



## A REVIEW ON SIMHASYADI KASHAYA- A POLY HERBAL FORMULATION

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### ABSTRACT

Bhaishajya Kalpana is an art as well as science of preparing and dispensing of medicine. This branch aids the physician to utilize the drug in various forms according to the specific condition of the diseases. In Ayurvedic therapeutics, drugs in both forms are used, crude as well as different formulations. Simhasyadi kashaya mentioned in Chakradatta contains Guduchi, Vasa & Brihati, which are easily available in our surrounding area. It is indicated for Shotha, Swasa, Kasa, Jwara & Chardi. The main objective of this review article is to discuss the various therapeutic potential of Simhasyadi kwatha and to discuss the different pharmacological properties and therapeutic uses of isolated constituent drugs of Simhasyadi Kashaya. This review is mainly focused to find out the important properties of the individual drugs and their possible effects in the samprapti vighatana of diseases.

### INTRODUCTION

The drug (Dravya) comes second in the order of the four fundamental components of treatment<sup>[1]</sup>. Success of the treatment depends upon proper raw drug selection, proper manufacturing method and proper method of administration. A successful treatment depends upon the following factors; (1) Nature of drug i.e. active constituents it contains, (2) Yukti of physician, (3) Severity of disease, (4) Bala of the patient.

Acharya Charaka has insisted upon complete knowledge of drug. "न नामज्ञानमात्रेण रूपज्ञानेन वा पुनः। औषधीनां परां प्राप्तिं कश्चिद्वेदितुमर्हति।"<sup>[2]</sup> i.e., by knowing its name and form only, no one can know the principles governing correct application of drugs. So it is very much necessary to know the drug in Total.

In Ayurvedic field of practice, several types of kalpanas are being used. Few of such kalpanas are kashaya kalpana & vati kalpana, which is frequently used in present era. According to Acharya Vagbhata, the best medicine for people living in a particular location is that, which grows on that location itself<sup>[3]</sup>. Simhasyadi kashaya mentioned in Chakradatta contains Guduchi, Vasa & Brihati, which are easily available in our surrounding area. It is indicated for Shotha, Swasa, Kasa, Jwara & Chardi.<sup>[4]</sup>

### Simhasyadi Kashaya

सिहास्या अमृता भण्डाकि क्वाथं कृत्वा समाक्षिकम् ।  
पीत्वा शोथं जयेत् जन्तु श्वासं कासं ज्वरं वमिम् ॥ (च. द)<sup>[5]</sup>

Simhasyadi kashaya was first explained by Chakradatta in Shophya prakarana. Later it was included in Bhaishajya Ratnavali, Vangasena and Brihath Nighantu Rathnakara.

It contains Guduchi, Brihati and Vasa. The yoga is indicated for Shophya, Swasa, Kasa, Jwara and Chardi. In this study, the Simhasyadi kashaya was modified into Simhasyadi ghanavati and experimental study was carried out on albino rats to find

out its shothaghna action.

### SIMHASYADI<sup>[6]</sup>

Botanical Name : Adhatoda vasica (L.)

Family: Acanthaceae

Vasa is a well known herb for respiratory disorders, bleeding disorders and febrile illness. Caraka documented the flowers of Vasa as kapha-pittahara while Sushruta mentioned them as Kshaya and Kasahara. Vagbhata emphasized its role in raktapitta. Shodhala and Yogarathnakara have emphatically claimed that it is a definite treatment for raktapitta, kshaya and kasa.

Though there are no varieties mentioned in the classical literature, some vaidyas using A.beddomi Clarke as vasa. P.V Sharmaji reported that Justicia gendarussa Linn. Is being used as Krishna Vasa. Dr Desai quoted Justicia picta Linn. as Raktapushpa vasa.

### Active Constituents of Vasa:

Vasicine (pegamine), vasicinine,  $\beta$ -sitosterol, kaempferol, 3-sophoroside, luteolin, tritriacontane, adhatodic acid, carotene, vasakin, vasicinol, q-hydroxyvasicine, vasicinone, Vit.C, vasicol, vasicinolone, adhatodine, adhavasine, anisotine, vasicolone, vasicolinone etc.

### Mechanism of action based on preclinical studies:

1. Relaxation producing activity of dl-vasicinone on isolated guinea pig tracheal muscle was about 1/2000 that of adrenaline.
2. Uterotonic activity of vasicine in different species of animals in vivo was similar to that of oxytocin and methylergometrine. The effect was influenced by the degree of prining of uterus by estrogens and was markedly decreased after pretreatment of uterus with aspirin and indomethacin.

