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Tittle:Review Of Chirayita

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ABSTRACT- plants have always played a significant role as an ideal resource to generate traditional medicines. Among them Swertia chirayita popularly known as chirayta is considered to have diverse therapeutic properties including antidiabetic, anti inflammatory ,hypoglycemic ,hepatoprotective ,antibacterial, wound healing ,antipyretic ,antihelminthic and antioxidant property. The aim of this review is to provide a synthesis of the current state of scientific knowledge on the medicinal uses .Pharmacological data reported in literature suggest that swertia chirata shows a beneficial effect in the treatment of several elements .However more advanced research is warranted to determine the activities of of bioactive compounds in vitro and in vivo stablish their underlying mechanism of action and commence the process of clinical research.

I. INTRODUCTION-

Meaning of Kirata tikta is - utterly bitter. This is famous herb in Ayurveda for the treatment of infectious and inflammatory conditions like skin diseases and fever etc. Decoction of this herb is quite effective to cure the wounds and also provides relief in the oozing, burning sensation and itching. This herb acts as the blood purifier. Kiratatikta also supports the good health of digestive system. In the decoction or powder form this herb is quite good to relieve the constipation and also improves the appetite.

Classification
Kingdom - Plantae
Family - Gentianaceae
Division - Angiosperm
Sub Division - Dicotyledon
Class - Gamopetallae
Sub Class - Bicarpellotai
Order - Gentionale
Genus - Swertia
Species - chirata

Habitat
This plant occurs in eastern temperate Himalaya's at 1500-3000 m altitude. It is found in Himachal Pradesh, Uttar Pradesh, Uttarakhand, and Kashmir. Plant is grown wild in Himalayan region between 1208-3046 m elevation from Kashmir to Bhutan and it is also found in Kosi hills at 1204-1525 m in north eastern Himalayan region.

Classical Categorization
This herb is mentioned in Samhita like Charaka Samhita, Sushruta Samhita, Vagbhatta's Ashtangahridayam, Bhavaprakasha, Sharangdhar Samhita and others under the name of Kirata Tikta.

In Harita Samhita, it is mentioned to be used for the treatment of scorpion bite with other drugs.

It is also described in the Nighantu like Yoga Rathnakara, Raja Nighantu, Kaiyadeva Nighantu, Adarsha Nighantu, Shodhala Nighantu and Dhanwanthari Nighantu. Besides this there is also the description of Kirata Tikta in Bhaishajya Ratnavali, Chakradatta, Amarkosha and Shabda Kalpa Drooma.

Kirattikta, Kairat, Katutikta, Kiratak, Kandtikta, Anarytik Bhumnib and Ramsenak are the names of chirata. One type of chirata found in the Nepal country is comparatively more bitter and named as Ardhtikt. It is used to cure fever. It allows purgation. It is dry and cool in nature with bitter in tastes and light in properties. It manages the fever due to tridoshas, respiratory problems, cough, pitta, bleeding disorders, inflammation, thirst and worms.(The Bhavprakash nighantu with elaborated Hindi commentary by Padmashri prof. K.C. Chunekar, edited by Dr. G.S. Pandey: verse 153-155, edition of 1998: page no- 72-75.of 2010: verse 153-155, page no- 72-75.)

This herb is packed with Hepatoprotective properties. It helps to maintain the overall good health of liver as it removes toxins from the body.

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Moreover, it also helps in regeneration of new liver cells.

Hypoglycaemic properties of this herb helps to maintain the healthy blood sugar levels in the body. Use of this herb is quite beneficial in the diabetes.

This herb supports the good health of digestive system. It helps provide relief in problems like peptic disorder, gastritis, indigestion, bloating, bowel movements, flatulence, heartburn and stomachache. It also acts as the laxative hence is good for constipation. Hence this herb helps to strengthen the stomach and also quite good for the treatment of diarrhea and dyspepsia.

This is known as an effective herb for fever. Use of this herb is also quite good to provide relief in the high malarial fever.

The herb is quite effective in the treatment of piles. Furthermore it also helps to provide relief in the symptoms like itching, irritation, redness, soreness and swelling around anus.

Anti-parasitic properties of the herb to expel out the helminthes and other internal parasites from body. This herb is quite effective against roundworms, tapeworms and flukes. Moreover this herb helps to provide relief in the symptoms of worm's infections like diarrhea, anemia, lungs and liver problem which are associated with the infection of worms.

Expectorant properties of the herb helps to clear the mucous from airways. Use of this herb is quite good in the asthma. It helps to provide the relief in the shortening of breath.

Blood purification properties of this herb are quite good to resolve the skin diseases. It helps to provide relief in the symptoms like itching, burning sensation, redness and oozing etc.

