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MINI REVIEW

AN UPDATED REVIEW ON HEPATOPROTECTIVE MEDICINAL PLANTS

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Received 29 Jan 2011; Revised 06 Feb 2012; Accepted 02 March 2012, Available online 15 March 2012

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].

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.

 ISSN: 2250-1177

Table 1: List of Hepatoprotective plants

Botanical name	Family	Parts used	Solvent used	Chemical constituents	Screening method	Reference
Amaranthus caudatus Linn	Amaranthaceae	Whole plant	Methanol	Flavonoids,saponins,glycosides	Carbon tetra chloride induced	Kuruba lakshman et al[5]
Anisochilus carnosus Linn	Lamiaceae	Stems	Ethanol	Alkaloids, flavonoids, glycosides	Carbon tetra chloride induced	Venkatesh et al[6]
Asparagus racemosus Linn	Asparagaceae	Roots	Ethanol	Phenols, coumarins	Paracetamol induced	Fasalu rahimom om et al[7]
Azima tetracantha	Salvadoracaeae	Leaves	Ethanol	Flavonoids, triterpenoids	Paracetamol induced	Arthika et al[8]
Calotropis procera R.Br	Asclepediaceae	Root bark	Methanol	Terpinoidsglycosides,flavonoids	Carbon tetra chloride induced	Pati prakash et al[9]
Cajanus cajan Linn	Leguminosae	Pigeon pea leaf	ethanol	Flavonoids, stibenes	D-galactosamine	Oluseye ade boye akinloye et al[10]
Cajanus scarabaeoides Linn	Fabaeceae	Whole plant	n-butanol,ethanol	Flavonoids	Paracetamol induced	Suman pattanayak et al[11]
Carissa carindas Linn	Apocyanaceae	Root	Ethanol	Alkaloids, tannins, steroids	Carbon tetra chloride induced	Balkrishnan et al[12]
Clitoria ternatea Linn	Fabaceae	Leaves	Methanol	Phenolic flavonoids	Paracetamol induced	Yeng chen et al[13]
Cucumis trigonus Roxb	Cucurbitaceae	Fruit	Pet.ether, chloroform, alcohol, aqueous	Flavonoids	Carbon tetra chloride induced	Mohammad imtiaz et al[14]
Ficus religiosa Linn	Moraceae	Stem bark	Methanol	Glycosides, steroids, tannins	Paracetamol induced	Kavitha suryawanshi et al[15]
Garcinia indica Linn	Clusiaceae	Fruit rind	Ethanol	benzophenones, garcinol	Carbon tetra chloride induced	Amol Bhalchandra Deore et al[16]
Gmelina asiatica Linn	Verbenaceae	Aerial parts	Ethanol, chloroform	Flavonoids	Carbon tetra chloride	Partha sarathy et al[17]
Hyptis suaveolens linn	Lamiaceae	leaves	Aqueous	Flavonoids	Acetaminophen induced	Babalola et al[18]
Leucas cilita Linn	Lamiaceae	Whole plant	Ethanol	Flavonoids	Carbon tetrachloride induced	Qureshi et al[19]
Melia azhadirecta Linn	piperaceae	leaves	ethanol	Spectro photo metric method	Carbon tetra chloride,silymarin	H.rajeswary et al[20]
Morinda citrifolia Linn	Rubiaceae	Fruit	Aqueous	Saponins,triterpins,steroids	Streptozotocin induced	Shiva nanda nayak et al[21]
Myoporum lactum Linn	Myoporaceae	Leaves	Methanol,n-butanol	Flavonoids	Profenofos induced	mohammad et al[22]
Myrtus communis Linn	Myrtaceae	Leaves	Silymarin	Flavonoids, terpenoids, steroids	Paracetamol induced	Pasumarthi phaneendra et al[23]
Solanum nigram Linn	Solanaceae	Fruits	Ethanol	Flavonoids, terpenoids	Carbon tetra chloride	Subash et al[24]

ACKNOWLEDGEMENT

Authors are grateful thanks to Anurag Pharmacy College for carrying out this review work.

 ISSN: 2250-1177

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 ISSN: 2250-1177