- Vasicine showed broncho dilatory activity both in vitro and in vivo comparable with that of theophylline. Vasicinone showed bronchodilatation in vitro. Both in combination had more broncho dilatory activity in vitro and in vivo. Vasicine also exhibited respiratory and uterine stimulant activity and moderate hypotensive activity.
- Vasicine showed abortifacient effect in guinea pigs depending on the stage of pregnancy and prior priming of animals with estradiol.
- Intra amniotic injection of vasicine HCl was effective in inducing mild- trimester abortions at dose of 60mg.
- Bronchodilator activity of vasicinone was compared to that of isoprenaline and aminophylline.
- Vasicine produced marked potentiation of contractile response of isolated uterus to oxytocin. It potentiated oxytocin response in isolated mammary strips of rat.
- Vasicine also potentiated prostaglandin-induced uterine contractions in rats.
- Vasicine's combination with oxytocin may help to decrease the dose of oxytocin for induction of labour or abortion.
- The hemostatic activity of *A.vasica* is reported.

#### Herb- Drug Interactions:

Vasa can interact with certain drugs potentially affecting their efficacy or causing adverse effects. Specifically vasicine, a key component of vasa can impact the metabolism of other drugs, increasing or decreasing their levels in the body. It can increase the bio availability of salbutamol, a bronchodilator, potentially leading to adverse effects. Conversely, vasa may reduce the effectiveness of some medications such as those used to treat HIV.

#### Guduchi<sup>[7]</sup>

Botanical Name - *Tinospora cordifolia* (Willd.) Miers.

Family name - Menispermaceae

Guduchi consists of dried, matured pieces of stem of *Tinospora cordifolia* (Willd.) Miers. (Family- Menispermaceae), a perennial climber found throughout Tropical India. It is collected during summer preferably in the month of May, drug is used in fresh form also.

Guduchi is one of the non-controversial and extensively used herbs in Ayurvedic medicine. Charaka Acharya quoted it among the *Agrya virya dravyas* by attributing *Grahi*, *Vatahara*, *Dipaniya*, *Kapha-pittahara* and *vibandhahara* properties to it. He also identifies it as one of the best *medhya rasayanas*. Sushruta Acharya high-lighted the *pitta* and *kaphahara* properties of Guduchi while *Vagbhata Acharya* emphasized its utility in *vatarakta*. Among *Laghutrayee*, *Sarangadhara Acharya* stresses upon the utility of Guduchi. Sushruta, *vagbhata* and *Bhavamishra* described one complete *varga* in the name of *Guduchyadi varga*. During *Nighantu* period, the utility of Guduchi reached zenith and extensive description of Guduchi appears in all the *nighantus*.

#### Varieties of Guduchi:

In the original classical literature, there is only one variety of Guduchi described. *Dhanvantari Nighantu* introduced two

varieties of Guduchi for the first time. They are *Guduchi* and *Kandodbhava Guduchi*. *Gangadhara* mentioned about *Padma Guduchi* in his commentary. The botanical identity of second variety is *Tinospora sinensis* (Lour.)Merrill or *T. malabarica*. *Acharya P.V Sharmaji* reported that *T. Crispa* is being used in Assam for the management of fevers. Classically, *Amrita dwaya* means *Guduchi* and *Haritaki* but not two varieties of *Guduchi*.

#### Chemical Constituents:

A diterpenoid of columbin type- *tinospurin* is isolated from plant. *Tinosporide* and *cordifloride*, *tinospordine* and  $\beta$ - *sitosterol* isolated stems, *cordifol*, *heptacosanol* and *octacosanol* reported from the leaves. A variety of constituents have been isolated from *Tinospora cordifolia* plant and their structures were elucidated. They belong to different classes such as alkaloids, diterpenoid lactones, glycosides, steroids, sesquiterpenoid, phenolics, aliphatic compounds and polysaccharides. Leaves of this plant are rich in protein (11.2%) and are fairly rich in calcium and phosphorus.

