



Review Article

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THERAPEUTIC USES OF VANGA BHASMA: A CRITICAL REVIEW

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ABSTRACT

Ayurveda, with its overarching approach to life and well-being, has always been an integral part of this civilization. The invention of Rasa Shastra (Ayurvedic Pharmaceutics) established specific and appropriate dosage forms of metals and minerals known as bhasma that is very much absorbable and assimilable into the human body. Vanga bhasma is widely-used in various herbo-metal formulation of Ayurveda, indicated specially for diseases of gastrointestinal tract and genitor urinary system, such as Prameha, Krimi, Pandu, Mutrakriccha, Sweta pradar, Rakta pradar, Agnimandya, Vrana, Aruchi and Swapnadosha. It is used appropriately either as a single drug or in formulation with other medicines, depending on the patient, the ability to digest herbo-metallic medicines, other disease states in the body, and a variety of clinical factors that ensure safety and efficacy of its use. In indexed journal of Ayurveda research paper revealing many properties of Vanga bhasma which has already been quoted in rasa classics. Research to support the classic literature has shown excellent results of Vanga bhasma in genitourinary disorders such as the capacity of testicular regeneration, diabetes, anemia, asthma and gastric ulcers.

Keywords: Vanga bhasma, testicular generation, antidiabetic

INTRODUCTION

Metals and minerals, as well as different kind of materials from plants and animals have been used in the Indian subcontinent for various purposes including medicinal, since the inception of its civilizations. Ancient texts of Ayurveda are full of medicinal and instrumental uses of various forms of metals even before the elucidation of Rasa Shastra as a discipline (8th century CE). Rasa Shastra, the highly developed discipline of Ayurveda, deals with pharmaceutics and therapeutics of medicinal substances which have their origin predominantly in mines. The invention of Rasa Shastra established specific and appropriate dosage forms of metals and minerals known as bhasma and made it to be very much absorbable and assimilable into the human body. These bhasma of Rasa Shastra showed high therapeutic efficacy in comparison with herbal medicines and earned acceptance in the mainstream of Ayurveda. Bhasma required smaller doses, had quicker action, demonstrated high therapeutic efficacy, and were very portable. These factors made bhasma a popular dosage form and established their demand in clinics of Ayurveda. Vanga bhasma is a widely-used herbo-metal formulation in Ayurveda, indicated for various disorders such as Prameha, Krimi, Pandu, Mutrakriccha, Sweta pradar, Rakta pradar, Agnimandya, Vrana, Aruchi and Swapnadosha. It is used appropriately either as a single drug or in formulation with other medicines, depending on the patient, the ability to digest herbo-metallic medicines, other disease states in the body, and a variety of clinical factors that ensure safety and efficacy of use. However, the classics of Rasa Shastra suggest Vanga bhasma especially for the treatment of prameha and klaibya. India has now become a capital hub of diabetic patients, increased research on

co-morbidities associated with the disease indicate that Indian youths are losing their virility due to stress and elders due to diabetes. Vanga bhasma may be used to treat both, using the wisdom of Ayurvedic principles by a competent physician. Research to support the classic literature has shown excellent results of Vanga bhasma in genitor-urinary disorders such as the capacity of testicular regeneration¹, madhumeha², anaemia, asthma and gastric ulcers³.

Historical background of therapeutic uses of Vanga In Samhita Period (2nd BC-7th AD)

External use of Vanga is mentioned during the Samhita period in the form of choorna, anjana etc. In Charaka Samhita, Acharya describes the use of tongue scrapers made of Vanga. Similarly in Mandala kushtha chikitsa there is indication of Trapu (Vanga) churna with gomutra as lepa⁴. Acharya Shushruta has mentioned Vanga in Trapwadi gana by the name Trapu along with other metals, which is indicated in Gara visha, krimi, pipasa, Hridroga, Pandu and Meha. In kaphaja arbuda, there is indication of tin plate bandaging⁵. The pharmacological properties of Trapu (Vanga) described are Bhedi, lekhana and is indicated in pandu, krimi and vama⁶.

