

A LITERARY REVIEW OF THERAPEUTIC ACTION OF *PUNARNAVA* ON *SOTHA*

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ABSTRACTS

Health & disease are the two faces of a coin. The concept is to aid the human beings to provide healthy life & to prevent diseases. Sotha can be correlated to oedema on the basis of equivalent symptoms mentioned in the concerned literature. Sotha is a common pathological condition, neither limited to age group nor socio economical class of society.^[0] *Ayurveda* considers man as an integral part of mother nature.^[1] There for laws of nature are very well applicable for him also. it has understood the need of longevity and effectiveness to attain the supreme goal.^[1] *Punarnava* helps maintain efficient kidney and urinary function with its diuretic, laxative stomachic, diaphoretic, anti spasmodic and anti inflammatory action. According to *Ayurveda*

punarnava is the best astringent to bowels, useful in blood purifire and also used in lucorrhoea, anaemia, inflammation, heart disease, asthma etc. Many pharmacological studies have demonstrated the ability of its antioxidant ophthalmic anti inflammatory, spermatogenic, immunostimulants, hepatoprotective, supporting its traditional uses.^[2]

KEYWORDS: *Punarnava*, diuretic, laxative stomachic, diaphoretic, anti spasmodic.

INTRODUCTION

Ayurveda uses the inherent principle of nature to help maintain health of a person by keeping the individuals body, mind and spirit in perfect equilibrium with nature The science is

designated as *Ayurveda* where advantageous and disadvantageous as well as happy and unhappy state of along with that is good and bad for life its measurement and life itself are described.^[3] Now in present era sotha is the major health problem due to many type of disease develop in our body due to irregular life style and irregular food habits. *Ayurveda* described by sotha in *Charaka Samhita Sutra Sthana 18 Trisotheya Adhyaya*. Sotha is one of the disease found in all *Ayurvedic* classic where a patient experience swelling in body it may be correlation with inflammation. *Ayurveda* has proven itself with its purity and efficacy of medicine since the ancient times. *Ayurveda* cure the disease by the *ayurvedic* medicine. The drug *Punarnava* is used in sotha because this drug are very useful in this soth. The various classic of *Ayurveda* have described the role of *Punarnava* in the management of sotha.

DISCRIPTION OF PUNARNAVA

Basonym of drug^[4]

Punarnava (*Boerhavia diffusa*) is a perennial plant gets regenerated during rainy season (varsha ritu). *Punarnava* root is white in colour. The *Punarnava* plant spreads on the ground. The stem of *Punarnava* is reddish in colour.

Botanical name

Boerhavia diffusa Linn.

Boerhavia - Name of a discoverer. *Diffusa* - Which spreads on ground

Family - *Nyctaginaceae*

Kula - *Punarnava kula*

(Classical categorization)

<i>Charaka</i>	<i>Kasahara varga, Vayasthapana varga, Swedopaga varga, Anuvasanopaga varga</i>
<i>Susruta</i>	<i>Vidarigandhadi gana</i>
<i>Bh.Pr.Ni</i>	<i>Guducyadi varga 231-233</i>

Varieties^[5]

According to *bhavaprakash nighantu* and *kaidev nighantu* it is of two type –

1. *Sweta punarnava* (*Trianthema portulacastrum*)
2. *Rakta punarnava* (*Boerhavia diffusa*).

According to *Raj nighantu* it is of 3 types

1. *Sweta punarnava*

2. Rakta punarnava

3. Nila pumarnava.

MORPHOLOGY

Habit - Annual herb

Stem - Prostrate or ascending glabrous stem with distinct swollen nodes, stem is diffusely branched.

Leaves - Opposite, unequal, exstipulate, simple, ovate with rounded or cordate base, margin is entire, apex is obtuse, dorsal surface is green and lower sur

Boerhavia diffusa Linn

(*Punarnava*) face is silvery white in colour.

Inflorescence - Flowers crowded in heads at the end of long slender stalks forming terminal panicle.

Flowers - Bracteate, small, minute, red in colour, perianth lobes are 5, pink in colour, gamophyllous, stamens are 2 to 3 in number, slightly exerted, Gynoecium is Monocarpellary, Ovary is unilocular, superior with single basal ovule.

