

Shankha Bhasma a mineral preparation – An Overview

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Abstract: - *Ayurveda* a science of life having the source of raw material from plant, animal, mineral and metal. The formulations which are to be prepared from metal and mineral as known as *Rasaushadhis*. The formulation in which plant part is used as raw material is known as *Kasthaushadhis*. *Rasaushadhis* having small dose, palatable, easy administration and are more active therapeutic effects. Here, we are compiling one of the best calcium preparation “*Shankha Bhasma*” from different *Ayurvedic* classical texts. Our main focus is on the properties and therapeutics effects of *Shankha Bhasma* elaborate by our ancient *Acharya's*.

Keywords – *Shankha, Shankha Bhasma, Shodhna, Marana* etc.

Introduction

Ayurveda a science of life having the source of raw material from plant, animal, mineral and metal. The formulations which are to be prepared from metal and mineral as known as *Rasaushadhis*. The formulation in which plant part is used as raw material is known as *Kasthaushadhis*. *Rasaushadhis* having small dose, palatable, easy administration and are more active therapeutic effects. *Rasashastra* is categories into two parts – *Dhatuvad*, which involved in changing *Parad* into *Gold & Dehavad*, related to the word which means rejuvenation of mind and body with help of *Aushadhis*. *Shankha* is the porcelaneous shell of a marine creature called *Turbinella pyrum* and is chemically composed CaCO_3 . There are two types of *Shankha* are available. One is *Vamavarta*, that is, opening onto the left side and *Dakshinvarta*, that is, opening onto the right side. *Dakshinvarta Vamavarta* is used for the preparation of *Shankha Bhasma*¹. *Sankha*, which is round bodied with smooth external surface, which has small opening towards the base, which is clean and bright like moon and heavy in weight is considered as the best sample of *Sankha* (conch shell) used for therapeutic purposes. *Shankha* is mentioned in *Rasashastra* as a mineral under *Sudha Varga* (Calcium group) category². The preparation of *Shankha Bhasma* is generally described by soaking the shell in lime juice and calcination in covered crucibles ten to twelve times and finally reducing it to powder, this process helps in detoxification of *Shankha Bhasma*. However, the ancient classical texts of *Ayurveda* describe several methods of incineration of conch using various media like borax, Citrus limon juice³, Citrus medica juice and Aloe Vera juice⁴. Here, we are compiling one of the best calcium preparation “*Shankha Bhasma*” from different *Ayurvedic* classical texts. Our main focus is on the properties and therapeutics effects of *Shankha Bhasma* elaborate by our ancient *Acharya's*.

Origin of *Shankha*

This is the outer shell of the sea creature, which is found in the sea.⁵ A Hindu legend in the *Brahma Vaivarta Purana* recalls the creation of conchs:⁶

- *Lord Shiva* flung a trident towards the *Asuras*, burning them instantaneously. Their ashes flew in the sea creating conchs.
- *Shankha* is believed to be a brother of *Goddess Lakshmi* as both of them were born from the sea.
- A legend describes an *Asura* named *Shankhasura*, who was killed by *Lord Vishnu's* fish *Avatar, Matasya*.

Availability of Shankha⁷

- Genuine *Dakshinavarti* Conches are only found in the Indian Ocean, between Myanmar (Burma) and Sri Lanka. The three main localities - near *Shri Ram Setu*, Sri Lanka, and *Rameswaram* to Tuticorin (rare); the Arabian Sea; and the Bay of Bengal. Shells from each locality show distinct morphological variations, although varieties showing mixed characters have been observed.
- The main imitation (lightning whelks) mostly come from Florida and the Gulf of Mexico. This imitation is known as African Valampuri. Other than Busyconid species, few other species showing presence of folds in the cavity are wrongly mentioned as *Dakshinavarti*. These shells, though sinistral and possessing folds, are from other species.

Physical Characteristics of Shankha⁸

The overall shape of the main body of the shell is oblong or conical. In the oblong form, it has a protuberance in the middle, but tapers at each end. The upper portion (the siphonal canal) is corkscrew-shaped, while the lower end (the spire) is twisted and tapering. Its colour is dull, and the surface is hard, brittle and translucent. Like all snail shells, the interior is hollow. The inner surfaces of the shell are very shiny, but the outer surface exhibits high tuberculation. In Hinduism, the shiny, white, soft *Shankha* with pointed ends and heavy is the most sought after.

