to detoxicate lot many toxic substances. Most of the hepatotoxic chemicals damage liver cells primarily by producing reactive species which form covalent bond with the lipids of the tissue. Due to excessive exposure to hazardous chemicals, sometimes the free radicals generated are so high that they overpower the natural defensive system leading to hepatic damage and cause jaundice, cirrhosis and fatty liver. Production of the reactive species depletion manifests in tissue thiol depletion, lipid peroxidation, plasma membrane damage etc., culminating into severe hepatic injury[4].

Table 1: List of Hepatoprotective plants

Botanical Name	Parts used	Chemical Constiuents	References
Adina corolifolia	Leaves	Alkaloidsresins, Coumarins	Sarma et al[5]
Alianthus excelsa	Roots	Alkaloids, Tannins, Flavonoids, Terpenoids, Carbohudrater, Sterols	Varsha Zade et al[6]
Allium cepha Linn	Bulb	Proteins, Carbohydrate, Sapohins, Flavamoids	Riyaz Shaik et al[7]
Allium sativum	Bulb	Resins, Tannins, Alkaloids, Glycosides, Gums	L.N.Vbenyl et al[8]
Aloe barbadensis	Aerial Parts	Flavanoids,Hydroiy Anthra Quinones, Chrysophenol, Aloe Emodin	Harsha Deep Sharma et al[9]
Amorphophallus paeniifolius	Tubers	Carbohydrates,Sterols,Thiamin,Riboflalin	Pramod Hurkadale et al[10]
Andrographis paniculata	Whole Plant	Diterpenoids,Stigmasterol,Neoandrographolide	Anitha et al[11]
Bassia alatifolia	Bark	Flavanoids,Terpenoids,	Rizwom Asheikh et al[12]

betula Utilis	Bark	Alkaloids, Glycosides,Saponins,Sterols,Flavamoids	B.Duraiswamy et al[13]
Calycopteris floribunda	Leaf	Tannins, Steroids,Flavonoids	Aiyalu Rajasekarom et al[14]
Cassiafistula	Root	Anthraquinone,Flavanoids, Saponins	Varshazade et al[15]
Chenopodium album	Whole Plant	Alkaloids, Flavomoids, Tannins, Aminoacids, Carbohydrates.	Durga Prasad Hayak et al[16]
Cleome viscosa	Leaf	Saponins, Flavanoids, Tannins, Polyphenols, Carbohydraks	Nishant Kumar Gupta et al[17]
Coronopus squamatus	Leaves	Flavanoids	Abdelhhady et al[18]
Cucurbita moxima	Seeds	Glycosides, Carotenoids, Proteins,Phenolic Compamds	Nidhi et al[19]
Dodonaca viscosa	Leaves	Flavomids, Fattyacids, Saponins, Sterrids	Mohammad Imromqadie et al[20]
Dregea voluiblis	Fruit	Glycosides, Terpenoids, Flavonoids	Pauab K Haldir et al[21]
Ecbolium viride	Leaf	Flowonesorientin Vitexin	J. Jayatrakash Marayan et al[22]
Elephantopus Scaber	Leaf	Sesqui Terpenes, Lactones, Flavonoids	Wangoumgho et al[23]
Ervatamia coronaria	Leaf And Flowers	Alkaloids, Flavanoids, Glycosides, Tannins	Stalin et al[24]
Euphorbia ligularia	Whole Plant	Saponins, Alkaloids, Flavonoids, Tannins, Aminoaads	K. Pavan Kumar et al[25]
Feronia limonia	Whole Plomt	Flavomrids	Arshed Iqbaldar et al[26]
Ficus hispida	Roots	Alkaloids, Glycassides, Flavanoids, Sterols	K. Senthil Kumar et al[27]
Glycyrrhiza glabra	Root	Saponins	Al. Razzuqi et al[28]
Haldinia cordifolia	Stem Bark	Tannins, Sterols, Alkaloids, Flavomoids	Ravikiran.Y et al[29]
Hygrophilla schullia	Whole Plant	Saponins, Steroids, Alkaloids, Flovonoids, Terpenoids	Sumathi et al[30]
Indigofera tinctoria	Entireplant	Steroids, Glycosides, Alkaloids, Flavomoids	D. Gnona Sekaran et al[31]
Lawsonia inermis	Roots	Flavanoidssterols, Terpenes, Tannins	S.N.Mamjula et al[32]
Leucas cephalotes	Whole Plant	Flavanoids	Itoria Priayomk et al[33]
Litchi chinesis	Leaves	Stigmasterolitchiol	Soumita Basu et al[34]
Macrotyloma uniflorum	Seeds	Tannins,Glycosides,Alkaloids,Favomoids	H.B parmar et al[35]
Malachra capitata	Roots	Phenols,Tanniins,Carbohydrates,Saponins,Flavanoids	N Sriram et al[36]
Musa paradisiaca	Stem	Carbohydrates, Tannins, Glycosides	Nirmala.M et al[37]
Naringi crenulato	Leaves And Bark	Phenols, Ttriterpenoids, Proteins, Tannins, Saponins	V.R. Mohon et al[38]
Picrorhiza kurroa	Roots And Rhizomes	Picrosides Kuthinol, Apocynin	Somgeet Simha et al[39]
Polycarpaea coymbosal	Whole Plant	Phenolic Compounds, Flavanoids	R. Vardharajam et al[40]
Pohgamia pinnata	Flowers	Sterols, Fattyacids, Carbohydrates	Ahuradha et al[41]
Rhynosia beddomei	Leaves	Essentialoils Fattyacids Glycosides Flavanoids	Ashok Babu etal[42]
Ricinus communis	Leaf	Tannins, Steroids, Carbonydrates Glycosider Sagonins	Padmapriya et al[43]
Rohitaka ghrita	Bark And Fruit	Glycosides, Napthoquinones, Sterols	R. Goyal et al[44]