Fruit - A clavate and 5-ribbed achene.

Useful part - Mula (Root) or Panchanga (Whole plant)

Roots will be 30 cm or more long, 0.5 to 1.5 cm thick, stout, tapering, somewhat kholly and twisted. Roots often crowned with stem bases. Outer surface is brown in colour, finely striated longitudinally. Peeled off surface of the root will be creamish in mgurA transversely cut portions of the root shows a thin bark, followed by a yellowish le cortical region and a central woody portion. On breaking root becomes fibrous, lour is characteristic and taste is slightly bitter.

Phytoconstituents - Punarnava contains Punarnavine an alkaloid, Punarnavoside, Lerol, Tetracosanoic, Hexacosanoic, Stearic acids, Hentriacontane, Ursolic acid, Istic acid, Oxalic acid, Potassium nitrate and Asparagine.^[6]

Rasadi panchaka

	<i>Rakta punarnava</i>	<i>Sweta punarnava</i>
<i>Rasa</i>	<i>Tikta</i>	<i>Katu Kasaya</i>
<i>Guna</i>	<i>Laghu, Ruksa</i>	<i>Laghu, Ruksa</i>
<i>Vipaka</i>	<i>Katu</i>	<i>Katu</i>

Virya	Sita	Usna
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Doṣakarma (Action on Dosa)

Rakta punarnava - Pitta Kaphanasaka

Pittahara due to sita virya and Tikta rasa and Kaphahara due to Katu vipaka and Tikta rasa sweta punarnava - Vatakaphanasaka

Vatahara because of Usna virya and Kaphanasaka due to Usna virya, Katu vipaka and Katu Kasaya rasa.

Karma (Actions)

Rakta punarnava - Grahi, Sophanasaka, Pandughna

Sweta punarnava - Dipana, Sophahara, Pandughna, Bradnahara, Udara roga hara, Kasahara, Hridroga samaka, Sulahara, Visahara.

Nila punarnava - Rasayana, Hridrogahara, Pandughna, swayathuhara, swasahara.

PHARMACOLOGICAL ACTIONS

Diuretic, Stomachic, Laxative, Expectorant, Febrifuge, Anthelmintic.

ROGAGHNATA (THERAPEUTIC INDICATIONS)^[7]

Rakta punarnava - Sopha and Pandu

Śweta punarnava - Sopha, Pandu, Bradna, Kasa, Udara, Hridroga, Sula and visa vikara.

Nila punarnava - Hridroga, Pandu, swayathu and swasa

AMAYIKA PRAYOGA (THERAPEUTIC ADMINISTRATION)

1. Sotha (Oedema)

Paste is prepared from *Punarnava* (*Boerhavia diffusa*), *Nagara* (*Zingiber* and *Musta* (*Cyperus rotundus*) is taken with 640 ml of milk in case of *Sotha* (Oedema)

2. Asmari (Calculus)

Milk cooked with *Punarnava* (*Boerhavia diffusa*) is very useful in *Asmari* (Calculus).

3. Rakta sthivana (Haemoptysis)

Red variety of rice is cooked with *Punarnava* (*Boerhavia diffusa*) powder, sugar, invice of *Drakṣa* (*Vitis vinifera*), milk and ghee should be taken internally in case of *Raktasthivana* (Haemoptysis).

Matra (Dosage)

Swarasa (Juice) - 10 to 20 ml

Kwatha (Decoction)- 40 to 80 ml

SOTHA ACCORDING TO CHARAK SAMHITA^[8]

There are three types of sotha *vata*, *pitta* and *kapha*. They are again of two types-innate and exogenous

The exogenous

Causes - Aetiology of exogenous swelling (agantuj sgotha nidana)

Chedana - excision wounds

Bhedana - incision wounds

Kshanana - comminuting

Bhanjana - fracture

Picchana - exposure to excessive pressure

Utpeshana - drinding

Prahara - assault

Vadha - grievous hurt

Bandhana - tight tying

Veshtana - twisting by a snake , tight wrapping etc.

Vyaghana - piercing

Peedana - compression, squeezing.

