

VARIETIES IN *SHANKHA VATI* - AN *AYURVEDIC* CLASSICAL FORMULATION FOR GIT DISORDERS

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Abstract

Shankha Vati is a popular classical Ayurvedic formulation, used widely in conditions such as hyperacidity, abdominal pain due to digestive impairment, acid peptic disorder, mal-absorption syndrome, hemorrhoids and constipation etc. In this article, a detailed literary search has been done across various *Ayurvedic* texts and compiled different *Shankha Vati* with their ingredients, their proportions and attributes. 15 varieties of *Shankha Vati* were found available across different *Ayurveda* texts. *Shankha bhasma*, *Hingu*, *Vatsanabha*, *Trikatu*, *Kshara* and *Lavana* are the ingredients common to most varieties of *Shankha Vati*.

Key Words: *Kshara*, *Lavana*, *Vatsanabha*, *Shankha Bhasma*, *Shula*, *Ajeerna*, *Agnimandhya*

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Introduction

Shankha Vati, known for its effective digestive action has a mention in many Ayurvedic texts. There are many varieties of *Shankha Vati* based upon type and proportion of ingredients and drugs of *bhavana* (impregnation). Texts like *Rasa Yoga Sagara*, *Bharata Bhaishajya Ratnakara* and *Rasa Kamadhenu* have compiled various *Shankha Vati* formulations from different classics, however the list is incomplete. Hence a fresh attempt is made and all important *Ayurvedic* classics were screened for collecting comprehensive information on this formulation.

Shankha Vati 1 :

Ayurvedic Formulary of India (AFI) has included *Shankha Vati* in the part II and considered it under *vati kalpanas*. Reference was taken from *Bhaishajya Ratnavali* (BR 19th century AD) *Agnimandya Rogadhikara*¹ and the same formulation is found in earlier book *Rasendra Cintamani* (RCi 15th -16th century AD).²

This *Shankha vati* is indicated in *Agnimandya*, *Grahani*, *Arocaka*, *Paktishula*, and *Kshaya*. There were no specific classical descriptions found about the dose of this formulation. In some other *Shankha vati*, the size of vati advised to be measurement of *Badarasthi* (seed of *Zizyphus jujuba* Lamk.). AFI suggests the dose of

Shankha Vati as 250 – 500mg and *anupana* (vehicle) as honey, warm water or butter milk.

Shankha Vati 2:

Reference: *Basavarajeeyam* (BSR)³.

In the formulation, seven *bhavanas* of sour media is advised. This *Shankha vati* is advised to be taken in quantity of 1 *Gunja* (125mg) and is good digestive and carminative. It nullifies all varieties of *Ajeerna*, *Visuchi*, *Shula* and *Anaha*.

Shankha Vati 3:

The text, *Bhavapraksha* (BP 16th century AD) has mentioned a *Shankha Vati* in the chapter '*Jataragni vikara Chikitsa*'.⁴

The formulation is to be made into Vati of *Badarasthi* (seed of *Zizyphus jujuba* Lamk.) measurement and is indicated in all types of *Ajeerna*, *Udara*, *Shula*, *Visuchika* and *Gulma*.

Shankha Vati 4:

Almost similar formulation is seen in *Yogaratanakara* (YR) and is quoted in the *Ajeerna Chikitsa*.⁵

Seven *bhavanas* of sour media is prescribed in this formulation too. The indication and dosage are exactly same as that of *Shankha Vati* 2.

Shankha Vati 5:

Yogaratanakara has mentioned another *Shankha Vati* which has the similar ingredients of *Shankha vati 1*, but with different proportions of ingredients. In this, vati of *Badarasthi* measurement are to be made. This *Shankha Vati* is indicated in all types of *Shula*, *Ajeerna*, *Gulma*, *Atisara* and specially *Grahani*.⁶

Shankha Vati 6:

Rasendra Sara Sangraha (RSS 16th century AD) has given a *Shankha Vati*, termed as *Brahat (Maha) Shankha Vati* by the commentators, in the chapter meant for treatment of *Ajeerna*.⁷

The author gives a special instruction that *bhavana* with *Amla dravya* is to be given specially till the contents become sour. It indicates that additional quantity sour media is permissible for *bhavana* here. *Bhaishajya Ratnavali* has also mentioned the same formulation *Shankha Vati* and terms that if it is taken with *loha bhasma* and *Vanga bhasma*, it is called *Maha Shankha Vati*. It is also advised to take it at early morning (*prabhata*) with the *anupana* of hot water. Indications include *Bhasmaka*, all types of *Ajeerna*, *Jwara*, *Gulma*, *Pandu*, *Kusta*, *Shoola*, *Prameha*, *Vatarakta*, *shotha*, *Arshas*, *Nidra*, *Alasya*, *Arochaka* and specially in *Vaktrasrava*, *Shotha* and *Arsha*. It is also attributed that it kindles digestions instantaneously and even one takes very heavy food and takes this vati at the end, there will be desire for food again sooner.

