



DETAILED REVIEW OF THE CONTENTS IN AMRUTMANJIRI VATI, A HERBOMINERAL FORMULATION

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Abstract: Rasashastra is a branch of Ayurveda which deals with pharmaceuticals.the success of any pathy depends upon thequality of medicine,for ayurveda it is also the same. rasushadhies are very potent ayurvedic preparations .these rasaushadhies contents metals ,minerals as well as herbs.these are superior because of their qualities like minimal dose ,quick action, palatability and longer shelf life..Amrutmanjiri is a herbomineral rasaushadhi preparation described in bhaishajya ratnavali Aamvatadhikar..it is prepared from the contents shudhha hingul,shudhha vatsanabh,shuddha tankan,marich,pippali,and javitri triturated with ardrak swaras..theperticular pharmaceutical blend results into a more effective formulation..the present paper deals with detaild study of content of this potent formulation Amrutmanjiri vati which is a very effective remedy of Aamvata , a very chronic disease and having no complete cure in modern medical science..

Key words- Rasashastra, Rasaushadhi, Amrutmanjiri vati.

I. INTRODUCTION

Amrutmanjiri vati is one of the herbomineral formulation described in Ayurveda.It is indicated in the treatment of Amavata.There is no complete cure for this disease in Allopathy . Amrutmanjiri vati contains shuddha hingul,shuddha Tankan, Marich, Pippali,Javitri with bhavana dravya, Jambir swaras . The present paper deals with the detailed studyof the contents of amrutmanjiri vati . Information of contents is according to Ayurveda as well as recent researches regarding the contents are included.

The present review will be helpful in order to understand the pharmacodynamims and pharmacokinetics of Amrutmanjiri vati and also for the further study.

The contents in Amrutmanjiri vati are as follows.

1. Hingul (cinnabar)

Class –sadharnras varga

Maharasvarga (Rasarnav, rasarhudaytantra, rasakamdhenu)

Sources-1 natural 2 artificial

Sanskrit synonyms

Hingal,hingul,hingool,ingul,mlecha,rakta,surang,chitrang,choornaparad,rasodbhav,rasasthan,shuktunda,ranjan,kapishirshak,rakt ak aya,hansapad ,darad,lohaghna,barbar,kuruvinda,chinpishtha,ratnaragkari

Vernacular names.

Hindi -singraf. **English**-sulphate of mercury,cinnabar native, **Latin**-sulphatum hydragyrium...**Unani**- Simav,.**Bengoli**-hingul...**Marathi**-hingul..**gujrathi**-hingulo...

kannad-inguliyak,**telgu**...hangilakamu,**farasi**-singaraf,**Arabi**-jajfar

Chemical formula-Hgs Red sulphide of mercury,hardness -2 to 2.5,sp.gravity-8.1

History

It is first described in kautilya Arthashastra where it has been usedto test purity of gold and its spoilage.

In Raskamdhenu 3 types of darad has been described and in purandar rahasya,gorakhanath,anandkanda,rasarnav ,rasaratnasamucchay,ayurvedprakash,rasaprakash sudhakar detail description with its type is found

In Anandkanda Rasagarbham,surang,Tasyamulsuta

In rasarnav rasagandhak sambhavam it clears the knowledge about its chemical combination..

In rasakamdhenu-kwchit parpatikabhasa

Description

It is bright red in colour like japa pushpa and become soft after clenching and weighty .it isa combination of mercury 86.2% and sulpher13.8%.

It is available in natural and artificial form.but in day today practice artificial hingul is availablethis the cheapest sourceof mercury..

It is having no taste ,smell,does not dissolve in alcohol,if kept in open air there is no change ,after heating convert in red colour.if heated in open air produces blue coloured flame..

Occurance..

Spaine, itali, france, germany, chin ,japan,Russia,brazil,afganistan ,America.in india it is not found. Artificial hingul is produced in surat and Kolkata

Types of Natural Hingul

1 charmar 2 shuktunda 3 hanspad (...) ayur prakash 2/71,purandar rahasya

1 Shuktunda 2 hanspad (rrs)

Types of Artificial Hingul

1 katha hingul 2 rumi hingul (imported from rom)

Acceptable variety –

Preparation of artificial hingul

Ref rt 9/5-10

Sulphur 8 part and mercury 42 part heated by using mridang yantra and allowed to cool down ..at the base hingul will be formed collected hingulagain heated by using urdhwapatan yantra and soft hingul can be collected .

Necessity of shodhana

As per rt 9/11 and a.p.2/73 moha,prameha,chittavibhram,andhata (blindness),klama,weakness,bhrama

Hingul shodhana-

1)As per Rt 9/12,rrs3/142,rrs230, after trituration with ardrak swaras 7 times it can be purified.

2)as per rt 9/13 after triturating with lakuch swaras for 7 times it can be purified

3)as per RT9/16 after triturating with nimbu swaras (lemon juice) for 7times it can be purified

4)as per ap 2/74 ,sharangdhar m k 15 ,rrs 22, it can be purified by triturating with meshikshir for once and with nimbu swaras for 7 times

Guna

Ras –tikta,katu,kashaya (ap)madhur tikta (dn)

Virya- Ushna guna –ushna

Uses

Amavata,prameha,kushtha,jwara,kamla,pleeha,garvisha (ap 2/72)

Deepan,rasayan,vrishya,balya,vajikar,santatikal,medha kantivardhak,agnivardhak,sarvadoshaghna,ruchi,netrya (rrs 3/140,rchu 11/108,rt 9/18-19)

Hingul maran

It is very tedious process described by various texts like ap2/76,brihat rasaraj sunder and presently not practiced.

