



An Overview of Medicinal Plant as Cissus Quadrangularis

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ABSTRACT :-

Cissus quadrangularis natural plant having Family Vitaceae. It is plump desert Flora in nature. It is otherwise called vitis quadrangularis Lycopodium imbricatum heliotropium indicum. In ayurvedic it is utilized as pachana (stomach related help) , sara (eases blockage). Athiyuk(Fortifying bones) vrushya (sexual enhancer) and so on. In unani treating gastritis is utilized The entire plant is utilize in treatmentof asthma. The plant has many pharmacology use .

KEYWORDS:- cissus quadrangularis , Hadjod , Bone Setter

INTRODUCTION :-

Cissus quadrangularis is normally known as hadjod is a perpetual plant of the family vitaceae. [1] Different customary treatments for treatment of physical and mental illnesses exist in all significant and is one of the most famous conventional treatment . [2] Cissus quadrangularis is a native therapeutic plant found in India which has been accounted for to be utilized in ayurvedic medications for advancement of break mending interaction and notable as hadjod . It is popular by various names in different vernacular dialects [3]

PLANT PROFILE:-



Fig 1:- Cissus Quadrangularis

Vernacular names

English : Edible stemmed vine, Adamant creeper, Bone setter

Hindi : Hadjod, Hadjora, Hadsarihari, Harsankari, Kandvel

Bengali : Har, Harbhanga, Hasjora, Horjora

Gujarati : Chodhari, Hadsand, Hadsankal, Vedhari

Kanada : Mangarahalli

Malyalam : Cannalamparanta, Peranta

Marathi : Horjora, Harsankar, Kandavel,

Nalllar tamil : Piranti, Vajjiravalli

Telugu : Nalleru, Nelleratiga, Vajravalli

Oriya : Hadavhanga

Urdu : Harjora, Hadsankal [4]

It is local to India, Bangladesh and Sri Lanka. It is additionally tracked down in Africa and Southeast Asia. It is being imported to Brazil and the southern US [1]

Herbal Portrayal

Realm : Plantae

Sub realm : Tracheobionta

Division : Magnoliophyta (Magnoliophyta)

Class : Magnoliopsida

Subclass : Rosidae

Request : Rhamnales

Family : Vitaceae

Class : Cissus

Species : quadrangularis

Equivalents : Cissus quadrangula Vitis quadrangularis [5&6]

PHYTOCHEMICAL CONSTITUENTS:-

The stem of *Cissus quadrangularis* have contains saponins and phenolic compounds. [7] Carotene, Vitamin A, Calcium oxalate gem, Triterpene, Steroid, Tetracyclic triterpenoids, Saponins, Flavonol [8] ,Stilbene compounds [9] Four marker constituents, specifically, onocer-7-ene-3a, 21 β -diol, d-amyrin, d-amyrone and 3,3',4,4'-tetrahydroxybiphenyl are segregated from an ayurvedic rough medication *Cissus quadrangularis* Linn are characterized for normalization pur-presents.