Shankha Vati 7:

Rasendra Sara Sangraha has another *Shankha Vati*⁷ in the same chapter and it also contains almost same ingredients of *Shankha Vati 1*, with different proportion while as alkali component, *Sarja Kshara* is used.

The indications are *Grihani*, *Amlapitta*, *Shoola*, *Agnimandhyaja roga*, *Amadosha*.

Shankha Vati 8:

*Rasendra Sara Sangraha*⁷ has given one more *Shankha Vati* in the same chapter. This is indicated in *Shula*, *Kasa*, *Shwasa*, *Kshyaya*, *Mandagni*, *Vatavyadhi*, *Meha*, *Udara*, *Trishna*, *Krimi*. *Bhaishajya Ratnavali* has mentioned similar kind of verses of a *Shankha Vati*, with some variations in ingredients and proportions which has been mentioned later in the article.

Shankha Vati 9:

Reference: *Rasa Yoga Sagara* (RYS).⁸ There is no mention of *bhavana* media in the *Shankha Vati*, however based on previous *Shankha Vati* mentioned the same book, *Nimbu swarasa* may be taken. Indications are same as that in *Shankha Vati 8*.

Shankha Vati 10:

Rasa yoga sagara has mentioned this *Shankha Vati*.⁸ The size of vati should be *badarasthi* measurement and it is indicated in *Shula*, *Adhmana*, and *Visuchika*.

Shankha Vati 11:

Rasa yoga sagara has given another *Shankha Vati*,⁸ mentioned to be originally from *Vaidyaka Chintamani and Chikitsa Sara*. This *Shankha Vati* is indicated in indicated in all types of *Gulma*, *Shula*, *Ajeerna*, *Visuchika* and *Mandagni*.

Shankha Vati 12 :

This is from *Rasa yoga sagara*.⁸ It is indicated in *Ajeerna*, *Shula*, *Mandagni*, *Arochaka* and *Mootrakruccha*.

Shankha Vati 13:

Ref: *Rasa Yoga sagara*.⁸ This *Shankha vati* contains maximum number of ingredients among all *Shankha Vati*. It is indicated in *Ajeerna*, *Sarva Shoola*, *Visoochika* and vati of 1 *masha* (1g) should be prepared.

Shankha Vati 14 :

Ref : *Rasa Yoga Sagara*.⁸ This *Shankha Vati* is indicated in *Shula*, *Arsha*, *grihani*, *Gulma*, *Udavarta*, *Hrudgraha*, *Anaha*, *Asteela*. It also increases *Kanti* and *Veerya*.

Shankha Vati 15

This is *Maha Shankha Vati* mentioned in *Bhaishajya Ratnavali*.¹ It has to be taken with *amla Dadima* (*Punica granatum* Linn.) *swarsa* , *Nimbu Swarasa*, *Takra*, *Mastu* , *Sura*, *Seedhu*, *Kanji*, *Ushnajala* or *Mamsarasa*. The ideal time to take it is advised to early morning before any food. It is indicated in *Arsha*, *Grihani*, *Kusta*, *Meha*, *Bhagandara*, *Pleeha*, *Ashmari*, *Krimi*, *Hrudroga*, *Pandu roga*, and *Udara*. Commentator has advised the dose of 250mg.

Various ingredients of *Shankha Vati* as per different references with their classically mentioned proportions (in parts) are depicted in Table 1.