Bhasma guna

It doubles kamshakti and jatharagni also cures kasa ,shwasa,kshya,jwara Satwapatan

As per rrs 3/144 by using adhhapatan yanta ,hingulsatwa(parad) can be obtained

Dose

½ to 1 ratti

Formulations (kalpa)

Amrutmanjiri,hinguleshwar ras,anand bhairav,tribhuvankirti ,jwarmurari,vasant malati,garbhupal ras,daradvati,kasturibhairav ras.

2.Tankan

In Rasashastra drugs are classified into various groups such as Maharasa, Uparasa, Sadharan Rasa, Dhatu Varga, Upadhatu Varga, Lavana Varga, Kshar Varga. Tankana has been described under Uparasa. [1] Rasagranthas have included Tankana under the group of Ksharvarga, Ksharapanchaka, Dravaka Gana, Mitrapanchak etc. In the procedure of Apunarbhava, test for Bhasma, Parada Vedasmkara, Vidahi Mukhakara Dravyas, Tankana are also used to cleanse gold and silver. There are various references in Charaka Samhita, Ashtnga Hrudaya, Sushruta Samhita, Gadanigraha, Kalyankaraka. It is best antidote for Vatsanabha and also found in most of the formulations of Vatsanabha.

Synonyms: Tankana, Tankanakshara, Rasakshara, Rasadhika, Lohadravi, Rasaghana, Subhaga, Rangadh, Malatiteerasambhutam, Ksharashreshtha. Vernacular names

English : Borax **Hindi :** Suhaga **Kannada :** Tankana **Latin :** Sodium Pyro borate

Vargas/ Ganas - Kshara Dravya,Satapushpadi Varga, Dhatu Varga Pippalyadi Varga Uparasa, Shodhana Traya, Kshara Traya, Ksharashtaka, Dravaka Gana, Mitra Panchaka.

Tankana has been described under Uparasa Tankana, which is one among the Kshara Trayas has been used since very long time in Ayurveda. It has a wide range of therapeutic applications, including diseases like Vrana (ulcers), Shvasa (asthma), Kasa (cough), Hrudya (beneficial to heart disease), Streepushpajanana (menstrual disorders) etc. It is used in the form of compound formulations like Parpati, Kupipakwa, Khalvee Rasayana, Churna, Vati, Lepa etc. In this paper Tankana Shodhana procedure, different synonyms, dose, Anupana, indications and different formulations containing Tankana Bhasma has been discussed. Key words: Tankana, Shodhana, Ksharatraya, Borax. Comprehencive review of Tankana Types:Based on appearance 1. Gudabha 2. Spatikabha 3. Neelakantabha Based on colour 1. Pidakya : dirty white 2. Sandanaka : pure white

Occurrence It is available on the bank of Malati river DN, also available in Kashmir, Tibet. A kind of mud containing Tankana is found in the beds of dried lakes in upper part of India and Tibet. This mud is called as Tankal. It is to be dissolved with water filtered in usual way and dried up by heat leaving crystals of borax deposited in the bottom. It is also occurs in borax lake and Searlis lake of California and in the mud of marshes around their border. **Ashuddha Tankana Doshas-** Tankana, if consumes without purification it causes Vanti (vomiting), Bhranti (giddiness). **Shodhana** There are various methods of Tankana Shodhana mentioned in Rasa Granthas. According to Ayurveda Prakash, Rasa tarangini, Rasa Jalanidhi Raw Tankana first make into powder form then take hot iron pot and stirred till it becomes light and puffed. According to Brihat Rasa Raj Sunder ,Raw Tankana is taken and is given Bhavana of Jambira Rasa for one day, after that Tankana is dried under sun heat. According to Rasenra Sar Sangraha, Tankana is kept in Kanji for a day, dried after removing. Later bhavana is given in Rudra Yantra with cow and human urine each for one day. Then, bhavana is given with Jambira Rasa at night, after which kept in the shell of coconut and mixed with Maricha Churna and washed with cold water. This Tankana can be administered in all types of diseases. Guna Karmas: **Rasa - Katu Guna - Tikshna, Laghu, Sara, Rookshna Virya - Ushna Vipaka - Amla Karma - Kapha, Vatahara, Pittakrut Rogaghnata - Samastamaya,**

Kasa, Shwasa, Agnimandya, Visha, Adhmana, Vrana, Ashmari, Atisara, Sthavara Visha. **Matra** : 1-2 Ratti. (125 - 250 mg approximately). Anupana : Madhu, Ghrita. **Amayika Prayoga** of Tankana Bhasma Kapha Vilayanartha - Tankana, Kayaphal, Trikatu, Vasakshara, Javakshara. Uadara Roga - Tankana, Trikatu, Jamalgotu. **Ashuddha Parada Sevita Vikara** - gargling with Tankana mishrit Jala. Dantaveshtana Shotha, Shool - Tankana, Bola Choorna Swaravarodha - Tankana to be chewed in Udar, adhamana

Other Uses: It is used in the treatment of cough, bronchitis, food poisoning, mouth ulcer and fissures of tongue. Dose varying from 10-30 grains are given in prolonged labour. It is also Useful in other uterine infection, in chronic tonsillitis. It improves digestion and relieves bloating. It induces menstruation in women suffering with amenorrhea or oligomenorrhea, dandruff. Tankana is applied on hair and kept for 5 to 10 min and to be washed. It is useful for gargling with Tankana Bhasma dissolved water gives significant result in relieving the tonsillitis.