Contact of the fruit and flower of bhallataka (marking nut – semecarpus anacardium linn), atmagupta (mucuna prurita hook), bristles of poisonous insects, harmful leaves, creepers and shrubs, sweat, crawling or urine of poisonous creatures, injury by fangs, teeth, horns, nails, etc.

INNATE SWELLINGS: Innate sotha are caused by improper administration of function, fomentation, emesis, purgation, non-unctuous and unctuous enema and head evacuation or improper dietetic regimen after evacuative therapy or excessive emaciation consequent to diseases like vomiting, cholera, dyspnoea, cough, diarrhoea, phthisis, anaemia, abdominal enlargement, fever, excessive vaginal discharges, fistula-in-ano and piles or due to leprosy, itching, etc. or in the debilitated after evacuative therapy, diseases, fasting or travelling on foot, by sudden intake of too heavy, sour, saltish, preparations of (rice) flour^[10], fruit, vegetables, pickles, curd, salads, wines, imperfect curd, germinated or fresh awned and

leguminous grains and marshy and aquatic animals, by eating earth, mud or brick; by excessive intake of salt, by compression of foetus, abortion or improper postpartum management or due to aggravation of dosas.^[11] Thus the general etiology is said.^[12]

SPECIAL FEATURES ARE AS FOLLOWS

Vatta: *Vayu*, vitiated by cold, rough, light, non-slimy substance, fatigue, fasting, excessive emaciation and wasting etc.^[12] This is quickly arising and subsiding. The part affected becomes blackish or reddish or has normal complexion, moving, pulsating, with skin and hair coarse, rough and broken.^[13]

The person feels that part as if excised, incised, pressed, pierced with needles, crawled over by ants, has irritating sensation as if pasted with mustard, contracts or expands.^[14] This is the character of *vata sotha* (swelling due to *vata*).^[15]

Pitta: vitiated with intake of hot, sharp, pungent, alkaline, salt, sour food and eating during indigestion, and heating with fire and the sun, overcomes the *twak*, and *rakta* and thus produces swelling.

It quickly arises and subsides. The part affected has black, yellow, blue and coppery tinge, hot, soft and with brown and coppery hairs. It has burning sensations of various natures, is hot, perspiring, moist and likes the contact of hot things. This is character of *pitta sotha* (swelling due to *pitta*).^[16]

Kapha: vitiated by use of heavy, sweet, cold and unctuous food; over sleep and absence of exercise etc.,^[17] overcomes *twak*, *rakta* etc. and thus produces swelling.

It arises and subsides with difficulty.^[18] The part affected is pale, unctuous, smooth, stable, thick, with white hair tips and tolerant of touch and heat. This is the character of *kapha-sotha* (swelling due to *kapha*).^[19]

By combination of respective causes and symptoms *dwidosaja* (produced by two dosas combined together) swellings occur which are three in number. Likewise, by combination of respective causes and symptoms of all the three dosas *sannipatika* swelling arises which is only one.^[20] Thus swelling is of seven types.^[21]

from various points of view, swelling is two types (innate and exogenous), caused by three of three types (caused by three *doṣas* separately), of four types *dosas* and one exogenous), of seven types (caused by three *dosas* separately + by combination of two *dosas* + by combination of three *dosas* of eight types (above seven and one exogenous) but basically, swelling is one having protuberance(bulging) in common.^[22]

In *vatika* swelling, the body parts have swelling, they are seen as numbed, painful and after pressure regain the usual position. The swelling which is reddish in night and also by hot massage is of *vatika* type.

In *paitika* swelling, the patients are suffers from thirst and fever, the involved part has burning sensation and pain, perspiration, moisture and smell.

It starts with the middle of the body, and the patient has yellow eyes, face and skin, thin skin and diarrhoea. Cold, immobile, itching, pale swelling which does not rebound after pressure is of *kaphaja* type.

The swelling which does not bleed on cutting with sharp weapon or *kusa* grass but oozes hardly some slimy discharge is also of *kaphaja* type.

Where there is combination of causes and symptoms of two *dosas*, it is *dwidosaja*.^[9] The *sannipataja* has the combination of causes and symptoms of all the three *dosas*.