Description of Shankha in different Nighantus

[Table no. 1]

S. No.	Nighantu	Varga
1.	<i>Dhanwantri Nighantu</i> ⁹	<i>Chandandistrityo Varga</i>
2.	<i>Raj Nighantu</i> ¹⁰	<i>Suvarnadi Varga</i>
3.	<i>Priya Nighantu</i> ¹¹	<i>Kasturyadi Varga</i>
4.	<i>Bhavprakash Nighantu</i> ¹²	<i>Dhatvadi Varga</i>

Indications¹³

- *Angimandya, Udrashula, Gulma, Sawasa, Kasa.*

Therapeutic Uses¹⁴

- *Sangrahni* - Its ash is beneficial when used with honey.
- *Paktishula* - Its ash is beneficial when used with hot water.
- *Arjunroga* - Its ash is beneficial when used honey like *Anjana*.
- *Arbudh* – *Shankha Churna* and *Mulaka Bhasma Lepa* is beneficial.

Chemical Constituents¹⁵

[Table no. 2] Elemental Composition of Raw Shankha and Shankha Bhasma

S. N.	Element	Raw Shankha (%)	Shankha Bhasma (%)
1.	Aluminium	00.52	00.00
2.	Carbon	25.43	08.47
3.	Calcium	28.77	45.90
4.	Iron	01.81	00.00
5.	Lead	01.15	00.00
6.	Manganese	00.39	00.00
7.	Magnesium	00.36	00.28
8.	Oxygen	40.32	44.82
9.	Potassium	00.43	00.31
10.	Silicon	00.38	00.00
11.	Zinc	00.47	00.22

Important Formulations¹⁶

- *Shankha Vati*
- *Mahashankha Vati*
- *Kaphaketu Rasa*
- *Agnikaumar Rasa*
- *Mahamritunja Rasa*
- *Kalingadi Gutika*

Pharmacodynamic Properties of Shankha in Nighantus:

[Table no. 3]

S.N.	Texts	Rasa	Guna	Virya	Vipaka	Karma
1.	<i>Dhanwantri Nighantu¹⁷</i>	<i>Madhura</i>	-	<i>Ushna</i>	<i>Katu</i>	<i>Prinamshool-Netragatvikara-Raktipitta-Nashaka</i>
2.	<i>Bhavprakash Nighantu¹⁸</i>	-	<i>Laghu, Sheetal</i>	-	-	<i>Netrahitkari, Pitta-Kapha-Rakta-Vikaranashaka</i>
3.	<i>Raj Nighantu¹⁹</i>	<i>Katu 750</i>	-	<i>Sheeta</i>	-	<i>Nourishing, strength giving and improves semen, Gulma-Shula-Hara, Sawashara, Vishahara</i>
4.	<i>Priya Nighantu²⁰</i>	<i>Katu, Kshara</i>	<i>Tikshna</i>	-	-	<i>Gulmabhedana, Sangrahi, Amlatanasha, Lekhna, Netraroga-nashaka</i>

Synonyms of Shankha:

[Table no. 4]

S.N.	Synonyms	D.N. ²¹	B.P.N. ²²	R.N. ²³
1.	<i>Shankha</i>	+	+	+
2.	<i>Kambu</i>	+	+	+
3.	<i>Pavan-Dhvani</i>	-	+	+
4.	<i>Antar-Mahanada</i>	-	-	+
5.	<i>Susvara</i>	+	-	+
6.	<i>Bahunada</i>	-	-	+
7.	<i>Dhavala</i>	+	-	+
8.	<i>Arnobhava</i>	-	-	+
9.	<i>Jalaja</i>	-	-	+
10.	<i>Kutula</i>	-	-	+
11.	<i>Sunadaka</i>	-	-	+
12.	<i>Dirghanade</i>	+	-	+
13.	<i>Haripriya</i>	-	-	+
14.	<i>Mangalaprada</i>	-	-	+
15.	<i>Samudraja</i>	-	+	-
16.	<i>Sunad</i>	-	+	-
17.	<i>Varibhava</i>	+	-	-
18.	<i>Jajada</i>	+	-	-
19.	<i>Dirgnishvana</i>	+	-	-
20.	<i>Shrivibhushana</i>	+	-	-

Major Chemical Constituents of Shankha²⁴

- It consists of about 95% calcium carbonate and 5% organic matter.

Procedure for Shodhana of Shankha

1. The drug is taken and weight properly on the weighing balance.
2. Prepare the *Pottali* of *Shankha*.
3. Then fill the vessel with *Nimbu Swarasa*.

4. Then hanging the *Pottali* in the *Swarasa* of *Nimbu*
5. Then turn on the gas stove in moderate flame for three hours.
6. Then check the Temperature after every half hour and record it.
7. If the *Nimbu Swarasa* is less in process then add more *Nimbu Swarasa* in the vessel.
8. After complete the three hours then stop the process, cool down it and then wash with warm water then dry in sun rays or hot air oven.
9. Then after drying keep in well close container for next process.