Formulations of Tankana Bhasma: Amrutmanjiri vati, Shankha Drava, Nimbu Drava, Tankanadi Choorna, Amrutarnava Rasa, Tankanady anjana, Ardhanarishwar Rasa, Tankanai Vati, Aanandabhairava Rasa, Dadruhar Lepa Udakamanjiri Rasa, Kanakasundara Rasa Gaganasundara Rasa, Chintamani Rasa Jwaranagamayur Rasa, Trailokya Chintamani Rasa, Navajwarebhankush Rasa, Nasyabhairava Rasa Panchavakra Rasa, Pratapatpan Rasa, Pratapamartanda Rasa, Prataplankeshwara Rasa Mrutyunjaya Rasa, Sannipatabhairava Rasa Sarvangasundara Rasa Siddhapraneshwar Rasa **Modern View** Borax, also known as sodium borate, sodium tetraborate or disodium tetraborate, is an important boron compound, a mineral and a salt of boric acid. Powdered borax is white, consisting of soft colorless crystals that dissolve in water. A number of closely related minerals or chemical compounds that differ in their crystal water content are referred to as borax, but the word is usually used to refer to the decahydrate. Commercially sold borax is partially dehydrated. Chemistry The term borax is often used for a number of closely related minerals or chemical compounds that differ in their crystal water content; Anhydrous sodium tetraborate, Na₂B₄O₇ Sodium tetraborate pentahydrate, Na₂B₄O₇·5H₂O Sodium tetraborate decahydrate, Na₂B₄O₇·10H₂O Borax is generally described as Na₂B₄O₇·10H₂O. However, it is better formulated as Na₂[B₄O₅(OH)₄]·8H₂O, since borax contains the [B₄O₅(OH)₄]²⁻ ion. In this structure, there are two four coordinate boron atoms (two BO₄ tetrahedra) and two three-coordinate boron atoms (two BO₃ triangles). Borax is also easily converted to boric acid and other borates, which have many applications. Its reaction with hydrochloric acid to form boric acid is, Na₂B₄O₇·10H₂O + 2 HCl → 4 H₃BO₃ + 2 NaCl + 5 H₂O The "decahydrate" is sufficiently stable to find use as a primary standard for acid base titrimetry. When borax is added to a flame, it produces a yellow green color. Borax is not used for this purpose in fireworks due to the overwhelming yellow color of sodium. Boric acid is used to color methanol flames a transparent green. Natural Sources Borax occurs naturally in evaporate deposits produced by the repeated evaporation of seasonal lakes. The most commercially important deposits are found in Turkey, Boron, California and Searles Lake, California. Also, borax has been found at many other locations in the South western United States, the Atacama desert in Chile, newly discovered deposits in Bolivia, and in Tibet and Romania. Borax can also be produced synthetically from other boron compounds. Naturally occurring borax (known by the trade name Rasorite-46 in the United States and many other countries) is refined by a process of recrystallization.

Medicinal Uses: It is believed that **it improves the natural ability of the human body to absorb calcium and magnesium.** Borax, commonly used as a natural cleaning agent, is an increasingly popular natural remedy for a whole host of health issues. Fruits like apples, oranges, red grapes, pears, plums, kiwis, sultanas, dates, as well as certain vegetables, avocado, soybeans, and nuts are rich sources of boron. Other notable sources of Boron are chickpeas, hazelnuts, currants, peanut butter, red kidney beans, tomato, lentils, olive, onion, potato, wine and beer. 1. **Prevents Arthritis: synovial Research suggests that those with arthritis have lower boron concentrations in their bones along with fluid, and femur heads. Thus use of Boron can stem this. Boron ensures that calcium levels are maximized and used effectively, thus preventing arthritis.** 2. Heals swollen Throat, Mouth and Tongue Sores: Borax is a remedy to be used as a topical treatment for certain health problems like sores on the tongue or mouth, as well as swelling of the throat. The remedy includes application of a paste made by combining borax with Cinnabaris, Borneolum, and Natrii Sulfas Exsiccates. 3. Relief from Painful Swollen Red Eye: Borax is paired with Calamina, Borneolum and Natrii Sulfas Exsiccates to create eye drops. These are used to soothe the eye when it is red and swollen. Boron protects the eye from a host of parasitic attacks and other nasty fungal infections. 4. Solves Menstrual Problems: Studies have evaluated its use along with other herbs to help treat Poly Cystic Ovarian Syndrome or PCOS and found it to be effective. Boron can also cure the symptoms such as hot flashes and night sweats that are typically associated with menopause, clotted menstruation, painful menstruation and it ensures that the mineral level remains at appropriate levels since post-menopausal women often suffer from hormonal imbalances that can skew many of the body's most important systems. 5. Cures Urinary Infections: Its antimicrobial benefits can therefore be tapped to cure urinary infections. Chinese herbal medicine has a similar application in treating urinary dysfunction that involves stone formation in the urine and is often painful. 6. Enhances Testosterone Levels: Boron is able to enhance the testosterone level in males; this quality is increasingly taken advantage of by male bodybuilders and athletes. 8. Helps in cancer Therapy: Boron neutron capture agents are used for cancer therapy and in the development of strong enzyme inhibitors. Its compounds are also used as antibody mimics that can easily identify biologically important saccharides. Side Effects and Allergies of Borax Internal use of Borax is generally not suggested. Due to its highly alkaline nature, it might cause skin irritation. There are also reports of adverse reproductive and developmental impact on the foetus. Its use in the long term is not recommended as there is a possibility of causing renal dysfunction as the borax accumulates in the body. It can also cause fatigue or vomiting due to toxicity. Some research suggests it could also cause genetic damage and be toxic to lymphocytes, the building block of the body's immune system.

Tankana is also named as Tankanakhara or Tankanakshara due to its Ushna, Tikshana, Sara Guna and Katu Rasa. It is used as Kshara. Borax is alkaline in nature. There are various methods of Shodhana mentioned in Rasa granthas. Intention of Shodhana procedure is to make Tankana light and puffy one so that moisture content should evaporate. Most of the Granthakaras has described the method with the help of Agani Sanskara in simple hot pan. Other one has described the use of Sun light for drying purpose. But Rasendra Sara Sangraha has mentioned the use of Bhavana Samskara by using cow urine and human urine followed by Jambira Swarasa. Tankana shows characteristic of Kshara, and hence used in Shwasa, Kasa, Mukhapaka, Danta Roga. It acts as Kaphavidravaka in above diseases. It is also used in Cancer recently. Tankana make the action faster if Madhu and Ghrita use as Anupana along with Tankana.

