



A review on *Vanga* in Ayurvedic literature.

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ABSTRACT

The classical literature review is the most important backbone of any research work in Ayurveda. Metals like gold, silver, copper, lead, tin are being used by human beings since the ancient times. The metal *Vanga* mentioned in Ayurveda with a wide range of therapeutic utilities. That's why one should be cautious while using *Vanga Bhasma*. A number of classical texts have been reviewed. Each and every one work related to synonyms, different pharmaceutical process, and safety profile has been outlined. These literature review work has assembled strong basis for the pharmaceutical process of *Vanga Bhasma*, its safety profile along with its chemical nature, quality control, quality assessment and safety data.

Keywords: *Vanga Bhasma*, backbone, literature review, quality assessment *Shodhana, Jaran, Marana,*

INTRODUCTION

The medicinal use of metal and mineral for healing purposes has been in trend for centuries in the Ayurveda system. The perception of using metal and mineral as medicines was enlarged by ancient *Acharyas* during different periods¹. *Rasa Shastra*

(Ayurvedic Pharmaceutics) although basically means the "Science of Mercury" it also refers to the science of making

metals and minerals suitable for the body so that they can be used as medicines². Traditional organo-metallic & mineral formulations have been commonly used for thousands of years in several countries. Metals and minerals have been used in disease treatment since time immemorial. *Bhasma* is an organometallic/mineral preparation, treated with herbal juices or decoction and exposed for the definite quantum of heat as per *Putra* system of Ayurveda. *Bhasma* is stated to be biologically produced Nano-particles, which are prescribed with several vehicles like honey, butter, milk³. The use of metals traditional Ayurvedic system of medicine include *Swarna* (gold), *Rajat* (silver), *Tamra* (copper), *Lauha* (iron), *Vanga* (tin), *Naga* (lead), *Yasada* (zinc), etc. *Vanga Bhasma* is organo-metallic preparations, prescribed by the ancient *Acharyas* for treatment of a number of ailments. *Vanga Bhasma* is prepared from metallic raw material & herbal ingredients, by processing them through a series of *Shodhana, Marana, & Jarana*. The present review article is a simple collection focusing on the uses of metals revealed in classical Ayurvedic texts.

AIM AND OBJECTIVE:-

To review *Vanga Bhasma* in various *Rasashastra* related texts.

MATERIAL:-

Literature review from *Samhita*, Journals and websites.

METHODS:-

Conceptual studies.

RESULT:-

Chronological Appraisal of Vanga

Vanga in Vedic Period

In *Yajurveda*⁴ and *Atharva veda*⁵ the reference of *Trapu* is available for *Vanga* mentioned along with *Suvarna*, *Rajat*, *Tamra*, *Loha* and *Naga*. The word *Trapu* is originated from the *dhatu* “*Trap*” means to be ashamed.

Vanga in Ayurvedic texts

In the *Ayurvedic* classical text, *Brihatrayee* takes up an essential place. *Charaka Samhita*⁶, *Sushruta Samhita*⁷, *Astanga Samgraha*⁸ and *Astanga Hridaya*⁹ are incorporated in *Brihatrayee*. *Charaka* and *Sushruta Samhita* is the exit to *Samhita* period specifically 1000 B.C. to 300 B.C. *Astanga Samgraha* and *Astanga Hridaya* is the exit to *Samgraha* period specifically 5th to 7th century A.D. In *Charaka Samhita*, *Sushruta Samhita*, *Astanga Samgraha*, and *Astanga Hridaya*, description of *Vanga* is available. In this period the remedial use of *Vanga* is immensely incomplete.

Vanga in Samhita Period

Charaka Samhita

Charaka while describing *Bhouma dravyas*, included *Vanga* in *Pancha Loha* Group with *Suvarna*, *Rajat*, *Tamra*, *Loha* and *Naga*. *Vanga* is also a useful metal for the preparation of *Jihva Nirlekhan Yantra*, *Vasti Netra* along with *Suvarna*, *Rajat*, *Tamra* etc. In *Chikitsa sthana* *Trapu churna* is advised for *Mandal Kustha*.