In the period of Rasa Shastra Classics (8th-20th century)

Almost all the classics of Rasa Shastra starting from Rasendra Chudamani to Rasa Tarangini have mentioned the therapeutic uses of Vanga bhasma. Below an attempt is made to describe the synonyms, colors, types, grahya swaroopa, methods of shodhana, jarana, marana, guna karma, dose and anupana in brief in a tabular form.

Table 1: Vanga at a Glance in treatise of Rasa Shastra

Characters	Details
Varga ⁷	Dhatu (Puti loha)
Synonyms ⁸ :	Vanga, Vangak, Ranga, Rangak, Shukraloha, Kuroopya, Trapush, Trapu
Chemical name	Stannous (Tin)
Varna(Colour) ⁹	Khurak vanga is dhabal (white) and Mishrak vanga is shyam shubhra.
Types ¹⁰	2 types i) Khurak ii) Mishrak
Grahya swaroopa ¹¹ (Ideal characteristics)	Khuraka vanga having the qualities like dhavala,mridu, drutadrava,gourava, nishabda, nirmala, laghu shweta , snigdha, sheetala is the best.
Agrahya swaroop	Mishrak vanga having the qualities like shyama shubrak, dhusara,drave ati kathin, annya dhatu misrita, kathin, durgandhi, malin, mridu is considered worst.
Specific gravity	7.3
Hardness	6.7
Melting point	230 ^{0c}
Shodhana ^{12,13}	Samanya Shodhan: Vanga is to be melted and poured in a pithara yantra containing tila taila, takra, gomutra, kanji and kulattha kwath for 3 times each. Vishesh Shodhan: The melted vanga is poured in the pot containing nirgundi swarasa and haridra choorna.
Jarana ^{14,15}	Shodhita vanga is kept in an iron pan and heated. While it is melting, powders of chinch (stem bark) 1/4 th and aswattha(stem bark)1/4 th are sprinkled in small quantity and stirred with iron ladle till it becomes powder. Shodhita vanga is kept in an iron pan and heated. While it is melting, powder of Apamarga 1/4 th (whole plant) are sprinkled in small quantity and stirred with iron ladle till it becomes powder.
Marana ^{16,17}	Jarita vanga is mixed with powder of shuddha hartala and ground well in nimburasa. Small thin chakrikas are prepared, dried and placed in sharav shampooot and arsha gaja puta is given. This process is repeated 10 times or repeated till bhasma pariksha appeared. After the first puta 1/4 th part of shuddha hartala is to be taken. Jarita vanga is ground well in kumari swaras / satavari swaras/ksheer ksar.
Guna ¹⁸⁻²⁰	Rasa- Tikta, amla, katu, kasay; Guna- Ruksha,laghu,sara,usna,teekshna; Veerya- ushna, Dosha prabhav- Kaphapittahar,ishat vataprakopak, Karma-balya,deepan,pachan,medohar,vrishya etc.
Vyadhi prabhava ²¹	Kasa, swas, kapha roga, medodosha, prasveda, ksaya, prameha, krimi, pandu, mutrakriccha, sweta pradur, rakta pradur, ratri-sweda, ksaya, ojomeha, agnimandya, vrana, aruchi, swapnadosh etc.
Dose ²²	1-2 ratti (125-250 mg)
Anupana ²³	Guduchi swaras or sattva, honey, ghee, haridra rasa