The swelling which starts from feet and spreads all over the body is curable hardly and also the one which starts from the face in women. In men or women, if the swelling arises from the genitals, it is mostly difficult to be cured and also the one having complications.^[18]

Vomiting, dyspnoea, anorexia, thirst, fever, diarrhoea and debility-these seven are the complications of swelling.^[23]

ACCORDING TO *SUSHRUTA SAMHITA*^[24]

Six kinds of *sopha* (oedema) developing in *avayavas* (different parts of the body) have been described earlier along with their features (symptoms) and treatments. *Sarvasara sopha* (oedema developing everywhere in the body or generalised oedema/ anasarcal dropsy) is of five kinds- such as produced by *vata*, *pitta*, *slesma* (*kapha*) *sannipata* (three *dosas* together) and *visa* (poison).

NIDANA- CAUSES/ AETIOLOGY^[25]

The person who is ill nourished, who resort to long distance walk or consume foods in large quantities or consume food prepared from flour of grains, leafy vegetables and salty foods, or the person who is emaciated consuming food which is very sour, food baked on mud plates or stones, foods

LAKSANA/CLINICAL FEATURES^[26]

VATAJA SOTHA: Oedema produced by *vata* is mild red or black in colour, soft to touch, unsteady and has pricking pain etc as its special symptoms of *vataja sotha*.

PITTAJA SOTHA: Oedema produced by *pitta* is either yellow or slightly red, soft, spreads quickly, has burning sensation etc. as its special symptoms of *pittaja sotha*.

KAPHAJA SOTHA: Oedema produced by *kapha* is yellowish-white or white in colour, unctuous, hard, cold to touch, spreads slowly and has itching etc as its special symptoms of *kaphaja sotha*.

SANNIPATAJA: Oedema produced by all the three *doshas* together will have symptoms of all the *dosas*.

VISAJA: Oedema caused by poison, happens due to ingestion of *gara* (homicidal poison), drinking polluted water, bathing or immersing.

This kind of oedema will be soft, develops quickly, is drooping, either movable or immovable, has burning sensation and ulceration generally.

DISCUSSION

Edema, also known as *Shotha* in *Ayurveda* is a *Kapha* type of disorder that occurs due to water retention or accumulation of fluid in the body tissues causing pain and inflammation. The swelling or water accumulation can either be localised (i.e. affecting only a part of the body) or generalised (i.e. affecting the whole body). Although the swelling can be seen in the face, hands, nose, but in most cases, edema is generally found in the lower extremities, i.e. the legs and feet.

In case of swollen foot, the accumulation of water can also occur due to over walking or running, desk-bound lifestyle, sport injuries, ill-fitting shoes, wearing high heels all day, obesity and infections among other things. Medically, edema is an underlying condition that is usually noticed in people suffering from chronic conditions like kidney, diabetes, allergy,

lymph node inflammation, cardiac anomalies, problems in the brain or uterus, or in case of pregnancy.

Edema is usually diagnosed with symptoms like swelling, stretching, puffiness, enlargement of edema, wheezing, coughing, presence of blood in cough, chest pain, sweating, pale skin and fainting.

Edema can be of two types

Pitting: This causes a dent when the affected area is pressed.

Non-pitting: This leaves no dent marks when the swollen area is pressed.

According to *Ayurveda*, a 5000-year-old holistic remedial science, our body is made of three types of energies or *doshas* mainly *Vata*, *Pitta* and *Kapha* (earth and water). Since the bodily fluids are connected to the *Kapha doshas*, an imbalance of it causes Edema or *Shotha*. But *ayurveda* also suggests that *Shotha* can also occur due to vitiation of the other two, i.e. *Vata* and *Pitta doshas* or a combination of all 3 *doshas*.

CONCLUSION

Punarnava, the ultimate rejuvenative herb is known for its powerful anti-inflammatory and analgesic activities. These properties not only make it extremely beneficial for reducing joint and muscle pain, but also being an excellent diuretic, it restricts fluid retention in the body that may occur to the inflammation of the kidneys. Make a paste and apply it on the affected part according to the lepa therapy.

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