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THERAPEUTIC AND MEDICINAL USES OF YASHTIMADHU: A REVIEW

Ayurveda

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ABSTRACT

Yashtimadhu i.e. Glycyrrhiza glabra *Linn*. Family – 'Leguminosae' commonly known as Licorice/Liquorice, Sweet wood, *Mulhatti* and *Yashtimadhu*. Glycyrrhiza glabra is a widely used classical medicinal plant and is found in numerous traditional formulas. The root of *Gycyrrhiza Glabra* relieves thirst, cough, asthma, bronchitis, abdominal colic, eye troubles and cures ulcers. According to *Charak* and *Bhav Prakash Yashtimadhu Rasa is Madhura, Guna-Guru & Snigdha, Virya-Sheet, Vipaka-Madhura.* Due to this virtue it performs various *Karmas-such* as *Balya, Chakshushya, Shukrajanan, Varnya, Keshya, Vatapittajit, Raktaprasadana*, Shothhar, *Vishghana, Chhardighana, Pipasahar, Kshayahar, Glanihar etc.*[1]

Modern studies have also explicitly revealed that *Yashtimadhu* has a wide range of pharmacological effects such as healing, anti-ulcer, anti-inflammatory, skin regeneration activity, ant-bacterial activity, anti-fungal activity, anti hemorrhoidal activity, anti-haemostatic activity, anti-malarial activity. anti-oxidant activity, Immuno- stimulatory & anti-viral activity etc. In this review article an effort has been made to explore all properties of Yashtimadhu and mode of action.

KEYWORDS

Anti haemostatic, Vishaghna, Kshayahar, Glanihar, Raktaprasadana, immunostimulatory

INTRODUCTION

Yashtimadhu has been used in medicine for more than 4000 years.

The earliest record of its use in medicine is found in 'Code Humnubari' (2100 BC). According to *Ayurveda* texts in it is *Vata* and *Pitta Shamaka and* used in the treatment of all types of wounds and inflammations. *Yashtimadhu* is considered as the drug of choice. In various types of *Vrana*, *Chakradatt* has advocated the use of this drug. *Charaka* has advocated the use of this drug in *Vataja* and *Raktaja* diseases at various places and to increase *Bala. Varna, Swar and* Immunity. In *Sushruta Samhita* it finds description at so many places as to its use in pain following operation and in various surgical and medical diseases.

It was also one of the important plants mentioned in *Assyrian herbal* (2000BC). Hippocrates (400BC) mentioned its use as a remedy of ulcers and quenching of thirst. The drug was also mentioned by *Theophrastus and Dioscorides.* In traditional Siddha system of medicine, liquorice is used as a demulcent, expectorant, anti-tussive, laxative and sweetener.

Pharmacognostical studies Taxonomical description

Latin name - *Glycyrrhiza glabra.*
Family - *Leguminosae*
Kingdom - *Plantae*
Division - *Angiosperinae*
Class - *Dicotyledoneae*
Order - *Rosales*
Genus - *Glycyrrhiza*
Species - *Glabra Linn*

Names in different language[3]

Sanskrit *Yashti-madhu, Madhuka*
Hindi *Jethi-madhu, Mulahatti*
English *Licorice, Liquorice, Sweet wood*
Arab *Aslussiesa*
Gujarat *Jethimadhu*
Bengali *Jashtimadhu, Jaishbomodhu*
Kannada *Yastimadhuka, atimaddhura Jeshtamadhu*
Piarathi *Jatimadhu*
Oriya *Atimaduram*
Tamil *Atimadhuranu, Yashtimadhukam*
Telugu *Ausareha mahaka*
Persia *Boisdota Sussholz*
France
Germany

Sanskrit Synonyms of *Yashtimadhu*[4]

Yashti, Madhuyashti, Madhuk, Madhuka, Swadurasa, Mdhuvalli, Madhulika, Madhusrava, Klitanka, Chakshusya, Vrishya

Geographical distribution and Habitat[5]

Native to central and south western Asia and the Mediterranean region. It is cultivated in the Mediterranean is basin of Africa, in South Europe and in India. *Glycyrrhiza glabra* is a hard herb or under shrub attaining a height up to 6ft; leaves multifoliate, imparipinnate, flowers in axillary spikes, apilinaceous, lavender to violet in colour, pods compressed, and containing reniform seeds. The dried, peeled or un peeled underground stems and roots constitute the drug, known in the trade as Liquorice, Flowers in March and fruits in August.

Morphological description (Macroscopic studies)[6]

Glycyrrhiza glabra is a hard herb or under shrub attaining a height up to 6ft, leaves multifoliate, imparipinnate, flowers in axillary spikes, apilinaceous, lavender to violet in colour, pods compressed, and containing reniform seeds. The dried, peeled or un peeled underground stems and roots constitute the drug, known in the trade as Liquorice. Flowers in March and fruits in August.

Stolon consists of yellowish brown or dark brown outer layer, externally longitudinally Wrinkled, with occasional small buds and encircling scale leaves, smoothed transversely, cut surface shows a cambium ring about one-third of radius from outer surface and a small central pith, root similar without a pith, fracture, coarsely fibrous in bark and splintery in wood, odour, faint and characteristic, taste-sweetish.

Microscopic Study[7]

Stolon- transverse section of stolon shows cork of 10-20 or more layers of tabularcells, outer layers with reddish-brown amorphous contents, inner 3 or 4 rows having thicker, colorless walls, secondary cortex usually of 1-3 layers of radially arranged vparenchymatous cells containing isolated prisms of calcium oxalate, secondary phloem abroad band, cells of inner part cellulosic and outer lignified, radially arranged groups ofabout 10-50 fibres, surrounded by a sheath of parenchyma cells, each usually containing a prism of calcium oxalate about 10-35 g long, cambium form tissue of 3 or more layers of cells, secondary xylem distinctly radiate with medullary rays, 3-5 cells wide, vessels 168 about 80-200 [.1 in diameter with thick, yellow, pitted, reticulately thickened walls, groups of lignified fibres with crystal sheaths similar to those of phloem, xylemparenchyma of two kinds, those between the vessels having thick pitted walls without inter-cellular spaces, the remaining with thin walls, pith of parenchymatous cells inlongitudinal rows, with inter-cellular spaces.