Sushruta Samhita

In *sutrasthana* *Acharya Sushruta* has mentioned *Vanga* in *Trapwadigana* and described its pharmacological properties viz. *lavan rasa*, *katu vipak*, *krimighna* and *lekhan karma*. In *chikitsasthana* he also indicated the external application of tin plate while bandaging the *Kaphaj Arbuda*.

Astanga Samgraha

In *Astanga Samgraha* *Vanga* is mentioned in *Bhouma dravyas* along with pharmacological properties and indicated in different diseases like *pandu*, *krimi* and *vaman*.

Ashtanga Hridaya

In *Ashtanga Hridaya* detail explanations regarding the different therapeutic uses of metals like *Swarna*, *Rajat* are available. However, no such type of description concerning *Vanga* is found in the literature.

In Nighantu

In *Raj Nighantu*¹⁰, *Dhanwantari Nighantu*¹¹, *Madanpala Nighantu*¹², *Saligram Nighantu*¹³ and *Bhava Prakash Nighantu*¹⁴ the detailed explanation of the metals are available. But mainly *Bhavaprakash Nighantu* revealed the therapeutic values and properties of *Vanga*.

Table 1: Name in different Languages¹⁵

Different language	Name
Hindi	<i>Kalai</i> , <i>Ranga</i> , <i>Vanga</i>
English	<i>Tin</i>
Sanskrita	<i>Trapu</i> , <i>Vanga</i> , <i>Ranga</i>
Marathi	<i>Kathir</i> , <i>kalai</i> , <i>Thavarapari</i>
Latin	<i>Stannum</i>
Arbi	<i>Arbuz</i> , <i>Rasas</i>
Persian	<i>Urziz</i>

Table 2: Synonyms of *Vanga* as per different classical texts^{16,17,18,19,12,13,14}

NAME	R.R.S.	A.P	R.J.N.	R.K.	R.T.	R.A.	M.N.	D.N.	R.N.
<i>Shukraloha</i>			+		+				
<i>Kurupya</i>			+		+		+		+
<i>Trapush</i>			+		+				
<i>Vanga</i>	+	+	+		+	+	+	+	+
<i>Ranga</i>	+	+			+	+	+	+	+
<i>Trapu</i>	+	+	+	+		+	+	+	+
<i>Pichchata</i>		+	+	+		+		+	+
<i>Aleemaka</i>			+						+
<i>Hima</i>			+	+					+
<i>Gurupatraka</i>			+	+					
<i>Mrudu Vanga</i>			+	+					
<i>Pushpa</i>			+						
<i>Nagaja</i>			+						
<i>Simhala</i>			+						
<i>Mukhbhushan</i>				+					
<i>Abheera</i>				+					
<i>Tiraka</i>							+		
<i>Karati</i>							+		
<i>Ganam</i>							+	+	
<i>Aneela</i>								+	
<i>Surati</i>								+	
<i>Pootigandha</i>			+						
<i>Lavana</i>			+					+	
<i>Dashahyam</i>									+
<i>Trapuka</i>								+	
<i>Neelak</i>								+	
<i>Manduka</i>								+	+
<i>Shweparoupya</i>				+					
<i>Madhura</i>									+
<i>Kasteera</i>			+	+					

R.R.S. (*Rasa Ratna Samuchhaya*), **A.P.** (*Ayurveda Prakash*), **R.J.N.** (*Rasa Jala Nidhi*), **R.K.** (*Rasa Kamdhenu*), **R.T.** (*Rasatarangini*),

R.A. (*Rasamrita*), **M.N.** (*Madanpal Nighantu*), **D.N.** (*Dhanwantari Nighantu*), **R.N.** (*Raja Nighantu*)

Occurrence Generally, *Vanga* is not found in native form. It is found only in the form

of oxide known as tinstone. In India, it is found only in Bihar. In Myanmar and Bangladesh, it is found in very much large quantity. In ancient times, *Vanga* was imported from *Vangadesh* (Bangladesh) that's why called *Vanga*. *Vanga* was also found in Srilanka (Simhala region), that's why called *Simhala*. *Vanga* is available in nature in compound form.

Types of Vanga

In *Ayurvedic* texts 2 types of *Vanga* has been explained.