#### Pharmacological Studies:

- It is found to be an effective anti-rheumatic and diuretic. (Sisodia and Laxminarayan 1966 have carried out the experiments on the lithotropic activity of *T.cordifolia*).
- The anti inflammatory property is reported by Rai & Gupta (1966).
- It is reported to be one fifth potent as analgesic when compared to sodium salicylate.
- Aqueous extract produced smooth muscle relaxation of intestines, uterus and inhibition of constrictor response of histamine and acetyl choline on smooth muscles. (Gupta et al. 1967)
- Administration of aqueous extract (30 days) showed significant improvement in the glucose intolerance in rats (Gupta et al; 1964)
- Hepatoprotective activity also reported. The active liver damage was not prevented by *T.cordifolia* but the chronic damage was effectively prevented. It prevented the fibrous changes and promoted regeneration by parenchymal tissue. (Rege et al; 1984)
- The antioxidant activity of root extract (2-5 & 5g/Kg for 6 weeks) is reported in alloxan diabetic rats (Prince P.S.M et al; 1999).
- Administration of aqueous extract of roots significantly reduced the serum and tissue cholesterol, phospholipids and free fatty acids in alloxan diabetic rats. The root extract showed highest hypolipidaemic effect.
- Its aqueous extract has a high phagocytic index. The active constituent in the *Durg* was also found to inhibit in vitro the growths of *M. tuberculosis*.
- Ethanol extract of stem and leaves exhibited significant antipyretic activity in experimental rats.
- Antiallergic properties of an aqueous extract of *T. cordifolia* stem on histamine induced bronchospasm in guinea pigs and experimental rats were evaluated.
- T.cordifolia* was found to be active against *Leishmania donovani* when administered to golden hamsters.
- The efficacy of *T. cordifolia* was evaluated against *E.coli* induced peritonitis in mice.

14. The potentiality of *T.cordifolia* in cancer management is identified.
15. *T.cordifolia* exhibited mild anti-ulcerogenic activity against gastric ulcers in rats.

#### Herb-Drug Interactions:

Guduchi can interact with certain medications particularly those affecting blood sugar levels, the immune system and those metabolized by the liver. Guduchi may lower blood sugar levels, so combining it with antidiabetic drugs could lead to hypoglycemia. Guduchi can boost the immune system, potentially reducing the effectiveness of medications that suppress the immune system, such as those used after organ transplants. Guduchi may affect how quickly the liver breaks down certain medications, altering their effects and side effect. Specifically, it can inhibit Cytochrome P50 isoenzymes like CYP2D9, CYP2D6, CYP2C19, CYP1A2 and CYP3A4. One study in rats showed that *Tinospora cordifolia* significantly decreased the plasma concentration of warfarin. The extent of these interactions can vary from person to person, depending on factors like dosage, individual metabolism and overall health.

#### Brihati<sup>[8]</sup>

Brihati is used for the internal coating of Sutigakara according to Sankhayana ghyasutra. In Koushika sutra, it is used for pumsavana. Brihati fruit is delineated in Hiranyakesi Sutra. Samavidhana Brahmana mentions white flowered Brihati. Brihat kantakarika is mentioned in Atharva parisista. In the same text, Simhi and Vyaghri are found together. Simhi is attributed with properties like Rakshoghna, Krtyadushana, vachasya and Ayushya. White flowered Simhi root juice is given as nasya for conception. (A.P. 18/1/15-17)

Brihat trayee mostly described it along with Kantakari. Hence the name Brihati dwaya. It is also useful for kasa and along with kantakari, its roots form the part of Dasamoolas.

#### Varieties:

There are two varieties of Brihat viz., Brihati, Sweta Brihati which are identified with *S.indicum* and *S.torvum* Swartz. Respectively.

Kaiyadeva enumerated 11 varieties of brihati quoting other texts. They are Simhi, Brihati, Kantakari, Nidigdhika, Valli Brihati, Vrtra Brihati, Sweta Brihati, Alambu phala Brihati, Amla Brihati, Jala Brihati and Sthula Brihati.

It is observed that other species of Solanum such as *S.insanum* Roxb. (*Vanabhanta*) and *S.torvum* (Sweta Brihati) are in common use. It is also noticed that *S.aungvii* and *S. trilobatum* are in common use in South India.

Dalhana in one of the contexts (S.S Ut. 40/40) defined Brihati dwaya as the plant with smaller fruits (*Sukshma phala*) and the plant with bigger fruits (*Brihat phala*) together as Brihati dwaya. He might have meant *S. indicum* and *S. melongena* Linn. (*S.insanum*) as the sources respectively. Both these are being used under the name Brihati at various parts of the country.

#### Chemical Constituents:

Solanine, Carotene, Carpesterol, Solanocarpon, Diosgenin,  $\beta$ -sitosterol, Lanosterol, Solasonine, Solamargine, Solasodine, Vit.C etc.

#### Pharmacological Studies:

1. Solanine hydrochloride administered to Guinea pigs thrice every alternate day protected them against its lethal dose (antitoxic immunity)
2. Both chloroform soluble and insoluble fraction of ethanolic extract showed cytotoxicity to colo-205 (colon).
3. Expectorant action: Helps in liquefying and expelling phlegm from the respiratory tract, making it useful in asthma and bronchitis.
4. Anti inflammatory effect: Reduces swelling and inflammation by modulating inflammatory mediators.
5. Diuretic action: Promotes urine flow, assisting in detoxification and treating urinary tract infections.
6. Anti microbial activity: Inhibits bacterial and fungal growth, protecting against infections.
7. Digestive stimulant: Enhances enzymatic activity, improving digestion and relieving abdominal discomfort.