**Table 2: Formulation containing Vanga bhasma and their uses:
Kharaliya Rasayan**

Name of Compound with Vanga bhasma	Indication	Other metal and mineral Ingredients	Bhavna Dravya
Agnikumar Rasa RPS (8/182-188)	Kaas, Swas	P,G,NB,TB,SWB,RB,LB, AB,	Aswagandha, Bhringaraj, Gorakhmundi, Sariba, Nirgundi Swaras
Apurva malini Vasanta Rasa YR (Jwara chikitsa /1-4)	Jwar	AB,TB,SWMB,RB,LB, Rasa Sindoor, Vaikrant bhasma	Satavari, Haridra Swaras
Astavakra Rasa BR (73/131-135)	Rasayan	P,G,SWB,RB,TB,NB	Vatankur Swaras, Kumari Swaras
Chintamani Rasa BR (33/44-48)	Hridroga	P,G,SWB,RB,AB,TB,MB, Silajeet	Chitrak, Bhringaraj, Arjun
Chandra prabha vatika RSS (2/23-27)	Prameha	Rasa Sindoor, AB, LB, NB	Langali Drava, Meshidugdha, Nagballi Rasa
Gulmakuthar Rasa YR (Gulma chikitsa / 1)	Gulma	AB,LB,TB,NB	Jambiri Swaras
Harishankar rasa RSS (Prameha Chi.2/9-10)	Prameha	P,G,LB,SWB,SWM,	Amlaki
Hemanath rasa BR (86/43-47)	Somarog	P,G,SWB,SWMB,LB,RB	Udumbar, Kadali, Ahiphena
Indra vati RSS (Prameha Chi.2/2-3),	Prameha	Rasa Sindoor	Salmali Moola Drava
Jaimangal Rasa BR (5/1061-1069)	Jwara	P,G,TB,SWMB,SWB,RB,LB	Dhatura, Shephali, Dasmula Rasa, Kirattikta Kwath
Jwarankush Rasa BR (5/949-955)	Jwara	P,G,TB,LB,SWMB,AB, Hingula	Jambiri, Bhanga Chitraka Tulsi
Kanaksundar rasa RPS (8/105-108)	Sannipat Jwara	P,G, SW, SWM, TB, LB,AB,NB	Nimbuswaras
Kumudeshwar rasa RSS (Trishna Roga chi. 2/3-5)	Trishna	TB	Madhuyasthi Ras
Krimikasthanalo Rasa RSS (Krimi chi. 2/18-21)	Krimi	P, G, Hartal, Manashila	Vajrikshir (Thuhar)
Lakshmvilash rasa RSS (kaas chi. 2/17-23)	Kaas	P, G ,AB, LB, TB, Hartal, Kansya	Bhringaraj, Kulattha
Maha Kanaksindur Rasa YR (Rajyaksma chi. / 1-5)	Rajyaksma	P,G, Rasak, SWB, SWM, LB, NB, RB,AB	Hampadi Rasa
Madebhshinghasuta Rasa YR (Pandu chi. / 1-4)	Pandu	P, G, AB, LB, TB, NB, MB, Shakha bhasma, Varatika	Triphala, Bhringaraj,Aadrak Rasa
Manmath rasa RSS (Rasayan Vajeekaran Adhikar. 5/2-9)	Rasayan-Vajeekaran	P,G,AB,LB,TB	Water
Nageswar Rasa BR (32/88-90)	Gulma	P, G, NB, Manashila	Arka, Danti, Chitrakmool,Vasa