For Shodhana of Tankana, use of external heat method is more easy and economically cheaper. But if we want Tankana to be used for specific disease like Agnimandya, Ajirna, Atisara, we have to concentrate on Rasendra Sara Sangraha method. The use of

Tankana on Arthritis by stabilizing calcium and magnesium in the blood as well as it is having ushna virya, ama and amvata can be treated very effectively. Further scope is there in above mentioned area.

3. Pippali

Description

Long pepper reached Greece in the 6th or 5th century BC through Hippocrates, who was the first person to mention it, and has discussed it as a medicament and as a spice. Among the Greeks and Romans and prior to the European discovery of the New World, long pepper was an important and well-known spice. Long pepper, which tastes pungent and sweet at the same time, probably came to Europe much before the now dominant black pepper. It is believed that during the Roman Empire, it was priced about three times more than black pepper, as it was perfect for Roman cookery, which especially favored these two taste sensations. Its hot- and-sweet taste goes well with spicy cheese specialties or wine sauces. In India, the long pepper is mainly used in pickles.

Morphology

Piper longum Linn is one of the important medicinal plant of the family piperaceae. being one among the constituent of trikatu, panchakola etc, very widely used in Ayurveda for the treatment of various disorders.

A scandent perennial aromatic shrub with jointed branches, the entire plant is pungent. The leaves are many and cordate, while the flowers grow on solitary spikes. The male and female spikes are produced on different plants and while the male spikes are slender with narrow bracts, the female ones are 1.3- 2.5cm, with circular flat palate bracts. The fruit, which is very small, is sunk inside the fleshy spike, and is blackish green and shining. Long pepper is the unripe spike of the plant. It is that part of the plant that is used in medicines. The root, which is thick and branched, is also medically important and is called pippali-moolam.

Nirukti

The nirukti of word Pippali signifies its action in maintaining total health and also in dhatu poshana and poorana.

1 Pirpathi paalayathi purusham purayathi cha ksheenan dhatunithi prupalanapurano. (Bh. N)

Properties and Actions

In the Ayurvedic Formulary of India, Pippali is being used in 324 formulation. It is used as prakshepaka dravya in many formulations. It is highly valued from time immemorial because of its vast medicinal properties. It is extensively used as Anti-inflammatory, cough suppressor, antibacterial, insecticidal, antimalarial, CNS stimulant, antitubercular, anti-helminthic, hypoglycaemic, antispasmodic, anti-giardial, immunostimulatory, hepatoprotective, analeptic, antinarcotic, anti-ulcerogenic activity. The present article provides all necessary information regarding its classical literature.

CLASSICAL REVIEW OF PIPPALI

Historical review of pippali

The earliest known documentation of plant treatments in Indian literature is found in Vedas, the sacred literature of Hindus. About 300 plants are described here; 'pippali' the drug taken for the study is one among them.

In Vedic period there is a reference that,

1. Pippali was originated during the time of Samudra Manthan.

2. When Vasisthamuni's son was ceased, he was depressed so he wished to have more progeny and he consumed Pippali fruit by which he had more progeny. So, the name Pippali came to that fruit. (Jaimini Brahmana 3/149)

3. Various Synonyms have been used for Pippali viz. Atividhabhaishaja, Kshipta bhaishaja. The use of Pippali was more extensive in Purana period in comparison to vedic period.

The references traced out in Puranas are as follows.

Pippali was one of the plants, which was growing in forest, has antitoxic drug, grouped under Katurasa Varga, is having Sleshmahara property, decoction form is good for Amavata Patients, reported as aphrodisiac.

Agni Purana mentions Trikatu in many places. This Trikatu includes pippali as an Ingredient, useful for the patients of Rajayakshma, Trikatu was used in medoroga, tarunya pidaka and Gulma.

The drug Pippali finds its mentioning in **Atharvaveda** in the context of rasayana and vataroga beshaja.

According to **Saayana**, kana is its synonym and hasti pippali one of its type and useful in the treatment of Dhanurvata, Akshepaka.

Samhita kala: the exhaustive information of pippali in this period is seen.

In Charaka Samhita Su.4, frequency index of Pippali is 9 times next to Yastimadhu (11 times). Acharya Charaka in Vimanasthana has elucidated Yogavahi karma of pippali due to this special property it is used in various formulations as a medicine and adjuvant. In Su.S.Ch.26 where Dravyas of Virudha Virya are mentioned, Katu Rasa dravyas are described as Avrishya Dravya but Pippali and Sunthi are exception to them.

Table 1:

Name of the samhitha Gana/varga

1 **.Charaka Samhita** Shirovirechan, Vamana, Dipaniya, Kanthya, Truptighna, Asthapanopaga, Shirovirechanopag, Hikkani-grahana, Kasahara, Shoolaprashamana

2 **Sushutra Samhita** Pippalyadi Gana, Trikatu, Urdhwabhagahara, Shirovirechana. Amalakyadi varga

3 **.Astang Sangraha** Shirovirechan, Vamana, Dipaniya, Kanthya, Truptighna,

4 **.Astang Hridaya** Vamanopayogi Dravya, Vatsakadi Gana

Name of Nighantu and Varga :