Anti-inflammatory properties of this herb help to provide relief in the pain.

This herb is loaded with the healing properties which helps in quick healing of wounds and cuts.

Use of this herb is quite good for the anemic patients. It helps to increase the Red Blood Cells (RBC).

Parts Used-Whole plant

Dosage -4-7 gram powder.

AIMS

To establish the therapeutic efficacy of the Chirayta.

Objectives

To evaluate the significance of the drug in ayurvedic medicines and emphasis can also be given to the enhancement of secondary metabolites of this medicinal plant.

II. MATERIAL AND METHODS-

Ayurvedic literature related to the Chirayta was searched. Books related to pharmacology of Ayurvedic drug and related research papers also searched for their chemical composition and mode of action. Other research general, papers, books related to chirata are also explored to collect the matter .Information regarding hepatoprotective activity and antioxidant effect was collected from modern and Ayurvedic literature.

Ayurvedic Properties

Rasa -Tikta

Guna -Laghu, Rooksha

Virya -Sheeta

Vipaka -Katu

Effects on Doshas-It balances kapha and pitta.

Phytochemical compounds like Swertinin, swertianin, swerchirin, decussating, isobellidifolin, friedelin, sitosterol isolated, nine tetraoxy genated xanthones, gentianine, gentiocrucine, eniflavine, arghinine, leucine, methionine, threonine, tryptophan, aspartic acid, glutamic acid. Above mentioned phytochemicals are present in the kiratatikta which possess the amazing medicinal properties to treat the various ailments.

III. DISCUSSION AND RESULTS-

The widespread uses of S. chirayita as a traditional drug and its commercialization in modern medical systems have led to a rise in scientific exploration of its phytochemistry in order to identify the active phytochemicals. This has resulted in a considerable body of literature exploring the chemical constituents of this plant (Mandal and Chatterjee, 1987; Chakravarty et al., 1991, 1994; Mandal et al., 1992; Chatterjee and Pakrashi, 1995; Pant et al., 2000). The wide-range biological activities of S. chirayita are attributed to the presence of a diverse group of pharmacologically bioactive compounds belonging to different classes such as xanthones and their derivatives, lignans, alkaloids, flavonoids, terpenoids, iridoids, secoiridoids, and other compounds such as chiratin, ophelicacid, palmitic acid, oleic acid, and stearic acid (Pant et al., 2000; Patil et al., 2013). The first isolated dimeric xanthone was chiratanin present in different parts of S. chirayita. The pharmacological efficacy of S.

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chirayita has been partly attributed to the biological activity of major phytoconstituents including amarogentin, swertiamarin, mangiferin, swerchirin, sweroside, amaroswerin, and gentiopicrin (Figure (Figure3).3). Amarogentin is reported to be anti-diabetic (Phoboo et al., 2013), anticancerous (Saha et al., 2006; Pal et al., 2012), and antileishmanial (Ray et al., 1996; Medda et al., 1999), whereas swertiamarin has been tested for its anti-hepatitis (Wang et al., 2001), anticancer (Kavimani and Manisenthlkumar, 2000), anti-arthritic activities (Saravanan et al., 2014). It has been shown to exhibit anti-diabetic (Vaidya et al., 2013) properties. Mangiferin is also reported to have anti-diabetic, antiatherosclerotic (Pardo-Andreu et al., 2008), anticancer, anti-HIV (Guha et al., 1996), antiparkinson (Kavitha et al., 2013), and chemopreventive (Yoshimi et al., 2001) activities. Swerchirin is known to be antimalarial, hypoglycemic (Bajpai et al., 1991; Saxena et al., 1996), hepatoprotective, pro-heamatopoietic (Ya et al., 1999), with blood glucose lowering activity (Sekar et al., 1987; Saxena et al., 1991) and weak chemo preventive pharmacological effects (Hirakawa et al., 2005). Swerchirin at different concentrations (1, 10, and 100 μM) significantly enhanced glucose stimulated insulin release from isolated islets (Saxena et al., 1993). Sweroside is reported to be antibacterial (Siler et al., 2010), hepatoprotective (Liu et al., 1994; Luo et al., 2009), preventative in treatment for hyperpigmentation (Jeong et al., 2015), and is also suggested as a promising osteoporosis therapeutic natural product (Sun et al., 2013). Amaroswerin is known for its gastroprotective effects of the bitter principles (Niiho et al., 2006). Table Table44 provides a summary focusing on the biological activity of the phytochemicals present in S. chirayita.

IV. CONCLUSION

S. chirayita offers many promising prospects for both traditional and modern medicine. S. chirayita is apparently a potential herbal therapy for many ailments. This review summarized the Ayurvedic description,medicinal uses, phytochemistry, pharmacological activities on S. chirayita.