Neetyananda Rasa BR (45/30-38)	Sleepad	P, G, TB, Kansya, Hartal, Tuttha, Shankha bhasma	Trivrit, Chitrak, Danti
Panchamrit rasa RPS (8/116-117)	Kaas,Swas, Ksaya	P,AB,TB,LB	Kumari Swarasa
Prataplankeswar Rasa BR (5/839-858)	Sannipat	P,G,AB,LB,NB, Hartal	Trikatu, Triphala Kwath, Dhatura, Agastya Patra Swaras, Bhang, Chitrak Kwath, Kalihari Kwath
Pradarantak Lauha RSS (Pradar roga chikitsa 2/1-5)	Pradar	P, G, AB, LB, TB, Hartal, Shankha bhasma	Water
Puspghanva Rasa BR (74/70)	Vajeekaran	Rasa sindoor, LB,AB,NB	Kanak, Vijaysar, Salmali, Nagaballi swaras
Rasendrachudamani Rasa RRS (27/95-103)	Vajeekaran	Rasa sindoor, SWB, NB,AB, LB, SWMB, RMB, Vimal bhasma	Dhatura, Bhang, Guduchi Swaras, Anantamoolkwath, Shuddha Vatsanabh Kwath Etc.
Raktapitta kul kuthar Rasa YR (Raktapitta chi. / 1-3)	Raktapitta	P,G,SWB,SWMB,NB,	Chandan,Kamal,Malati Puspa,Vasa,Gusduchi Swaras
Ratnaprabha vatika BR (66/63-67)	Pradara	SWB, AB, NB, SWMB, RB, Hirak bhasma, Kharpar, LB, Hartal	Kadali, Kakamasi, Utpal, Vasak Swaras
Ratnakar Rasa BR (33/60-67)	Hridroga	P, G, SWB, LB, AB, Vaikrant bhasma	Kakubh, Godhum, Yava Kwath, Kumari Swras
Ramvan Rasa RRS (17/76-80)	Prameha,	P, G,SWB, RB, SWMB, Vaikrant,	Akuljimool kwath, Babool kwath
Sanjivan Rasa RRS (17/68-71)	Prameha	P, Rajavarta Bhasma	Nimba dal drava
Sannipathairav Rasa YR (Jwar Chi.1-9)	Jwara	P, G, RB, TB, NB, LB, Hartal	Shighru, Jwalamukhi, Shunthi, Bilva Swaras
Tarakeswar rasa BR (34/35-39)	Mutrakriccha	P,G,AB,LB	Kusmanda Swaras, Trinpanchamool, Gokshurbeej Kwath
Vangastakam BR (37/84-87)	Prameha	P,G,AB,LB,RB,TB	No Bhavna
Vrihat Kasturibhairav Rasa RSS (Jwara Chi. 2/178-183)	Jwara	P, SW, LB, RB, Kharpar	Dronpuspi, Nagaballi Swaras
Vangeswar Rasa YR (Prameha chi1/3)	Prameha	P, G	Kumari
Vrihat Vangeshar Rasa RSS (Prameha chi. 2/29-36)	Prameha	P, G, AB, RB, Moti bhasma	Keshraj Rasa
Vridhibadhika Vati BR (43/76-80)	Vridधिrog	P, G, LB, TB, Hartal, Shankha Bhasma	Haritaki Kwath
Yogendra Rasa BR (26/160-166)	Vatavyadhi	Rasa sindoor, SWB, LB, AB, Mukta bhasma	Kumari Swaras
Yogeswar Rasa RSS (Prameha chi 2/53-57)	Prameha	P,G,LB,NB,TB,AB	Amlaki Swaras

P- Parad, G- Gandhak, LB- Lauha Bhasma, AB- Abhrak Bhasma, NB- Naga Bhasma ,SWB- Swarna Bhasma, RB- Raupya Bhasma, SWMB- Swarna Makshik Bhasma, RMB- Raupya Makshik Bhasma, TB- Tamra Bhasma, MB-Mandoor Bhasma, BR: Bhaisajya Ratnavali, RSS: Rasendra Sar Sangraha, RPS: Ras Prakash Sudhakar, RRS: Rasa Ratna Samucchaya , YR: Yog Ratnakar, RYS: Rasa Yoga Sagar²⁴⁻²⁸

Parpati Rasayan

Name of compound with Vanga bhasma	Indication	Other metal and mineral ingredients
Pranda Parpati YR (Rajyaksma Chi./1-2)	Rajyaksma	P,G,AB,LB,NB

P- Parad, G- Gandhak, LB- Lauha Bhasma, AB- Abhrak Bhasma, NB- Naga Bhasma, YR: Yoga Ratnakar²⁷