Ruellia tuberosa	Leaves	Flavomoids, Carbohydrafes, Glycosides, Tannins, Fixedoils, Fats	M. Rajam et al[45]
Samtolina chanaecyparissus	Whole Plant	Flavanoids, Phenols Tritcrpenes	Dhanabalsp et al[46]
Sedhium edule	Fruits	Alkaloids, Phenols, Flavanoids, Caretoids, Glycosides, Carbohydrates	Firdous Sm et al[47]
Sida rhombifolia	Whole Plant	Alkaloids	Ramadoss et al[48]
Sida veronicaefolia	Leaves	Flavanoids, Alkaloids, Phytosterols	Ajay Sharma et al[49]
Sphaeranthusindicus	All Parts	Flavanoids, Phenols, Carbohydrates	Gprasad et al[50]
Thespesia lampus	Stems	Geranin	A. Subramonium et al[51]
Urtical dioica	Leaves	Flavomoids Tannin Glycosides,	Kataki et al[52]
Vigna mungo	Leaves	Carbohyderates, Flavomoids, Aninoacids, Tannins, Proteins.	Anithak et al[53]
Vitis vinifera	Root	Phenolic Compount Flavomoids, Terpenoids	Surendra Ke Sharma et al[54]
Wattakaka volubilis	Leaf And Fruit	Carbohydraks Flavomoids	Varsha Zade et al[55]

CONCLUSION

From this study, it is clear that the medicinal plants play a vital role against on various diseases. Various herbal plants and plants extracts have significant hepatoprotective activity in animal models. The hepatoprotective activity is probably due to the presence of flavonoids in all few herbal plants. The results of this study indicate that extracts of leaves and plants extracts of some medicinal plant have good potentials for use in hepatic disease. The present review study give evidential explore mechanism of action of medicinal plants against experimentally induced hepatotoxicity. Hence the review study is concluded that the herbal drug possesses hepatoprotective activity and it has been proved by different animal models give many links to develop the future trials.

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