

**ASTHISANDHARAK - (CISSUS QUADRANGULARIS) - REVIEW
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College in Sharir Rachana,
Pune, Maharashtra, India.**ABSTRACT**

Cissus Quadrangularis is one of the important plant used in bone related problems. It belongs to Vitaceae Family. It is also known as Grape Family. It also known as veldt grape, devil's backbone, damant creeper, hadjod, pirandai. Its botanical name is Cissus Quadrangularis. Mainly stem of this plant having medicinal used. In this plant different types of steroidal properties are found. The anabolic steroidal principles showed a mark influence in the rate of fracture healing by influencing early regeneration of all connective tissues involved in the healing and quicker mineralization of the callus. I focused medicinal uses, active principal and pharmacological properties and classical uses of cissus quadrangularis that is Asthisandhraka.

KEYWORDS: Steroidal Properties, Callus, Anabolic, Mineralization.**INTRODUCTION**

As we know that plants used as a medicine in Ayurveda since thousands of year. In Ancient literature like *Rigveda*, *Yajurveda*, *Atharvaveda*, *Samveda*. also mentioned medicinal properties of plants. In Ayurveda *Charaka samhita* and *Sushrut samhita* also described medicinal properties of plants for treatment and food suppliment purpose but Asthisandharaka mentioned in *Bhavprakashya*, *Kaivdev nighantu*, *Nighnatu ratnakar*, *Chakradatta*. Cissus Quadrangularis is also known as Asthisamhara, Asthisamhrita, Asthisanyojaka and Vajrvalli. As we know from the above synonyms Asthisamahara means leads to sandhan process. Cissus Quandrangularis is an Ayurvedic herb used for straightening bones and joints and promoting bone growth. It increases Bone mineral density

and enhances the rate of fracture healing. This herb also used for to treat loss of appetite, indigestion, internal bleeding, menopause, menstrual disorder, obesity, osteoarthritis, osteoporosis and aphrodisiac. In all *Cissus Quadrangularis* used in many disorders as above but in this article my focus towards how it is act on bone fracture as well as low mineral density.

PLANT PROFILE

COMMON NAMES- *Asthishrunkhala*

- i. *English Name*- Square Stalked vine, Edible Stemmed vine.
- ii. *Sanskrit Name*- *Asthisamhari*, *Vajravalli*, *Asthisamhrit*, *Asthisamyojka*.
- iii. *Gujarati* – *Hadsankal*
- iv. *Telugu* – *Nalleru*
- v. *Marathi*- *Kandvel*
- vi. *Kannada* – *Mangroli*
- vii. *Siddha*- *Pirandei*
- viii. *Hindi*- *Harshankar*

FAMILY – *Vitaceae*

PARTS USED - stem

HABITAT- Distributed through out India, particularly in hotter area, also cultivated in gardens. It is mainly deciduous shrubs or climbing plant. It developed in Tubers pattern so it is called *Shrunkhala*. Normally growth about 1.5cm i.e. 4-5ft..It having 4 quadrangular sectioned branches with internal nodes 8-10cm. Leafs are fleshy, flowers are sub-umbellate.

AYURVEDIC PROPERTIES

- I. *Rasa* – *Madhur*
- II. *Virya* – *Ushna*
- III. *Vipak* – *Madhur*
- IV. *Guna* – *Laghu*, *Ruksha*
- V. *Dosh karma* – *Pacifies Pitta dosha*, *Vatahara*.
- VI. *Dhatu (tissue) effect* – *Rasa*, *Mamsa*, *Asthi*, *Shukra*.
- VII. *Organ effect* – *Bone*, *Joints*.

1. CLASSICAL USES

- I. In cases of dislocation of joints and bone fractures the herb was given internally with milk. (Vrindamadhav)
- II. Medicated oil made from *Asthisamhara* uses externally for massaged purposed on affected area. (Bhavprakash)
- III. The herb was recommended with meat or other protein-rich foods as a preventive measure from fractures and other affections. (Gadnigra)
- IV. For fertility the paste of *Asthisamhara* mixes with its juice and equal quantity of oil was prescribed to women after menstruation.
- V. It is *Aam nashak* i.e. toxin digester.
- VI. Use as *chakshushya* i.e. good for the eyes.
- VII. *Deepan* means increase appetite.
- VIII. *Kasahara* i.e. removes cough.
- IX. *Pitta vardhak* i.e. increases pitta.
- X. *Vatahara* means decreases vata.
- XI. *Vrishya* means increases sexual potency, the quantity of semen.

