ORIGINAL RESEARCH PAPER

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INCREDIBLE HEALTH BENEFITS OF GLYCIRRHIZA GLABRA (LIQUORICE)

KEY WORDS: Glycirrhiza, Liquorice, Tuberculosis

Rahat Raza Deputy Director Incharge RRIUM, Ministry of Ayush, New Delhi

Danish K Chishti* Research Associate Unani, RRIUM, Ministry of Ayush ,New Delhi. *Corresponding Author

ABSTRACT

Liquorice has been utilized in medicine for over 4000 years. The most punctual record of its utilization in medicine is found in 'code Hammurabi' (2100 BC). It was likewise one of the significant plants referenced in Assyrian natural (2000BC). Hippocrates (400BC) referenced its utilization as a cure of ulcers and extinguishing of thirds. Theophrastos of Lesbos, writing in the fourth century BC composed that 'it has the property of extinguishing thirst in the event that one holds it in the mouth'. Dioscorides gave the plant its herbal name (Greek glukos = sweet, riza = root). Its thirteenth century English name was Lycorys, a defilement of glycyrrhiza. Liquorice (Glycyrrhiza glabra) has for quite some time been utilized for both culinary and clinical purposes. It is generally utilized in bronchial issues, for example, catarrh, bronchitis, cold, influenza and hacks. It diminishes aggravation of the throat but then has an expectorant activity. It delivers its demulcent and expectorant impacts. It is utilized in easing pressure. It is a powerful recuperating specialist for tuberculosis, where its belongings have been contrasted with hydrocortisone. Glycyrrhiza is likewise viable in assisting with lessening fevers (glycyrretinic corrosive has an impact like anti-inflamatory medicine), and it might have an antibacterial activity too. Its utilization in the treatment of interminable irritations, for example, joint pain and rheumatic illnesses, Anti-provocative, constant skin conditions, and immune system maladies when all is said in done.

1.INTRODUCTION

Glycyrrhiza glabra, otherwise called licorice and sweetwood, is local to the Mediterranean and certain zones of Asia. Verifiably, the dried rhizome and foundation of this plant were utilized restoratively by the Egyptian, Chinese, Greek, Indian, and Roman civic establishments as an expectorant and carminative. In current medicine, licorice extricates are frequently utilized as a seasoning specialist to veil severe preference for arrangements, and as an expectorant in hack and cold arrangements. Licorice extricates have been utilized for over 60 years in Japan to treat incessant hepatitis, and furthermore have restorative advantage against different infections, including human immunodeficiency infection (HIV), cytomegalovirus (CMV), and Herpes simplex.[1] Deglycyrrhizinated licorice (DGL) arrangements are valuable in treating different sorts of ulcers, while topical licorice arrangements have been utilized to sooth and recuperate skin ejections, for example, psoriasis and herpetic sores.

2. Classification

Kingdom: Plantae
Division: Angiospermae
Class: Dicotyledoneae
Order: Rosales
Family: Leguminosae
Genus: Glycyrrhiza
Species: glabra Linn

3.Vernacular names

Sanskrit: Yashti.madhuh. Madhuka
Bengali: Jashtimadhu, Jaishbomodhu
Gujarat: Jethimadhu
Hindi: Jothi.madh, Mulhatti
Kannada: Yastimadhuka, atimaddhura
Oriya: Jatimadhu
Tamil: Atimaduram
English: Licorice, Liquorice, Sweet wood
Arab: Aslussiesa
Persia: Ausareha mahaka
France: Boisdoux

3.1 Description

The licorice shrub is an individual from the pea family and develops in subtropical atmospheres in rich soil to a stature of four or five feet. It has oval handouts, white to purplish blossom bunches, and level cases. Subterranean, the licorice plant has a broad root framework with a principle taproot and various sprinters. The fundamental taproot, which is collected for restorative use, is delicate, stringy, and has a splendid yellow interior.[1] Glycyrrhiza is gotten from the antiquated Greek term glykos, which means sweet, and rhiza, which means root.

3.2 Geographical distribution

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.

3.3 Genetics

Glycyrrhiza glabra is a diploid with 2n=16.