(1) *Khuraka*

(2) *Mishraka*

In the context of therapeutic purpose, *Khuraka Vanga* is best one.

In *Rasakamdhenu*, on the basis of colour, *Vanga* is classified in

Shweta and *Krishna*. In which *Shweta Vanga* is best for the medicinal purpose.

Table 3: List of drugs used in Shodhana

Properties of Vanga

(1) *Khuraka Vanga*- It is white in colour, soft in touch, easily melts, heavy in weight.

(2) *Mishraka Vanga*- It did not melted easily, rough in touch and when mixed with other metals it becomes dull black in colour and hard in nature.

Suitable Property of Vanga

Khuraka Vanga having the properties likes *Shweta*, *Swachcha*,

Mridu, *Snigdha* and *Sheetala*

Shodhana (Purification)

Shodhana is technique in which rasa drugs become detoxified, free from impurities and suitable for internal use as well as for further process like *Marana*.

Name of drug	Name of Shodhan procedure	Referance
<i>Choornodaka</i> (lime water)	<i>Nirvapa</i> /7, <i>Swedana</i> /3	<i>R.T.18/8, R.S.S.79/290</i>
<i>Kanjika</i> (Sour gruel)	<i>Nirvapa</i> 7/3	<i>A.Y.P.3/48</i>
<i>Amla Takra</i>	<i>Nirvapa</i> /7	<i>R.T.18/13, R.Pu.14/6</i>
<i>Chincha Kashaya</i> (<i>Tamarindus indica</i>)	<i>Nirvapa</i> /7	<i>R.Sara326/1-2</i>
<i>Kulatha Kashaya</i> (Horse gram)	<i>Nirvapa</i> 3/7	<i>A.Y.P3/48</i>
<i>Bramha Briksha Kwatha</i>	<i>Nirvapa</i> /21	<i>R.K.D.S464, R.Sara326/1-2</i>
<i>Katphala Kashay</i> (<i>Myrica Esculenta</i>)	<i>Nirvapa</i> 3/7	<i>A.Y.P.3/48</i>
<i>SnuhiKsheera</i> (<i>Euphorbia Nerifolia</i>)	<i>Nirvapa</i> /21	<i>R.K.D.S464, R.Sara326/1-2</i>
<i>Amla Takra & Punarnawa</i>	<i>Nirvapa</i> 3/7	<i>R.R.S.5/157</i>
<i>Taila Varga</i>	<i>Nirvapa</i> /7	<i>R.Sara</i>
<i>Mutra Varga</i>	<i>Nirvapa</i> /7	<i>R.Purana274, R.R.Sundar70</i>
<i>Limbu Neera</i> (lemon water)	<i>Nirvapa</i> /7	<i>R.Purana274, R.R.Sundar70</i>
<i>Ksharambu</i>	<i>Nirvapa</i> /7	<i>R.Purana274, R.R.Sundar70</i>
<i>Kadalimoola Rasa</i> (<i>Musaparadisiaca</i>)	<i>Nirvapa</i> /7	<i>A.Y.P 3/54</i>
<i>Kumari Swarara</i> (<i>Aleovera juice</i>)	<i>Nirvapa</i> /7, <i>Nirvapa</i> /21	<i>R.T.18/14, R.K.D/463</i>
<i>Bhringaraj Swarasa</i> (<i>Eclipta Alba</i>)	<i>Nirvapa</i> /7, <i>Nirvapa</i> /21	<i>R.T.18/14, R.K.D/465</i>

Jaran of Vanga

Due to the low melting point of Vanga melts easily and does not convert to Bhasma form by PutaPaka. Jarana of Vanga performs by Avapa procedure. In this procedure adding any other metal or any other substances like Apamarga, Ashwathatwaka, Kukkutanda Twaka

Churna in the melted metal is known as Avapa. This whole process is known as Jaran. The Jarita Vanga is subjected to the Bhasmikaran process for the preparation of Vanga Bhasma. The listing of such drugs used in Jarana process is revealed below [Table 4].