Table 1: Different ingredients of *Shankha Vati* with their proportions as per different references

Ingredients	Botanical / English names of source drug	References with Proportion (in parts) of Ingredients														
		1 RC	2 BS R	3 BP	4 YR	5 YR	6 RS S	7 RS S	8 RS S	9 RY S	10 RY S	11 R YS	12 RY S	13 RY S	14 R YS	15 RY S
Shankha Bhasma	Conch Shell	16	8	12	2	10	1	12	4	4	4	4	8	4	5	2
Shuddha Hingu	Ferula fietida Regel.	16		3	2	4	1	10	1	1	4	1	2	2	4	1
Shunti	Zingiber officinale Roxb.	16		4	2	4	0.33	10		1	1.33		3	12	4	1
Maricha	Piper longum Linn.	16		4	2	4	0.33	12		1	1.33		3	8	12	1
Pippali	Piper longum Linn.	16		4	2	4	0.33	10		1	1.33		3	4	12	1
Chincha khsara	Tamarindus indica Linn.	16	8	12	8	5	1		4	4	20	2	4	1		1
Shuddha Parada	Mercury	1		1	1	0.5	1	3	1	1	1		2	1	1	1
Shuddha Gandhaka	Sulphur	1		1	1	0.5	1	3	1	1	1		2	1	1	1
Shuddha Vatsanabha	Aconitum Chasmantum Staff.ex. Holmes	1		1	1	0.5	1	6	1	1	1		2.5	1	2	1
Saindhava	Rock Salt	3.2	1.6	2.4	1.6	1	0.2	10	1	1	4	0.4	4	0.8		1
Samudra	Sea Salt	3.2	1.6	2.4	1.6	1	0.2	10	1	1	4	0.4	4	0.8		1
Vida	Ammonium Salt	3.2	1.6	2.4	1.6	1	0.2	10	1	1	4	0.4	4	0.8		1
Souvarchala	Black Salt	3.2	1.6	2.4	1.6	1	0.2	10	1	1	4	0.4	6	0.8		1
Romaka	Lack Salt	3.2	1.6	2.4	1.6	1	0.2	10	1	1	4	0.4	4	0.8		1
Vacha	Acorus Calamus			3												
Lavanga	Syzygium aromaticum (Linn.) Merrill & Perry		2		2								2			
Haritaki	Terminalia chebula Retz.		0.3		0.3											
Vibhitaki	Terminalia bellirica (Gaertn.) Roxb.		0.3		0.3											
Amalaki	Embica officinalis		0.3		0.3											
Tankana	Borax				1				1					13		1
Yavakshara	Hordeum hexastichum, Linn.								1	1		1		12		1
Sarja Kshara	Sodium Bicarbonate							10	1	1		1		12	5	1
Ashwattha Kshara	Ficus religiosa Linn.		8		8											
Snuhi Kshara	Euphorbia neriifolia, Linn.		8		8							2		1		
Apamarga	Achuranthes aspera Linn.		8		8									1		
Arkas Kshara	Calatropis procera, R. Br.		8		8							2		1		

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Ingredients	Botanical / English names of source drug	References with Proportion (in parts) of Ingredients														
		1 RC i	2 BS R	3 BP	4 YR	5 YR	6 RS S	7 RS S	8 RS S	9 RY S	10 RY S	11 R YS	12 RY S	13 RY S	14 R YS	15 RY S
Kadali Kshara	Musa Paradisiaca, Linn.														1	
Tila Kshara	Sesamum Indicum, Linn.														1	
Palasha Kshara	Butea monosperma (Lamk.) Taub.														1	
Louha Bhasma	Iron								1	1						
Vanga Bhasma	Tin									1						
Pippalimula	Piper longum													2		1
Yavani	Trachyspermum ammi (L.) Sprague													2		
Jatiphala	Myristica fragrans Houtt.													1		
Shuddha Manahshila	Realgar													2		
Jeeraka	Cuminum cyminum Linn.													2		
Chitraka	Plumbago zeylanica, Linn.													2		1
Ajamoda	Apium leptophyllum (Pers.) F.V.M. ex Benth															1
Guduchi	Tinospora cordifolia (Wild) Mers. ex Hk. f. & Th.															1
Dantimula	Baliospermum montanum (Wild) Muell. - Arg.															1
Total Proportions (in parts)		115	53	57	65	37.5	8	126	15	20	55	15	49.5	107	46	23
Bhavana Dravya																
Nimbu Swarasa	Citrus limon (Linn.) Burm. f	QS	QS	QS	QS	QS	QS		QS	QS	QS	QS			QS	QS
Chitraka Moola Kwatha	Plumbago zeylanica, Linn.							QS				QS				
Apamarga Kwatha	Achyranthes aspera,							QS								
Ardraka Swarasa	Zingiber officinale Roxb.											QS				
Bhringaraja Swarasa	Eclipta alba, Hassk.										QS	QS				
Mundi Kwatha	Sphaeranthus indicus Linn.											QS				
Chukra	Rumex vesicarius Linn.													QS		