Precautions during procedure: -

1. The equipment must be neat and clean before use.
2. *Pottali* must be tied with thread in well form.
3. *Pottali* must be placed in the centre of the vessel not touch any part of them.
4. Heat must be in moderate.
5. The purified *Shankha* must be kept in well closed container.

Preparation of Shankha Bhasma

The *Shankha Bhasma* is prepared by using water, *Nimbu Swarasa* as a *Bhavana Dravya*.

Procedure (Bhavana Dravya Water): -

1. Take the *Sudha Shankha* and kept in *Sarava* then seal it by *Kapad Mitti* and kept it in sun rays or hot air oven for drying.
2. After complete drying, give *Gajaputa*.
3. After *Sarwangsheetsikarana*, take out the *Shankha* from the *Saravasamputa* and give the *Bhavana* with water.
4. After showing the *Subhabhit Lakshana*, stop the bhavana process and made the *Chacrika* in shape of *Kupilu* seed and dry it.
5. Then keep the dry *Chacrika* in *Sarava* and seal with *Kapad Mitti* and dry it.
6. After proper drying give again *Gajaputa Samanskara*.
7. When complete the puta *Samanskara* after *Sarwangsheetsikara* take out the *Chacrika* and triturate it, collect the white *Shankha Bhasma* weighing it and keep in well close container for therapeutic uses repeat this procedure for the same two samples with water *Bhavana Dravya*.

Total time consumed for bhavana: - Three hour

Marana of Shankha

Marana is a process by which, raw materials like metals, minerals, and gems etc. are converted into a microfine, tasteless, non-hazardous, acceptable and absorbable form, which can be used as a medicine. Literary meaning of Marana is to destroy the natural form of anything. Here, in process of Marana by means of heating and other organic and inorganic substances are converting the raw materials into form of Bhasma.

Stages Adopted for Shankha

Sodhana → *Marana (1st Puta)* → *Bhavana (Nimbu Swarasa)* → *Chacrika Nirmana* → *Marana (2nd Puta)* → *Bhasma of Shankha*

Shankha Pariksha

Bhasma Pariksha is having its role in *Marana* Procedure. The alteration of the qualities of the substances after *Marana* is measured by some parameters through *Bhasma Pariksha*. These are:

- *Varitaratwa*
- *Rekhapurnatwa*
- *Gatarasatwa*

- Shlakshnatwa
- Sukshmatwa
- Mridutwa

Shankha Bhasma adjuvant as per disease

S. N.	Disease	Anupana
1.	Atisara/Grahani	Nimbu Swarasa
2.	Agnimandya	Trikatu Churna
3.	Amlapitta	Amalaki
4.	Guilma	Trikatu/Yavaskhar
5.	Sannipataja Shool	Trikatu, Hingu & Sandhav
6.	Parinam Shool	Panchlavana, Gudd, Trikatu
7.	Swasa	Bharangi

Dosage

- ✓ 250-500mg twice a day with Anupana of Honey, Lemon Juice, Triphala Kashaya etc.