Pottali Rasayan

Name of compound with Vanga bhasma	Indication	Other metal and mineral Ingredients
Lauhagarbha Pottali, RYS	Ksaya, Prameha	LB,SWB,NB,TB,SWMB,MB
Tridhatu Garbha Pottali, RYS	Shukraksaya	P,G,NB,YB, Swarnapatra

P- Parad, G- Gandhak, LB- Lauha Bhasma, AB- Abhrak Bhasma, NB- Naga Bhasma, SWMB- Swarna Makshik Bhasma, TB- Tamra Bhasma, MB-Mandoor Bhasma, YB: Yashad Bhasma, RYS: Rasa Yoga Sagar²⁸

Avaleha kalpana

Name of compound with Vanga bhasma	Indication	Other metal and mineral Ingredients	Kwath dravya
Aswagandha Pak YR(Prameha chi./1-5)	Meha	Rasa Sindur, AB, NB, LB	Aswagandha with 12 times milk

LB- Lauha Bhasma, AB- Abhrak Bhasma, NB- Naga Bhasma, YR: Yoga Ratnakar²⁷

Observation

In the classification of Rasa Shastra, vanga is placed under dhatu varga and further classified in subdivision Putiloha. The low melting point of metal vanga invited a special process namely Jarana which is responsible for solidification of the metal and to facilitate the process of Marana. The final prepared Vanga bhasma is whitish in color and is used in the dose of 125-250 mg when used singly. Thorough review of the literary material about Vanga bhasma in different classics of Rasa Shastra reveals that Vanga bhasma is used to treat many diseases, E.g. Chandra prabha vatika, Harishankar rasa, Indra vati, Sanjivan Rasa, Vangeswar Rasa, Vrihat Vangeswar Rasa, Lauhagarbha pottali, Aswagandha Pak are indicated in Prameha; Manmath rasa, Tridhatu Garbha Pottali, Puspghanva Rasa, Rasendrachudamani Rasa in shukragata roga (vajeekaran), Apurva malini Vasanta Rasa, Jaimangal Rasa, Jwarankush Rasa, Sannipatbhairav Rasa in jwara; Pradarantak lauha, Ratnaprabha vatika in Pradar, Tarakeshwar Rasa in mutrakriccha; Nageswar Rasa in gulma; Neetyananda Rasa in sleepada etc. But it is observed from the Table 2 that most of the preparation of Vanga bhasma is mainly indicated for prameha (diabetes) and diseases of the genitor urinary system (klaibya, mutrakriccha, pradar, somroga). Other constituents which are mainly used with Vanga bhasma are kajjali, abhrak bhasma, tamra bhasma and swarnamakshik bhasma. In practice of Ayurveda kajjali is considered as a strong medium for the potentiating of therapeutics of either mineral metals bhasma or herbal powders. Bhavna is a concept of Rasa Shastra which is performed in pharmaceutical processes between two putas or as an independent process. This process is responsible for addition of some other constituent to the particular bhasma which may not originally be present in the beginning in that particular metal. This intermediary process is considered as a major cause for remission of any toxicity of original metal as well as potentiating the therapeutic efficacy. In Table 2 some herbs which are responsible for specific therapeutic action of Vanga bhasma such as amlaki, bhringaraj, vijaysaar, dhatura, kumari, bhanga are quoted with formulation as bhavna dravya. Vanga bhasma is not only used as a kharaliya rasayan but also used as parpati and pottali kalpa that means Vanga bhasma has the characteristics for specific chemical bonding pattern in specific temperature of these kalpas. In indexed journal of Ayurveda research paper revealing many properties of Vanga bhasma which has already been quoted in rasa classics. Recent researches on Vanga bhasma validating the approach of ancient acharyas of Rasa Shastra where they indicated therapeutic application Vanga bhasma to treat diabetes and diseases of genito-urinary system mainly and some other diseases mentioned above.

CONCLUSION

On the basis of observations available in ancient literature and recent researches, one can conclude that Vanga bhasma may be used as choice of drug in diabetes and diseases of genitor- urinary system.

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