#### Properties of Simhasyadi Kashaya Drugs:

Drug name	Rasa	Guna	Virya	Vipaka	Dosha karma
Vasa	Thikta, Katu	Laghu, Ruksha	Sita	Katu	Raktapittahara
Guduchi	Thikta, Kashaya	Guru, Snigdha	Usna	Madhura	Tridosha shamaka
Brihati	Thikta, Katu	Laghu, Ruksha	Usna	Katu	Kaphavatahara

#### Probable Mode of Action of Simhasyadi Kashaya:

Simhasyadi Kashaya works by clearing blood impurities (raktashodhak and raktaprasadak), pacifying aggravated Vata dosha (vatanulomalk and vatashamak), removing obstructions in channels (srotovibandhanashan), and potentially has anti-gout (vatarakta shamaka) properties due to its ingredients.

#### Blood Purification:

The formulation contains raktaprasadak and raktashodhak (blood-purifying) ingredients that remove impurities from the blood.

#### Vata Pacification:

It possesses vatanulomalk (Vata-pacifying) and vatashamak (Vata-reducing) properties, helping to remove aggravated Vata from the body.

#### Channel Clearance:

The Kashaya also contains srotovibandhanashak (channel-clearing) substances that help to remove obstructions in the srotas (channels of the body).

#### Specific Action in Vatarakta (Gout):

It is considered effective in Vatarakta (gout) due to the combined properties of its ingredients which help in Vata-Pacification, blood purification, and clearing channels.

**Potentiating Effect:**

The addition of Eranda taila (castor oil) acts as a potentiator and has sookshma (subtle) and teekshna (penetrating) properties that further aid in removing obstructions from the srotas, making it particularly useful in conditions like Vatarakta.

**DISCUSSION**

The main objective of this review article is to discuss the various therapeutic potential of Simhasyadi kwatha and to discuss the different pharmacological properties and therapeutic uses of isolated constituent drugs of Simhasyadi Kashaya. This review is mainly focused to find out the important properties of the individual drugs and their possible effects in the samprapti vighatana of diseases.

Guduchi is an important medicinal plant and widely distributed in India. It is described as 'the one who protects the body'. 'Amrita' means 'divine nectar' refers to the life restoring. Acharya Caraka quoted it among the Agrya dravyas by attributing Grahi, Vatahara, Dipaniya, Kapha- Raktahara and vibandhahara properties to it ( Ca.Su.25). He also identified it as one of the best medhya rasayanas. Guduchi is having thikta, kashaya rasa, guru, snigdha guna, usna virya, madhura vipaka. It is tridosha shamaka, medhya, rasayana, dipaniya, grahi, medohara, kandughna, jwarahara, and daha prashamana in nature. Acharya Sarangadhara mentioned guduchi as the classical example for shaman karma. In 1966, Rai and Gupta reported the anti inflammatory property of water extract of Guduchi in albino rats. Acharya Sushruta highlighted the pitta & kaphahara properties of Guduchi while Acharya Vagbhata emphasized its utility in vatarakta. It refers that the drug guduchi refer its action where vata and rakta are involved as in case of Aganthuja shopha.

Vasa is a well known drug for respiratory disorders, bleeding disorders and febrile illness. Acharya Caraka documented the flowers of vasa as kapha-pittahara while Acharya Sushruta mentioned them as Kshaya and Kasahara. Shodhala and Yogaratnakara have emphatically claimed that it is a definite treatment for Raktapitta, Kshaya and Kasa. Vasa is having kashaya, thikta rasa, laghu, ruksha guna, Sita virya and Katu vipaka. It is kapha pittahara, hradya and swarya in nature. Acharya Vagbhata emphasized its role in Raktapitta. here it refer vasa acts on rakta and pitta conditions where in case of Aganthuja shopha.

Brihati having katu, thikta rasa, laghu, ruksha guna, usna virya and katu vipaka. It possess properties such as kapha vatahara and sukra rechaka. Dasamoola, the famous gana indicated for shotha, Brihati which comes in this gana as well as laghu panchamoola, we could assume the effect of Brihati in case of Shopha.

**CONCLUSION**

The historical evidence confirms the ingredients present in Simhasyadi kashaya is act as a multipurpose resource for life. Different active compounds are demonstrating the varied adaptability of the plants. With so much to offer to the scientific world of medicine, the preparation Simhasyadi kashaya truly

acts as an incredible source. The present review highlights the various therapeutic uses of Simhasyadi kashaya mentioned by great Ayurveda sages and recommends that there is huge scope of further scientific research on various therapeutic aspect of this important formulation.

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