References

- <https://en.wikipedia.org/wiki/Conch>
- Palbag, S.; Pal, K.; Saha, D.; Nandi, M.K.; De, B.K.; Gautam, D.N.S. Pharmaceutics, Ethnopharmacology, Chemistry and Pharmacology of Ayurvedic marine drugs: A review. Int. J. Res. Ayurveda Pharm. **2013**, *4*, 437–442.
- Acharya, Y.T. Siddha Yoga Sangrah, 13th ed.; Shree Baidyanath Ayurved Bhavan Limited: Ilahabad, India, 2007; p. 158.
- Vaishya, S. Rasayana Saar, 7th ed.; Chowkhamba Krishnadas Academy: Varanasi, India, 2005; Volume 1, p. 328, ISBN 81-218-0169-9.
- Dhanwantri Nighantu, Hindi-Guna-Karmatmaka Tippi Sahita, editor & commentator Prof. Dr. Jharkhande Ojha & Dr. Umapati Mishra, Chandanaditriyo Varga, edition 2018, Chaukhmba Surbharati Prakashan, Varanasi, p-161.
- <https://en.wikipedia.org/wiki/Shankha>
- https://en.wikipedia.org/wiki/Dakshinavarti_Shankh
- <https://en.wikipedia.org/wiki/Shankha#:~:text=Its%20colour%20is%20dull%2C%20and,is%20the%20most%20sought%20after.>
- Dhanwantri Nighantu, Hindi-Guna-Karmatmaka Tippi Sahita, editor & commentator Prof. Dr. Jharkhande Ojha & Dr. Umapati Mishra, Chandanaditriyo Varga, edition 2018, Chaukhmba Surbharati Prakashan, Varanasi, p-161.
- Raja Nighantu, Sri Narhari Pandit, English Translation with Critical commentary, by Dr. Satish Chandra Sankhyadhar, compiled & completed by Dr. Deepika Sankhyadhar, forward by Prof. K.C. Chunekar, reprint edition 2017, Suvarnadi Varga, Chaukhamba Orientalia, Varanasi, p-750.
- Priya Nighantu, Alongwith the author's Hindi commentary entitled 'PADMA' by Prof. Priya Vrat Sharma, *Kasturyadi Varga*, edition 2018, Chaukhamba Surbharati Prakashan, Varanasi, p-146.
- Bhavaprakash Nighantu, of Sri Bhava Mishra including Bhavprakash Nighantu Protion, edited with the 'Vidyotini' Hindi Commentary Notes and Appendix, by Sri Brahmasankara Misra and Sri Rupalaji Vaisya, first part, *Dhatvadi Varga*, edition 2018, Chaukhamba Sanskrit Bhawan, Varanasi, p-776.
- Dhanwantri Nighantu, Hindi-Guna-Karmatmaka Tippi Sahita, editor & commentator Prof. Dr. Jharkhande Ojha & Dr. Umapati Mishra, Chandanaditriyo Varga, edition 2018, Chaukhmba Surbharati Prakashan, Varanasi, p-160.
- Vanoshadhi Chandrody, encyclopaedia of Indian Botanis & Herbs, writer Sri Chandraraja Bhandari 'Visharad', volume 2, Chaukhamba Sanskrit Sansthana, Varanasi, p-57.
- https://www.researchgate.net/publication/344123131_PHYSICO-CHEMICAL_EVALUATION_OF_S_HANKHA_BHASMA_A_CALCIIUM-ENRICHED_AYURVEDIC_PREPARATION_-_WORLD_JOURNAL_OF_PHARMACOLOGICAL_RESEARCH_AND_TECHNOLOGY_WJPR
- Dhanwantri Nighantu, Hindi-Guna-Karmatmaka Tippi Sahita, editor & commentator Prof. Dr. Jharkhande Ojha & Dr. Umapati Mishra, Chandanaditriyo Varga, edition 2018, Chaukhmba Surbharati Prakashan, Varanasi, p-161.

17. Dhanwantri Nighantu, Hindi-Guna-Karmatmaka Tippanti Sahita, editor & commentator Prof. Dr. Jharkhande Ojha & Dr. Umapati Mishra, Chandanaditrityo Varga, edition 2018, Chaukhamba Surbharati Prakashan, Varanasi, p-161.
18. Bhavaprakash Nighantu, of Sri Bhava Mishra including Bhavaprakash Nighantu Protion, edited with the 'Vidyotini' Hindi Commentary Notes and Appendix, by Sri Brahmasankara Misra and Sri Rupalalji Vaisya, first part, *Dhatvadi Varga*, edition 2018, Chaukhamba Sanskrit Bhawan, Varanasi, p-776.
19. Raja Nighantu, Sri Narhari Pandit, English Translation with Critical commentary, by Dr. Satish Chandra Sankhyadhar, compiled & completed by Dr. Deepika Sankhyadhar, forward by Prof. K.C. Chunekar, reprint edition 2017, Suvarnadi Varga, Chaukhamba Orientalia, Varanasi, p-750.
20. Priya Nighantu, Alongwith the author's Hindi commentary entitled 'PADMA' by Prof. Priya Vrat Sharma, *Kasturyadi Varga*, edition 2018, Chaukhamba Surbharati Prakashan, Varanasi, p-146.
21. Dhanwantri Nighantu, Hindi-Guna-Karmatmaka Tippanti Sahita, editor & commentator Prof. Dr. Jharkhande Ojha & Dr. Umapati Mishra, Chandanaditrityo Varga, edition 2018, Chaukhamba Surbharati Prakashan, Varanasi, p-161.
22. Bhavaprakash Nighantu, of Sri Bhava Mishra including Bhavaprakash Nighantu Protion, edited with the 'Vidyotini' Hindi Commentary Notes and Appendix, by Sri Brahmasankara Misra and Sri Rupalalji Vaisya, first part, *Dhatvadi Varga*, edition 2018, Chaukhamba Sanskrit Bhawan, Varanasi, p-776.
23. Raja Nighantu, Sri Narhari Pandit, English Translation with Critical commentary, by Dr. Satish Chandra Sankhyadhar, compiled & completed by Dr. Deepika Sankhyadhar, forward by Prof. K.C. Chunekar, reprint edition 2017, Suvarnadi Varga, Chaukhamba Orientalia, Varanasi, p-750.
24. <https://en.wikipedia.org/wiki/Conch>