1 Dhanvatari Nighantu Shatapushpadi varga

2 Shodhala Nighantu Shatapushpadi Varga

3 Hridaya Dipaka Nighantu Catuspada Varga

4 Madanapala Nighantu Shunthyadi Varga

5 Raja Nighantu Pippalyadi Varga

6 Bhavaprakasha Nighantu Haritakyadi Varga

7 Saraswati Nighantu Chandanadi Varga

8 Nighantu Adarsha Pippalyadi Varga

9 Shaligrama Nighantu Haritakyadi Varga

10 Priya Nighantu Pippalyadi Varga

11 Guna Ratnamala Haritakyadi Varga

12 Yadavji Trikamaji Acharya Pippalyadi Varga

PARYAYA AND ITS MEANINGS:**Pippali:** One can maintain total health by its intake.**Maghadhi:** That which is largely grown in the country Magadha. **vaidehi:** Grown in Videha desha.**Upakulya :** That which grows near water or alongside water Stream **Ushana:** That which gives burning sensation or pain to the tongue. **Kana:** It has fruit of many Kana's or fruits are small berries.**Chapala:** that which consoles.**Krishna:** Black in colour or which scrape out the vitiated doshas. **shoundy:** That which is used with condiments in drinking liquors. It is used in distilleries. Or Fruits are berries adhered in solid fleshy spike like elephants trunk.**Kola:** Its fruit weighs about one kola pramana.**Tikshna:** Very potent drug. Katuvalli: It is predominant of pungent taste.

Vishwa: Used widely.

Shyamahva: have black coloured fruit when dried.

Katubija: the fruit have pungent taste.

Krishna phala: it has black coloured fruits.

vrishya: it is used as aphrodisiac

Vernacular names

Language Vernacular names

1 Sanskrit Pippali, Magadhi, Kana, Usana, etc.

2 English Indian long pepper, Long pepper

3 Hindi Pipal, Pipli,

4 Gujarati Lindipipal, Pipli

5 Marathi Pimpli

6 Bengali Pipul, Pipli

7 Sindhi Tippali

8 Malyalam Pimpli, Tippali, Magadhi, Lada, Mulagu,

9 Punjabi Maghs- pipal, Pipal, Filfildaras, Drafilfil.

10 Telagu Pippallu, pipili, Pippali katte.

11 Tamil Pippili, Tippili, Kundan, tippili, Sirumulam, Pippallu.

12 Kannada Tipili, Hipli, yippali

13 Arabian Dra-filfil.

14 Oriya Baihehi, Krykola, Mogodha, Pippoli.

15 Persi Filfilidray, Pipal, Filfil-i-daras.

16 Santhal Ralli

17 Urdu Pipul

pharmacological properties of Ardhra Pippali

RASA- Madhura

GUNA Guru ,Snigdha

VEERYA sheeta

pharmacological properties of shuska pippali

Rasa Katu, Tikta

Guna -Snigdha, Nati snigdha ,Laghu

Veerya - Anushna

Vipaka Madhura

Agnimandhya ,Apasmara ,Arshas Aruchi Atisara Chardi - Galaamaya - Granthi Grahani Gulma Hikka Hrudroga Jwara Kamala Kapha vriddhi Kasa Krimi Kshataksheena Kusht Pandu Parshvashoola Peenasa Pleeha Prameha Rajayakshma , Shopha Stanya Shosha Shirashula Shwitram Udara Udavarta Vibandha Vatavyadhi Visarpa

Vishamajwara Vatarakta Yonishula Yonivyapath Rasayana Krimi Trishna Rechana Shwasa Raktapitta Shoola Medoroga

4.Vatsanabh

Vatsanabha is hindi name of *Aconitum ferox*, which is also known as Indian Aconite. In traditional medicine, its medicinal uses and benefits include its use as an antipyretic and diaphoretic agent. Due to these properties, it helps in lowering fever by inducing perspiration. Most of the Ayurvedic medicines used for alleviating fever contain Vatsanabha as a primary ingredient. Vatsanabha is a variety of monkshood commonly known as Indian Aconite. It belongs to the Ranunculaceae family and *Aconitum* genus. The roots of Vatsnabha are used in ayurveda for medicinal purposes.

Synonyms & Vernacular Names**Latin:** *Acontium ferox* Wall ex Seringe**Botanical Synonym:** *Aconitum ferox***English:** Indian aconite**Hindi Name:** Meetha Telia, Bachnag, Meetha visha**Sanskrit names:** Vatsnabh, Amrit, Vish**Punjabi name:** Meetha Telia**Botanical Classification****Kingdom** - Plantae**Sub-Kingdom**- Viridiplantae**Infra Kingdom** - Streptophyta (Land Plants)**Super Division** - Embryophyta**Division**- Tracheophyta (Tracheophytes or Vascular Plants)

Sub Division - Spermatophyta (Spermatophytes or Seed Plants)

Class- Magnoliopsida

Super order - Ranunculanae

Family - Ranunculaceae

Genus- Aconitum

Species - *Acontium ferox* Wall ex Seringe

Medicinal Parts

Vatsanabha roots are used after purification as prescribed in ayurveda, Ayurveda never recommends its use without purification (*Shodhana*) process. Unpurified *Vatsanabha* roots can have hazardous effects on health even it can lead to death.

- Roots

Chemical Composition

Vatsanabha is good source of following photochemical

- Aconite
- Pseudo-aconitine
- Bikhaconitine
- Chasmaconitine
- Indaconitine
- Catecholamine
- Isoquinolines

Dosha Karma

Balances – Tridosha (Vata, Pitta and Kapha)

Reduces – Kapha Dosha (in particular)

Detoxifies – Pitta Dosha if Sama and increase pitta dosha if Nirama

Pacifies – Vata Dosha

Most suitable – Mainly Vata and Kapha disorders

Unsuitable – Pitta Body Type, Undernourished or weaker people.