IMPORTANT MEDICINAL PROPERTIES

The Biomedical Actions of *Cissus Quadrangularis* seen on various ways.

- I. **Analgesic** - Acting to relieve the pain.
- II. **Anti – inflammatory** - Reducing inflammation by acting on body mechanisms.
- III. **Antiosteoporotic** – Countering osteoporosis. whole plant possesses antiosteoporotic activity.
- IV. **Antioxidant**- Exhibits strong antioxidant and free radical scavenging activity.
- V. **Bone healing** – Due to rich content of calcium, phosphorus, phytoestrogenic steroids it increases the rate of bone regeneration and improves blood circulation and nutrient supply to the bones.
- VI. **Hemostatic (stypic)** – It stops bleeding.
- VII. **Anti- hemorrhoid** – Mainly beneficial in bleeding piles.
- VIII. **Anti- ulcer**- Significant antiulcer activity by decreasing gastric secretions and by enhancing glycoprotein levels.
- IX. **Central nervous system**- The root extract possesses central nervous system depressant activity in large amount of doses.

- X. Digestive Health-** It restores the protective layer of mucus in the stomach. This can help prevent and heal ulcers.
- XI. Wound Healing** – Vitamin c is also a crucial element of collagen, the material used by the body to build everything from muscles tissue to blood vessels and arteries. High levels of vitamin c help in growth and repair meaning that wound healing can be speed up and recovery from injury can be quicker.
- XII. Joint Pain** – Stem of *Cissus quadrangularis* are taken in air dried. This is powdered and stored 2-3gm of the powder is taken along with a tsp. of honey daily. This acts as a natural calcium supplement and hence helps to fight fatigue, lethargy aches and joint pain in forearm, legs, joints.

CHEMICAL COMPOSITION OF ASTHISAMHARA

The stem contains 2-tetracyclic triterpenoids and 2-steroidal principles. It also contains phyto-genic steroid, ketosteroids, sitosterol, alhamyon alphaamyrin and tetracyclic triterpenoids.

ACTIVE PRINCIPLES AND PHARMACOLOGY

The stem contains 2-tetracyclic triterpenoids and anabolic steroid; the total alcoholic extract of the plant on parenteral administration neutralize the anti-anabolic effect of the cortisone in healing of the fractures. It aids in recovery of the strength of the bones upto 90% in 6 weeks. The drug exhibits a definite influence both on the organic and mineral phase of fracture healing leading to quicker recovery in animals. The plant is rich in Vit.c.

ANALYSIS OF THE AIR-DRIED PLANT

- I. *Moisture*- 13.1
- II. *Proteins*-12.8
- III. *Fat*-1.0
- IV. *Fiber*-15.6
- V. *Carbohydrates*- 36.6
- VI. *Mucilage and pectins* -1.2
- VII. *Ash*-10.21

DISCUSSION

In Ayurveda Dosha, dhatu, mala are three basic physiological constituents of human body. Human body is made up of the seven dhatus. Asthi dhatu is fifth dhatu and having

degeneration properties depending upon proper dietary things like calcium containing diet, fruits etc. In the present time period have been seen progressive changes in many aspects of diet and lifestyle as well as in our environment. Many health problems are related to lifestyle and dietary factors. Low rate of calcium and vita.-D is key of all fracture problems of domestic fall-down. In such situation asthisamahara is best drug of choice to treat wounds, fracture healing and boost up functional efficacy of bones. It shows organ effect on bones so, it influencing early degeneration of all connective tissues involved in the healing and quicker mineralization of the callus.

CONCLUSION

From the above article it is clear that Asthisamharak is showing valuable properties in wound healing, bleeding wounds, healing wounds, fracture condition along with connective tissue healing; in all it is having various properties as discuss early but it shows marked results on bone and tissue problems. As we know that Ayurvedic principles constantly plays an important role in their prevention and management. Health promoting regime is the hall mark of Ayurvedic therapies; specific diet and life style guideline are always prescribed along with the drugs. So proper diet and specific medicines on certain conditions help in health promotions, prevention of diseases and their management.

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