3.4 Habitat

Glycyrrhiza glabra is a hard herb or under shrub accomplishing a tallness up to 6ft; leaves multifoliate, imparipinnate, blossoms in axillary spikes, papilinaceous, lavender to violet in shading, cases compacted, and containing reniform seeds. The dried, stripped or un stripped underground stems and roots establish the medication, referred to in the exchange as Liquorice. Blossoms in March and natural products in August.

3.5 Active Constituents

Various parts have been detached from licorice, including a water-dissolvable, naturally dynamic complex that represents 40-50 percent of complete dry material weight. This complex is made out of triterpene saponins, flavonoids, polysaccharides, gelatins, basic sugars, amino acids, mineral salts, and different other substances.[2] Glycyrrhizin, a

triterpenoid compound, represents the sweet taste of licorice root. This compound speaks to a blend of potassium-calcium-magnesium salts of glycyrrhizic corrosive that differs inside a 2-25 percent extend. Among the common saponins, glycyrrhizic corrosive is an atom made out of a hydrophilic section, two particles of glucuronic corrosive, and a hydrophobic piece, glycyrrhetic acid.[2] The yellow shade of licorice is because of the flavonoid substance of the plant, which incorporates liquiritin, isoliquiritin (a chalcone), and other compounds.[3] The isoflavones glabridin and hispaglabridins An and B have huge cell reinforcement activity,[4] and both glabridin and glabrene have estrogen-like activity.[5]

3.6 Part used
Root and Rhizomes

3.7 Phyto chemistry
The major bio.active constituent of rhizomes is a triterpenoids saponin glycyrrhizin, glycyrrhizinic acid, glabrin A&B, glycyrrhetol, glabrolide, isoglabrolide, isoflavones,coumarins, triterpene sterols etc.

3.8 Physical properties
Total ash Not more than 7%
Acid insoluble ash Not more than 2%
Sulfated ash Not more than 10%
Water soluble extractive Not less than 20%
Diluted alcohol-soluble
Extractive Not less than 25%
Moisture 5.25%
Ether extracts 16.85%
Albuminoids 37.00 %(containing nitrogen5.92%)
Soluble carbohydrates 31.00%
Woody fiber 5.05%
Ash 4.80 %(containing sand 0.25%)

3.9 Substitutes or adulterants
Manchurian licorice is gotten from glycyrrhiza uralensis. Being a substitute it portion contain glycyrrhizin the dynamic standard yet almost no of free sugars. The normal adulterant is wild licorice likewise called Indian licorice, got from the underlying foundations of Abrus precatorious (leguminosae). Minutely the adulterant is described by stone cells.

4. Clinical studies done on Glycirrriza glabra
4.1 Chronic Hepatitis
In Japan, glycyrrhizin has been utilized for over 60 years as a treatment for interminable hepatitis C. Stronger Neo-Minophagen C (SNMC), a glycyrrhizin arrangement, has been widely utilized with significant achievement. In two clinical preliminaries, SNMC has been appeared to altogether bring down aspartate transaminase (AST), alanine transaminase (ALT), and gamma-glutamyltransferase (GGT) fixations, while all the while improving histologic proof of putrefaction and provocative injuries in the liver.[6,7]

4.2 Oral Lichen Planus
Patients with chronic hepatitis C regularly experience oral lichen planus, a provocative infection described by lymphocytic hyperkeratosis of the oral mucosa. It is seldom relieved and compelling medicines are constrained. In an open clinical preliminary, 17 hepatitis C-positive patients with oral lichen planus were given either routine dental consideration or 40 mL IV glycyrrhizin day by day for one month. Among nine patients taking glycyrrhizin, six (66.7%) noted improved clinical side effects, for example, diminished redness, less white papules, and less disintegration of the mucosa. In the non-glycyrrhizin gathering of eight patients, just one (14.3%) announced any improvement.[8]