Contraindicated – heart diseases, especially bradycardia

Ama Dosha – Suitable for *Sama Dosha*; unsuitable for *Nirama Pitta*

Medicinal Properties

- Antipyretic
- Diaphoretic
- Anodyne
- Anti-inflammatory
- Aam Pachak
- Mucolytic
- Diuretic

Characteristic Characters In Ayurveda

Rasa – Madhur

Guna – Ruksha, Tikshna, Laghu, Vyavayi, Vikasi

Virya – Ushna

Vipaka – Madhura

Prabhava – Diaphoretic

Dhatu effects – Rasa, Rakta, Mamsa, Meda

Organs Effect – Stomach, Liver, Skin, Heart

Excretion – Urine, Saliva, Gastric juice, Sweat, Bile

Therapeutic Indications

Purified *Vatsanabha* is therapeutically indicated in the following health conditions:

- Fever
- Chronic fever
- Inflammation induced fever- like rheumatic fever
- Loss of appetite (rarely used unless fever, but beneficial during fever or illness for improving appetite).
- Splenomegaly
- Diabetes
- Respiratory infections
- Indigestion
- Poor digestion
- Asthma
- Cough

- Common cold

Dosage and Administration

- The classical Ayurvedic dosage of purified *Vatsanabha* is as follows:
- Children – 0.2 per kg of body weight
- Adults – 15 mg
- Maximum possible dose – 30 mg per day

Vatsanabha Formulations

- Amrit Rasayan
- Anand bhairav ras
- Hinguleshwar ras
- Jaya vati
- Jwarmurari ras
- kaphketu ras
- Mahalaxmi vilas ra
- Mrityunjaya Ras

Vatsanabha Benefits & Medicinal Uses

Vatsanabha is not used independently as a single herb. When used in combination with other herbs or any Ayurvedic formulation containing it, it acts as a catalyst. Due to this action, it improves the effectiveness of other natural ingredients.

Vatsanabha Side Effects

If dosage exceeds from the maximum possible dose then vatsanabha can cause following side effects:

- Vertigo
- Headache
- Dryness in the mouth
- Restlessness

Contraindications

Unpurified *Vatsanabha* is contraindicated in all cases. You must not use unpurified *Vatsanabha* in any disease or any formulation. It acts as a poison and can lead to death even in a low dose.

Purified *Vatsanabha* also has some contraindications as follows:

- Children (under 5) – strictly contraindicated
- Anger
- People with Pitta Body type
- Impotence
- Undernourished person
- Exhausted people (due to work or after walking, running and physical exercise)
- After travelling
- Pregnant woman
- Infants and children
- Old aged weak people

Antidote

COW'S ghee along with *Tankan Bhasma* is an antidote for *Vatsanabha* toxicity, However, before giving such antidote, the patient also requires stomach wash and therapeutic emesis or purgation.

In addition to the above antidotes. Arjuna Bark powder along with *cow's ghee* or honey should also be given. Kasturi can also help to prevent respiratory and heart failure.

Almost all Ayurvedic formulations that contain purified *Vatsanabha* and contains *borax* or *Tankan Bhasma*. It helps to prevent *Vatsanabha* toxicity.

5. Marich

Description

Marich [Piper nigrum L.] is a branching climbing perennial shrub, mostly cultivated in hot and moist parts of India.

Black pepper consists of dried, fully developed unripe fruits of the climber, which is used, in Ayurvedic drugs. It is also used as a spice in Indian subcontinent. It is nearly globular in shape, about 45mm in diameter with characteristic coat with deep-set wrinkles. In Ayurved *Marich* has been well documented for its therapeutic potentials. It is included in *Krumighna* [anti helminthic], *Shirovirechanopaga* [sternutatory] and *shoolaprashamaniya* [pain-alleviating] *dashemani* classes in Charaksamhita. Ayurvedic texts describe the following properties of *Marich*. Dry fruit of *Marich* is tissue penetrating [teekshna], hot [ushna], ununctous [ruksha], digestive stimulant, carminative and has antiasthmatic properties. It's not too hot; and is pungent, both in *rasa* [taste] and *vipaka*. It alleviates *kapha* and *vayu* and aggravates pitta. The chief activity of *Marich* is of being *pramathf*. This means that it has a potential to clear congestion in the body channels [srotasas] by penetration into the congestion itself.

Piper nigrum L. as an ingredient of Ayurvedic drugs: *Marich* i. e. black pepper is an ingredient of more than 3500 Ayurvedic formulations. In most of the formulations it is in a very small amount whereas in some formulations like *Vasantakalpas*, *Shwasakuthara rasa* etc it is a major ingredient by proportion.

An Ayurvedic combination known as *Trikatuchurna* contains dried powder of *Piper nigrum*, *Piper Longum* and *Zingiber officinale* suggestive of synergism. In this preparation, the three herbs enhance properties of each other; as all of them are having quite similar characteristics. *Trikatu* too, is one of the ingredients of many Ayurvedic formulations. It has been suggested that its use in the Indian system of medicine could be due to its bioavailability enhancing action on other medicaments due to the 'sharp tissue penetrating activity'.

As indicated, above combinations in Ayurvedic formulations are based on certain fundamental principle. The combinations consist of completely un-fractionated herbs put together by employing processes like *mardana* [trituration]. Some herbs enhance action of the combination while others avoid or minimize possible side effects. Thus, therapeutic effect produced is the cumulative effect of formulation due to the rational combination not always attributed to an active ingredient. Just as one active principle in a herb balances the others action by synergism or antagonism, one ingredient balances action of other in the formulation. E.g. whenever *Vatsanabh* [*Aconitum chasmanthum*] is an ingredient of any drug; *Tankana* [borax] has to be there, as it is an antidote of the former.