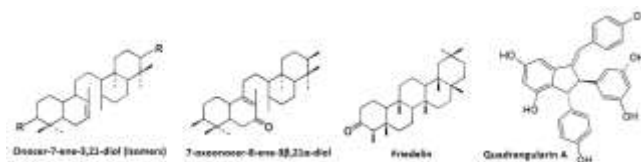


Fig 2 :- Phytochemical Constituents

3,3',4,4'-Tetrahydroxybiphenyl has been secluded interestingly from this medication. The items in the marker constituents were quantitatively deflected by HPTLC and HPLC strategies in examples gathered from five distinct geographic zones of India [10]. Two unsymmetrical tetracyclic triterpenoids onocer-7-ene-3a, 21 β -diol, onocer-7-ene-3 β , 21a-diol, with sitosterol, d-amyrin what's more, d-amyrone are additionally gotten from this plant [11]. New unsymmetrical tetracyclic triterpenoid, 7-oxoonocer-8-ene-3 β , 21a-diol, [12] Two new iridoids 6-O-[2, 3-di methoxy]-trans-cinnamoyl catalpol, 6-O-meta methoxy-benzoyl catalpol alongside a known iridoids picoside, two stilbene quadrangularin A, Quadrangularin B, pallidol, quercetin, quercetrin, β sitosterol glycoside are gotten from *Cissus quadrangularis* [13]. Seven new mixtures are 4-hydroxy-2-methyl-tricos-2-en-22-one, 9-methyl-octadec-9-ene, Heptadecyl-octadecanoate, icosananyl cyclohexane, 31-methyl tritriacontan-1-ol, 7-hydroxy-20-oxo-docosanyl cyclohexane, 31-methyl tritriacontanoic corrosive. Taraxeryl acetic acid derivation, fridelan-3-one, taxaxerol and iso-pentacosanoic [12] a new unsymmetrical tetracyclic triterpenoid 7-oxoonocer-8-ene-3 β , 21a-diol is acquired from *Cissus quadrangularis*. [11]

GEOGRAPHICAL SOURCE:-

Cissus quadrangularis Linn is a significant therapeutic plant tracked down in India and Africa, generally known as "Hadjod and bone setter". *C. quadrangularis* is a delicious shrubby climber with 4-winged internodes and a ringlet at the hubs and arrives at a level of 1.5 m roughly. Stem jointed at hubs, internodes are 8 to 10 cm long and 1.2 to 1.5 cm wide. Blooming is extremely interesting and blossoms are little, greenish white, sexually unbiased,

tetramerous and inverse to the leaves. Natural product globose/obovoid meaty berries. *Cissus quadrangularis* is spread by seeds and stem cuttings. It is vegetatively spread for the most part in the long stretch of May to July. It requires warm heat and humidity. Spread through seeds is problematic in light of the fact that seeds are uncommon and not suitable. It tends to be developed in fields beach front regions, wildernesses and badlands up to 500 m rise. The plant is spread utilizing stem cuttings. Plant blossoms in the period of June to December. Establishing material happens as pieces of differing lengths; stem quadrangular, 4-winged, internodes 4-15 cm long and 1-2 cm thick. The plants of laid out plants scramble on the ground and climb vegetation, and will ultimately spread to basically a few yards, and conceivably to north of 20 feet. [14]

PHARMACOLOGICAL MOVEMENT:-

Bone break recuperating movement *Cissus quadrangularis* is usually known as the "bone setter". Various investigates to concentrate on the impact of C.Q on mending of cracks shown that an anabolic steroid present in C.Q go about as estrogenic receptors of bone which cause early hardening what's more, increment take-up of Calcium, Sulphur and strontium by osteoblasts. During mending of crack there is early recovery of all connective tissue furthermore, fast mineralization of callus under the impact of nutrients and steroids present in C.Q [15] C.Q cause excitement of all cells of mesenchymal beginning to be specific the fibroblasts, the chondroblasts and osteoblasts with more effect on osteoblastic expansion. This movement prompts shortening of bone recuperating period by about fourteen days. Grown-up canine examinations showed expansion in soluble phosphatase level during break mending. Other concentrates on revealed that C.Q causes quick aggregation of bigger amount of mucopolysaccharides during first week which is followed by fast fall and cause early vanishing of them from the broke region. Both these activities benefit recuperating of cracks. C.Q acts by up controlling MAPK dependant antacid phosphatase action in osteoblasts which prompts increment biomineralization [16]. There is expanded DNA combination, expanded grid mineralization of human osteoblast like SaOS-2 cells. C.Q applies anabolic activity in human osteoblast like cells through expanded mRNA and protein articulation of Runx2 which is engaged with guideline of bone network proteins [17]. RT PCR studies showed that there is expanding in mRNA articulation of IGF I, II and IGF BP-3 [18]. Nutrient C and A found in C.Q helps in line of collagen. Steroids, for example, Cortisone have antianabolic impact which represses tissue recovery and fix and retards development of explicit skeletal. C.Q neutralizes these antianabolic impacts of cortisone in the recuperating of breaks. Affected by C.Q it has been announced that there is least tissue response with ideal decalcification and least callus arrangement which helps in testimony of calcium which is only adequate to join the two cracked fragments so renovating occurs significantly quicker and likewise cracked fragments gain elasticity early [19]