Discussion and Conclusion

There are totally of 15 *Shankha Vati* found across various classics of Ayurveda. Ingredients like *Shankha Bhasma*, *Hingu*, *Kshara*, *lavana*, *Trikatu*, *Vatsanabha*, *Shuddha Parada* and *Shuddha Gandhaka* are found in majority of the *Shankha Vati*. Various *Kshara* like *Chincha kshara*, *Apamarga Kshara*, *Aswattha Kshara*, *Snuhi Kshara*, *Arka Kshara* are used in different formulations; in some, combinations of these *kshara* are found. *Shankha Bhasma* is found all 15 *Shankha Vati*, *Hingu* in fourteen *Shankha Vati*, and *Chincha Kshara*, *Shuddha Vatsanabha*, *Shuddha Parada* and *Shuddha Gandhaka* in thirteen of them. *Trikatu* is found in twelve *Shankha Vati*. Only one *Shankha vati* doesnot contain any *Lavana*, while two *Shankha vati* contain only *Saindhava* among *Pancha lavana* and remaining all have all *Pancha lavana*.

In a pharmacological study on *Shankha bhasma*, contrary to the expectation *Shankha bhasma* enhanced the gastric acid significantly. Possible rationales behind antacid action suspected in the study were rebound effect, vagal stimulation or effect of histamine. In the clinical study of *Shankha bhasma* and *Shankha bhasma* along with *Amalaki* (*Emlica officinale*) powder, yielded good symptomatic relief in the patients of *Amlapitta*, but *Shankha bhasma* showed better clinical efficacy than the combination of both. *Shankha bhasma* alone was found to be a non-systemic type of antacid. Its acid neutralizing capacity, speed of antacid action and prolonged buffering action were excellent as compared to its combination with *Amalaki* powder.⁹ In another research, *Shankha bhasma* caused significant reduction in ulcer index in both the indomethacine and cold resistant models. Thiobarbituric acid reacting substances (TBARS) of stomach in the indomethacine treated rats were also reduced by *Shankha bhasma*, but serum calcium level was not altered.¹⁰ Classically, *Shankha Bhasma* is *Sheeta Veerya*, alkaline in nature, *Balya*, *Grahi*, *Varnya* and is indicated in *Amlapitta*, *Agnimandhya*, *Grahani*, *Parinama Shula*, and *Mukha Dhushika*.¹¹ *Hingu* is a good digestive and appetizer. It pacifies *Vata* and *Kapha*, and diseases like *Shula*, *Gulma*, *Udara*, *Anaha* and *Krimi*.¹² New pharmacological studies have almost confirmed the traditional uses of *asafoetida* as an antihelminthic, antispasmodic and antibacterial agent.¹³ *Chincha Kshara* can subside the conditions like *Agnimandhya*, *Gulma*, *Shula*, *Mutrakrucchra* and *Ashmari*.¹⁴ *Kshara* due to their alkaline property could act as antacid, and

are possessed with good digestive and laxation property. *Lavana* are also good digestives and known to increase bowel movement.

Ginger was found to increase the bile acid secretion in rats. The addition of *Trikatu* or its individual ingredients to a variety of Ayurvedic formulations was so that it could act as bioavailability enhancer, thus increasing the efficacy of the co-administered medicaments: this action results mainly due to the presence of piperine, the active principle of peppers.¹⁵ Mercury is known as a *Yogavahi* (that which increases the potency of drug with which it is processed) in *Ayurveda*¹² and sulphur is its usual co-ingredient; considered to be helpful in safer use of mercury in therapeutics by forming the sulphide of mercury which is far safer compound of mercury. *Vatsanabha* is also known be possessing properties like *Yogavahi*, and *Vyavayi* (spreading all over the body before digestion) properties.¹² Thus majorities of the ingredients of *Shankha vati* have an independent action on gastro intestinal tract and some of ingredients have role in increasing the bioavailability of the formulation.