Moreover, *Marich* (*Piper nigrum* L) is shown to possess bioavailability-enhancing activity with various structurally and therapeutically diverse drugs. It has also been reported to have several pharmacological actions. A review of researches on *Piper nigrum* is essential to know its role as an ingredient of most Ayurvedic formulations. The known active principle from the key ingredient can serve as a tracer to study pharmacokinetics or dynamics of any Ayurvedic formulation. Here, the active constituent of black pepper is an alkaloid named piperine [C₁₇H₁₉O₃N,

m.p. 129-30°]: [1-[5-[1, 3-benzodioxol-5-yl]-1oxo-2, 4, pentadienyl] piperidine]. The sharp tasting alkaloid constitutes approximately 5 to 9 percent of commercial black pepper. It was first isolated in 1820, and its structure was established by laboratory syntheses in 1882 and 1894. It is absent in the leaves and stem of pepper plant. Other pungent alkaloids occurring in the pepper plant in smaller amount are chavicine, piperidine and piperretin. The sharp flavor of freshly ground pepper is attributed to the compound chavicine, a geometric isomer (having the same molecular formula but differing in structure) of piperine. The loss of pungency of pepper on storage is associated with slow transformation of chavicine into piperine. Various researches on *Piper nigrum* and piperine highlight the following points.

Piper nigrum L. as a bioavailability enhancer:

In vitro experiments have showed that piperine enhanced the uptake of radiolabelled L-leucine, L-isoleucine and L-valine, and increased lipid peroxidation in freshly isolated epithelial cells of rat

jejunum suggesting that piperine may interact with the lipid environment to produce effects which lead to increased permeability of the intestinal cells. Co-administration of piperine, from *Piper nigrum* L.

enhanced bioavailability of beta lactam antibiotics, amoxicillin trihydrate and cefotaxime sodium significantly in rats and that of propranolol and theophyllin in healthy volunteers. Piperine derived from black pepper increased the plasma levels of coenzyme Q₁₀ following oral supplementation.

Piperine enhanced the bioavailability of the tea polyphenol (-)-epigallocatechin-3-gallate in mice and phenytoin and aflatoxin B₁ in rat tissues. It enhanced the serum concentration, extent of absorption and bioavailability of curcumin [from *Curcuma longa* L.] in both rats and humans with no adverse effects in the doses used [20 mg/kg in rats and 20 mg in humans].

Black pepper as a nutraceutical and its bioenhancing dose:

According to a US patent, as a daily supplement taken with a nutrient or nutrients by an average healthy adult, piperine is effective and safe in a broad dose range. A preferred effective dose range of piperine for oral use to enhance nutrient bioavailability is 0.0004-0.15 mg/kg/day. The recommended dose of piperine for a healthy individual for oral use is approximately 5 mg/person/day. The recommended dose in cases of clinically diagnosed nutritional deficiencies is up to 15 mg/person/day in divided doses. i.e. 5 mg every six hours (in the morning, at noon, and in the evening). Black pepper contains approximately 5-9% piperine and is listed by the FDA as an herb which is generally recognized as safe (GRAS) for its intended use as spice, seasoning, or flavoring. The bioenhancing dose of piperine as used in the invention is a maximum of approximately 15 mg/person/day, or no more than 20 mg/day in divided doses, which corresponds to from several thousands to up to 40,000 times less than the LD₅₀ dose of piperine, as established in various experiments on rodents.

Possible Mechanisms for the Bioavailability Enhancing Activity of *Piper nigrum* L:

It appears that the *Trikatu* group of drugs increases bioavailability either by promoting rapid absorption from the gastrointestinal tract, or by protecting the drug from being metabolized/oxidized in its first passage through the liver after being absorbed, or by a combination of these two mechanisms. The increased bioavailability could be attributed to the effect of piperine on microsomal metabolizing enzymes or enzyme system. Piperine may act as a polar molecule and form a polar complex with drugs and solutes. It may modulate membrane dynamics due to its easy partitioning thus helping in efficient permeability across the barriers. A study hypothesized that piperine's bioavailability enhancing property may be attributed to increased absorption, which may be due to alteration in membrane lipid dynamics and change in the conformation of enzymes in the intestine.

In conclusion, it was suggested that piperine may be inducing alterations in membrane dynamics and permeation characteristics, along with induction in the synthesis of proteins associated with cytoskeleton function, resulting in an increase in the small intestine absorptive surface, thus assisting efficient permeation through the epithelial barrier. The effectiveness of an extract from the fruit of black pepper, consisting of a minimum of 98.0% pure alkaloid piperine, was evaluated for its ability to improve serum response of beta-carotene. Study suggests that the serum response during oral beta-carotene supplementation is improved through the non-specific, thermogenic property(s) of piperine, described in the paper as the nutrient in action.

In all the studies, *Piper nigrum* proved to be bio-enhancer on co-administration with other main drugs. This explains the inclusion of *Marich* or *Trikatu* in 3500 formulations. However, Ayurvedic preparations containing *Piper nigrum* as main ingredient may not have been designed only due to its bio-enhancing property but owing to its pharmacological action. The significance of pharmacological activity of *Marich* as the main ingredient of a formulation needs to be searched.

Pharmacological Actions

Piperine was isolated from *Piper nigrum* Linn for the evaluation of anti-inflammatory activity in rats. Different acute and chronic experimental models were employed simultaneously & biochemical estimations were made to elucidate the underlying mechanism of the action. It acted significantly on early acute changes in inflammatory processes and chronic granulative changes³⁶. A study indicated that supplementation with black pepper or the active principle piperine can reduce high-fat diet induced oxidative stress to the cells³⁷. *In vitro* studies indicate that piperine is shown to possess antioxidant activity.. It is also shown to possess anti-depressant like activity. This goes in support of pepper being a part of many rejuvenating formulations described in Ayurvedic texts.

6. Javitri

Pharmacognosy of Javitri (Aril of *Myristica fragrans* Houtt.)

Scientific Name : *Myristica fragrans* Houtt.

Family : Myristicaceae

Plant part : Aril

Javitri (Latin name - *Myristica dactyloides*), is the other species of Jaiphal (Also known as Mace or Nutmeg), which is an evergreen tree native to Indonesia. It is widely grown in tropical regions like China, Indonesia, Malaysia, Taiwan, Caribbean Islands, Sri Lanka, India and South America. The tree also is the source for essential oils, extracted oleoresins and nutmeg butter. Javitri is usually used in cooking due to its sweet and delicious flavor. It gives a bright orange and saffron color to the desserts and is used as a flavoring agent in many dishes.