Antiosteoporotic action:-

Osteoporosis is a quiet infection. It is a constant, moderate condition related with microarchitectures crumbling of bone tissue

brings about low bone mass. In instances of

postmenopausal osteoporosis C.Q acts by

balancing the antianabolic impacts and this

activity assists with recuperating the bone mineral thickness [15]. In light of its property of feeling of osteoblastogenesis, C.Q is utilized as preventive/elective regular medication for

bone sicknesses, for example, osteoporosis [20]

Cell reinforcement movement:-

EECQ and MECQ showed intense cell reinforcement impact and furthermore showed articulated anticancer viability against leukemic cells HL-60 [21]. Different natural and photochemical responses in body produce superoxide extremist O₂⁻, which is an exceptionally harmful. C.Q has searching impact due to its hydrogen giving skill [22]. β-carotene present in C.Q rummages superoxide extremist and stifles singlet oxygen. Nair et al [23] have recommended that L-ascorbic acid, the major constituent of C.Q has in vitro lipid peroxidation hindrance capacity and rummaging activity on peroxy and hydroxyl extremists. The free extremist rummaging and cancer prevention agent action is ascribed to the antioxidative organization of C.Q [24]

Anabolic and androgenic action:-

Cortisol and Endogenous glucocorticoids

enact pathways to cause corruption of bone

furthermore, skeletal as well as muscle tissue.

Glucocorticoids instigate muscle breakdown.

The initiation of the Ubiquitin-Proteasome

pathway of proteolysis by glucocorticoid cause tissue breakdown which is useful in eliminating harmed and nonfunctional proteins. C.Q has anabolic antiglucocorticoid impact and help to save muscle tissue during seasons of physical what's more, personal pressure, which is valuable property for normal weight lifter or athlete [15 & 25]

Calming action:-

C.Q contains bioflavonoids, various flavanoids, a few flavones, flavonols, flavanols and flavanoids particularly luteolin.

These demonstration by hindering the

lipooxygenase pathway. β sitosterol additionally called plant cholesterol additionally have calming action. C.Q follows up on both the cyclooxygenase furthermore, lipooxygenase pathways of arachidonic corrosive digestion and cause hindrance. In this way C.Q goes about as double inhibitor of arachidonic corrosive digestion [15&26]

Antihemorrhoidal action :-

C.Q is utilized for the treatment of hemorrhoids what's more, varicose veins. The bioflavonoids for the most part diosmin, hesperidine and oligomeric proanthocyanidin answered to have phlebotonic action, vasculoprotective impacts and adversarial impact on the biochemical arbiters of aggravation[15&26]

Metabolic condition and weight reduction:-

The phytosterols and fiber removes present in C.Q have against lipase and anorexiatic properties which cause less retention of dietary fats and increments satiation by causing ascend in serum serotonin levels . Attributable to this property C.Q is been really utilized for the the executives of weight reduction and metabolic disorder mostly for focal corpulence[27]

CONCLUSION:-

Cissus quadrangularis are a natural originated plant which found specially in India. It show ayurvedic medicinal properties . Cissus quadrangularis have different- different name according to different-different languages like bone setter, Kandvel, hadjod, Horjora etc. Cissus quadrangularis contains phenolic compounds, saponins , flavonol etc. Cissus quadrangularis show more pharmacological actions like Antiosteoporotic, cell reinforcement, Anabolic & Androgenic ect .

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