Root-transverse section of root shows structure closely resembling that of stolon except tha[t] no medulla is present, xylem tetrarch, usually four principal medullary rays at right angles to each other, in peeled drug cork shows phelloderm and sometimes without secondary Phl[oem] all parenchymatous tissues containing abundant, simple, oval on[-] ounded starch gra in length.

Chemical Constituents [8]

The principal constituent of liquorice root is - glycyrrhizin. Root contains 3.6% glycyn hizin, a yellow amorphous powder-asparagines, a glycoside isoliquirtin 2.2%, glucose 3.8%, starch, gum, mucilage, amorphous, **glycyrrhizin acid,** sulphuric acid and metallic acids, **licoricone, glabridin,** calcium and magnesium salts.

Physical properties, Identity, Purity and Strengths [9]

Total ash- Acid insoluble ash- Sulphated ash-Water soluble extractive-Diluted alcohol-soluble extractive-Moisture - Ether extracts Albumilloids -

Woody fibre -

Ash- Not more than 7% Not more than 2% Not more than 10% Not less than 20% Not less than 25% 5.25% 16.85% 37.00 % (containing nitrogen5.92%) 31.00% 5.05%4.80 % (containing sand 0.25%)

Ras Panchak (Ayurvedic Properties): [9]

Rasa	*Madhura*
Guna	*Guru,* ***Snigdha***
Virya	*Sheet*
Vipaka	*Madhura*

Pharmacology: Uses of *Yashtimadhu* as perAyurveda[8,10]

Balya - Improve strength

Chakshuya - healthy for eyes

Sukrajanan - produce semen *Varnya* help in pigmentation *Keshya* - grow hair

Vata - pittaj - Vat pitta har *Raktaprasadana* - improve blood *shothhar* - reduce swelling

Vishghan - detoxification *Chhardighan* - anti emetic *Pipasahar* - anti-thrust

Kshayhar - improve weakness *Glanihar* - anti anxiety

Dose - 2-4 g of the drug in powder form.

Important formulations [11]

Blahmarasayana, Avaleha Rasayanakarma (Ch.chi.1/1-49), Anuvasana - yamakabasti Taila, Bruhana, 1,atapittagna (Ch.si.4/9), Apatyakarisasthi - kadigutika Gutika,Vajikaranakarma (Ch.chi 2/2-5) Asthamavegana - shaka yoga Gutika, Visha - Asthamvegnashaka, Eladigutika, urak shata, kasa, shwasa. Anutaila (Ch.su.5/ 63), kumkumadi tail, Yashti is an important ingredient in *Narikelanjana* (IMCOPS) eye - drops.

Toxic& Safety assessment [11]

Ethanol (30%) extract of the root, administered orally to mice of both sexes, produced LD5O 32.0m1/kg. Water extract of the dried root (48-58% glycyrrhizin), administered intra peritoneally, orally and subcutaneously to mice and rats, produced LD5O 1.5gm/kg, 16.0gm/kg, and 4.2gm/kg, respectively.

Substitutes or adulterants [11]

Manchurian Licorice is obtained from glycyrrhiza uralensis. Being a substitute, it does contain glycyrrhizin the active principle but very little of free sugars. The common adulterant is wild Licorice also called Indian Licorice, derived from the roots of Abrus Precatorious (Leguminosae). Microscopically the adulterant is characterized by stone cells. Stem pieces of *Glycyrrhiza glabra* are also sold in place of Root.

Dose - 2-4 g of the drug in powder form.

Glycyrrhiza *glabra Linn* has the following, experimentally and clinically proved activities: **Experimentally** Proved [12]

• Anti-bacterial activity	• Anti hepatic toxic activity
• Estrogenic activity	• Anti-fungal activity
• Anti hemorrhoidal activity	• Anti hyper glycaemic activity
• Anti-malarial activity	• Anti-oxidant activity

- Immuno stimulatoly & Anti-viral activity
- Anti-ulcer activity

Clinical proved [13]

- Anti-ulcer activity Anti asthmatic activity
- Anti diuretic activity Anti hepato-toxic activity
- Eczema and psoriasis Herpes simplex

CONCLUSION

Glycyrrhiza glabra Linn. has various pharmacological activities like antibacterial activity, antithrombotic effect, hepatoprotective effect, anticonvulsant effects, cerebroprotective effect, antidyslipidaemic activity, memory enhancing activity, antioxidant potential activity, hair growth promoting activity etc The roots are sweet, refrigerant, emetic in large doses, tonic, diuretic, demulcent, mild laxative, aphrodisiac, trichogenous, expectorant, emmenagogue, alexipharmic, haemostatic, alertness and intellect promoting. They are useful inhyperdipsia, cough, bronchitis, ulceration of urinary tract, retention of urine, gastralgia, gastric ulcer, cephalagia, fever, skin diseases, ophthalmic diseases, pharyngitis, haemorrhoids, consumption, hoarseness of voice, epilepsy, hiccough, erysipelas, anaemia, menometrorrhagia, intrinsic haemorrhage, hemicrania, urticaria. Decoction of root is good wash for falling and greying of hair. It is externally applied for cuts and wounds.This article concludes that herb has great pharmaceutical applications.And it requires further clinical evaluation of same.

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