Drug description: The drug received is dried, entire and fragmented, flat ribbon like, branched and reddish colour pieces of aril. Powder drug is fine, yellowish brown and strongly aromatic.

Macroscopic Properties: Size : 2 to 4 cm Shape : Flat, ribbon like and branched Colour : Reddish to dark Red in colour Odour : Strongly aromatic Taste : Pungent & aromatic

Texture of the Powder : Fine

The Aril is fused in to wide bowl-shaped at the base where it attaches to seed and becomes free above; generally it loosely adheres on the seed and can easily be separable.

Jatiphala powder with aqueous mixture had the presence of Alkaloids, Flavonoids, Fixed oils where as *Javitri* showed the presence of Carbohydrates, Tannins, Flavonoids. The absence of fixed oils in *Javitri* may be due to evaporation of volatile oils during process of pounding it into powder, therefore PH of *Jatiphala* and *Javitri* were found to be PH 6. The Phytochemical analysis of *Jatiphala* powder and *Javitri* powder in milk showed the presence of Carbohydrates (green colour), Tannins and Carbohydrates (Orange colour) and Tannins respectively. The PH was found to be 7 in the both drugs. Milk extracts of the both drugs showed the absence of Flavonoids in both drugs and fixed oils. This consolidates our opinion that after adding milk the acidic nature of both drugs turned to neutral. (PH 6 to PH 7).

Medicinal properties of Javitri-

- used to balance the blood sugar levels and to treat urinary tract infections.
- It acts as a cardiac tonic and improves the heart metabolism.
- It has aphrodisiac properties which can improve the vigor.
- Very useful in clearing throat, cough, asthma, throat pain, irritable bowel syndrome and diarrhea due to its water absorbing and sputum absorbing properties.
- It reduces bad breath in mouth, moisture in mouth and excessive thirst.
- Used to relieve bloating, flatulence and abdominal pain.
- It acts as an appetizer, improves taste and digestion strength.
- Can treat intestinal worm and intestinal infections.
- It can relieve nausea and vomiting.
- Javitri can reduce the allergic rhinitis.
- It is a natural detoxifier which improves the skin tone and complexion.
- It improves deep sleep and treats insomnia.
- Paste made of Javitri can relieve headache and joint pains.
- Useful in convulsions and epilepsy.
- Used to treat rheumatoid arthritis.
- The oil acts as a stimulant and is applied externally on penis to treat erectile dysfunction.
- Javitri is extensively recommended in pregnancy.
- It is known to relieve depression.
- It boosts immunity and resistance power.
- It can detoxify kidneys and liver.

Mace which is the aril of the fruit of *Myristica fragrans* HOUTT. has been used in Indonesian folk medicine as aromatic stomachics, analgesics, a medicine for rheumatism, etc. The methanol extract was extracted with ether, and then the ether soluble fraction was extracted with n-hexane. The n-hexane soluble fraction was fractionated by silica gel column chromatography (Fr-I-Fr-V), and the active principle was isolated from Fr-II by thin layer chromatography (Fr-VI-Fr-VII). The antiinflammatory activity of these fractions was investigated on carrageenin-induced edema in rats and acetic acid-induced vascular permeability in mice. All fractions and indomethacin were suspended in 2% C.M.C. solution and administered p.o. The methanol extract (1.5g/kg), ether fraction (0.9 g/kg), n-hexane fraction (0.5 g/kg), Fr-II (0.19 g/kg) and Fr-VI (0.17 g/kg) showed a lasting antiinflammatory activity, and the potencies of these fractions were approximately the same as that of indomethacin (10 mg/kg). Fr-VI was determined to be myristicin. These results suggest that the antiinflammatory action of Mace is due to the myristicin that it contains. reactive oxygen intermediates (ROI) are together with prostanoids, leukotrienes and proteases, believed to be the mediators of inflammation and responsible for the pathogenesis of tissue destruction in RA. Antioxidant (AO) activity is one of the mechanisms by which many conventional drugs used in day to day treatment of RA alleviate the painful symptoms associated with this disease. An investigation has been carried out to compare the antioxidant potentials of two polyherbal formulations,

Maharasnadhi quathar (MRQ) and Weldehi choornaya (WC), used by Ayurvedic medical practitioners in Sri-Lanka for the treatment of RA patients. AO potentials of these preparations were assessed by their effects in RA patients on: (a) activities of the AO enzymes superoxide dismutase (SOD), glutathione peroxidase (GPX) and catalase; (b) lipid peroxidation (as estimated by thiobarbituric acid reacting substances (TBARS) generation); and (c) concentrations of serum iron and haemoglobin (Hb), and the total iron binding capacity (TIBC). The overall results of the study demonstrate that MRQ has much greater AO potential than WC. Thus, on treatment with MRQ for 3 months, the initial activities of plasma SOD, GPX and catalase, were enhanced by 44.6, 39.8 and 25.2%, respectively. There was no significant improvement in any of these enzyme activities in patients treated with WC for the same time period as MRQ. Although the extent of lipid peroxidation in plasma of RA patients could be decreased by both drug preparations, the reduction mediated in 3 months by MRQ (34%) was markedly greater than that due to WC (21.8%). The total serum iron and Hb concentrations and TIBC in the RA patients included in the study could be significantly improved by treatment with MRQ but not by WC. Thus, at the end of 3 months treatment with MRQ, concentrations of the total serum iron and Hb, and the TIBC of patients improved by 26.8, 24.8 and 16.1%, respectively. Possible reasons for differences in the AO potentials of MRQ and WC are discussed.

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