Table 4: List of Drugs used in Jarana of Vanga

Herbal Drugs	Minerals	Animals
Ashwaththa (<i>Ficus Religiosa Bark</i>)	Parada(<i>Mercury</i>)	Mukta, Shukti
Apamarga (<i>Achyranthes Aspera</i>)	Makshika(<i>Pyrite</i>)	Kukkutanda Twaka
Arka (<i>Calotropis Gigantea</i>)	Karpura	Shankha (<i>Conch</i>)
Babool (<i>Vachellia Nilotica</i>)	Abhraka(<i>Mica</i>)	Varatika
Bhallataka (<i>Semicarpous Anacardium</i>)	Hartal(<i>Orpiment</i>)	
Punarnava (<i>Boerhavia Diffusa</i>)	Suryakshara	
Haridra (<i>Cucurma Longum</i>)	Shilajatu(<i>Butamen</i>)	
Jeeraka (<i>Cuminum Cyminum</i>)	Saindhava	
Vatatwaka (<i>Ficus Bengalensis</i>)	Tankana	
Karpas (<i>Gossypium Herbaceum</i>)		
Yavanika (<i>Trachyspermum Ammi</i>)		

List of drugs used in Vanga Marana

In Ayurvedic classical texts, several methods of Vanga Maran described that is by some plant drugs, minerals, and animal origin drugs.

Table 5: List of Rasa Drugs used in Vanga Marana^{16,17,18,19}

NAME OF DRUG	CLASSICAL TEXTS
Parad (<i>Mercury</i>)	R.R.S.5/160, R.T. 18/16
Sheelajita	R.K.D.S.483,Ay.P3/160
Makshik (<i>Pyrites</i>)	R.J.N. VOL III.
Suvarchika	R.Pu.14/8,Ay.P 3/171
Saindhava(<i>Rock Salt</i>)	R.J.N.
Hartala(<i>Orpiment</i>)	R.R.S.5/159,R.T.8/26,Ay.P.3/162&170,R.K.D.S.466, R.Pu.14/11-13

Table no:-6 List of Animal drugs used in Vanga Marana

Name of Drugs	Different Textual references
Karkatasthi	R.K.D.S.481,R.Chi,R.J.N.VOL III
Shankha	R.J.N. VOL III
Varatika	R.J.N VOL III
Kukkutanda Kapala	R.Mr 3/92
Mukta, Shukti	R.J.N., R.Mr. 3/92

Table no:7 Methods of Vanga Marana

Name of the method	Type of the Puta	Textual references
<i>Sharava Samputa</i>	<i>Laghu</i>	<i>R.R.S.5/159,R.Pu.14/17-18,R.K.D.S.466</i>
<i>Jarana</i>	<i>Roasting in frying pan</i>	<i>R.R.S.5/160,R.T.18/15-18&19-20,R.Pu.14/8-10</i>
<i>Jarana & Sharava Samputa</i>	<i>Roasting in frying pan</i>	<i>R.T18/25-28,R.Pu.14/14,R.K.D.S. 467</i>
<i>Jarana & Sharava Samputa</i>	<i>Ardha Gajaputa</i>	<i>R.Mrt.3/94</i>

CONCLUSION

The classical literature review is a most important backbone of any research work in Ayurveda. Critical review facilitates in thoughtful and framing plan about the subject to be a deal. It compacts with the whole thing right from the earlier period to the current, related to the subject and a clear representation of the subject issue. Therefore, for the whole knowledge of the subject, it is required to trace out its chronological background, which gives a substantial firm in the advance of stages from time to time

ABBREVIATIONS

R.R.S (*Rasa Ratna Samuchhaya*)

A.P (*Ayurveda Prakash*)

R.J.N (*Rasa Jala Nidhi*)

R.K (*Rasa Kamdhenu*)

R.T (*Rasatarangini*)

R.A (*Rasamrita*)

M.N (*Madanpal Nighantu*)

D.N (*Dhanwanttari Nighantu*)

R.N (*Raja Nighantu*)

K.N (*Kaidev Nighantu*)

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Conflict of Interest: Non

Source of funding: Nil

Cite this article:

"A review on Vanga in Ayurvedic literature."

Bhalerao Dipali H., Bhangе Pallavi, Jadhav Kalyani

Ayurlog: National Journal of Research in Ayurved Science- 2020; (8) (4):01-07