4.3 Peptic Ulcer Disease
Licorice has been utilized as a demulcent and emollient for a long time to advance the recuperating of ulcers by following up on the mucosal layer. Glycyrrhizin (as carbenoxolone sodium) speeds mending of gastric ulcers and ensures against ibuprofen prompted harm to the gastric mucosa. In a twofold visually impaired, fake treatment controlled examination, 70 patients with endoscopically-affirmed gastric or duodenal ulcers were given carbenoxolone sodium 300 mg or fake treatment day by day during the initial seven days, trailed by 150 mg day by day throughout the following 3-5 weeks. The creators finished up the carbenoxolone bunch had an expansion in pH at the stomach antrum from 1.1 to 6.0, and a decrease in basal and histamine-actuated gastric corrosive emission at pH 3 and 5. In general, 70 percent of ulcers in the glycyrrhizin bunch mended inside 3-5 weeks of starting treatment, contrasted with 36 percent utilizing placebo.[9]

4.4 Aphthous Ulcers
In a double-blind, placebo treatment controlled preliminary, 24 patients with repetitive aphthous ulcers were haphazardly dispensed to devour 2 g glycyrrhizin (carbenoxolone sodium) in 30 mL of warm water or a fake treatment multiple times day by day following suppers for about a month. Rather than the placebo treatment gathering, the utilization of the oral licorice mouthwash fundamentally diminished the normal number of ulcers every day, torment scores, and the advancement of new ulcers.[10]

5. Medicinal Uses of Glycyrrhiza glabra (Licorice)
It has anti-inflammatory, antiviral, saponin glycyrrhizin and numerous significant synthetic substances that are required for acceptable wellbeing. It is principally utilized in treating cervical malignancy, kidney and bladder issue, HIV, hepatitis B, herpes ,aggravation of mucous film, nourishment poison, stomachaches, hacks, horse-voice, bronchitis, asthma, ulcers, joint inflammation, shingles, sun-consumes, fevers in newborn children, and furthermore utilized for creepy crawly nibbles. Licorice glycyrrhizic corrosive is multiple times better than sucrose.[9]

It is said to empower the creation of hormones, for example, hydrocortisone, bolster the adrenal organs and animates the discharge of hormones from the adrenal cortex. Licorice has estrogen movement, used to settle menstrual cycle, and furthermore know generally as a decent solution for lungs and spleen protests. It is joined with different herbs in treating hacks, colds, sore throat, asthma, stomach and duodenal ulcers, hepatitis, madness, food contamination, hypoglycemia, bronchitis, colitis, diverticulitis, gastritis, some of stress related scatters, sickness, and irritation. Licorice purifies the colon, advances adrenal organ work, diminishes muscle fits, and builds the smoothness of bodily fluid from the lungs and bronchial tubes.[8,9,10]

Licorice properties incorporate anodyne, cell reinforcement, antispasmodic, mitigating, demulcent, depurative, diuretic, cooling, expectorant, emollient, estrogenic, expectorant, hostile to ligament, tonic, energizer adrenal, against cholesterolemic, against gastritis and against allergenic. The Licorice glycoside is like the normal steroids of the body and has a decent impact in treatment of Addison's illness.[10]

6. Dosage

Because individual susceptibility to various licorice preparations is vast, it is difficult to predict a dose appropriate for all individuals. Nevertheless, a daily oral intake of 1-10 mg of glycyrrhizin, which corresponds to 1-5 g licorice (2% glycyrrhizin), has been estimated to be a safe dose for most healthy adults.[11]

7. Conclusion

Licorice (Glycyrrhiza glabra Linn) root, rhizome and its concentrate, for example, glycyrrhizin have a long history of utilization in traditional system of medicine, people cures, and as a sweetening and seasoning operator. Pharmacological investigations have assessed a few of the conventional wellbeing claims behind licorice use albeit a considerable lot of these reports have created conflicting outcomes. Deglycyrrhizinated licorice has likewise given some impact in the treatment of gastrointestinal ulcers, recommending the nearness of dynamic fixings other than glycyrrhizin, and many more studies have demonstrated it has many gainful impacts. The review highlighted the chemical constituent, pharmacological and therapeutic effects of Glycyrrhiza glabra as promising source of drugs because of its safety and effectiveness.

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