Shankha Vati is known for its effective digestive action. The major area of action of *Shankha Vati* is gastro intestinal tract. The indications range from indigestion to haemorrhoids and include malabsorption syndrome, gastropeptic ulcers, abdominal tumour, hyperacidity, constipation etc. *Shula* is most common indication found among all *Shankha Vati*, and *Agnimandhya*, *Ajeerna*, *Grahani*, *Gulma*, *Arochaka* and *Udara* are found indicated in majority of the *Shankha vati*. *Shankha Vati 6* which has additional *Bhavana dravya* of *Chitraka mula kwatha* and *Apamarga Kwatha* compared to *Shankha Vati 1*, is indicated variety of other diseases like *Jwara*, *Pandu*, *Kusta*, *Vatarakta*, *Shotha*, *Prameha*, *Arsha* and *Atinidra* etc. *Apamarga* is *teekshna*, *Sara*, *Deepana*, *Rochana*, and subside the conditions like *Chardi*, *Arsha*, *Kandu*, *Shula* and *Udara* while *Chitraka* is also *Pachana*, *Ruksha*, *Ushna*, and pacify the conditions like *Grahani*, *Kushta*, *Shotha*, *Arsha* and *Krimi*.¹² Due to these qualities, removal *Kleda* from the body could be facilitated by them. This *Shankha Vati* may be helpful in *Vatarakta* of *Kapha* predominance. *Shankha Vati 8* and *9* are indicated also in *Shwasa Kasa*, *Vatavyadhi*, *Trishna* and *Krimi*. Both of these formulations contain *Loha Bhasma*, and *Yavakshara* and *Sarjakshara* as *Kshara* component. *Loha bhasma* is a good *Balya*, *Vrushya*, *Deepana*, *Shwasakasahara*, *Kshayahara* and *Krimihara*.¹¹ Both

Yavakshara and *Sarjakshara* are *Kapha vatahara* and *Kasa shwasahara*. *Shankha Vati* 12 which uniquely indicated in *Mutrakrucchra* contains same ingredients of *Shankha Vati* 1, but with different proportions; *Chincha Kshara* and *Souvarchala lavana* are in larger quantities. *Chincha Kshara* is indicated in *Mutrashmtari* and *Souvarchala lavana* is *bhedana*, *Vishada*, *Vatanulomaka* and indicated in *Anaha*, *Vibandha* and *Gulma*.¹¹ These qualities of drugs could have potential role in *Mutrakrucchra* indication of this *Shankha vati*. *Shankha Vati* 15 has some of the uncommon indications like *Bhagandara*, *Pandu*, *Pleeha*, *Kushta*, *Prameha*, *Kasa Shwasa*, *Trishna*, *Vibandha*, and *Hrudroga*. This formulation has uncommon ingredients like *Dantimula*, *Chitrakamula*, *Ajamoda Chuna*, *Yavakshara* and *Sarjakshara*. *Dantimula* is known *Rechaka* drug and is a good *Vibandhaghna*. Other conditions are due to predominance of *Kleda* and *Dantimula*, *Chitraka mula* could help majorly in the removal of *kleda*. *Trishna* caused due to *Amavastha* could be condition referred here.

The author of *Rasa Tantra Sara va Siddha Prayoga Sangraha* has given some of the clinical opinions on this, pointing to *Shankha vati* 1. On taking heavy food, heaviness of abdomen or pain is felt, *Shankha vati* is ideal to deal this condition. *Shankha vati* helps in movement of food in the gut. It is also good in condition of distension of abdomen caused due to the partially digested food settled in small intestine and large intestine. He also opines that the drug is not much effective in severe case of *Grahani*, but effective in condition of initial stages with decreased digestive power and indigestion and even severe *Grahani* with *Kapha* predominant symptoms along with pain. *Shankha vati* acts well on *Vata*, *Vata Kapha dosha*, *Dushya* as *Rasa* and in sites like stomach, liver, spleen, duodenum, small intestine and large intestine. The author also cautions that on excessive intake *Shankha vati*, there can be adverse symptoms like *Mukha paka*, *Danta Shula*, *Arsha* or bleeding per rectum.¹⁶ Over dose effect of *Aconitum* containing Ayurvedic preparation *Mahashankhavati* was reported recently.¹⁷ Administration of *Shankha vati* in proper dose and proper *Shodhana* (purification) of *Aconitum* during the pharmaceutical preparation of *Shankha vati* are expected to ensure the safe use of this formulation. However, to enhance the safety profile and reduce the apprehension due to the presence of *Aconitum* in the formulation, *Tankana* which is known antidote of

aconite^{18, 19} may be considered to use as an additional ingredient. With this hypothesis, a preclinical safety study of *Shankha vati* 1 added with *Tankana* (borax) in comparison with *Shankha vati* 1 (which does not contain *Tankana*) is taken up in the department of Rasashastra and Bhaishajya Kalpana, IPGT&RA, GAU, Jamnagar recently.

There is only few research works found reported on this formulation; those too are studies at post graduate level.²⁰ The work by Nayak Dinesh J *et al.* (2003) carried out at Manipal concludes that *Shanka vati* is effective in *amlapitta*. There was highly significant relief in the cardinal features like *Avipaka*, *Amlodgara*, and *Kantadaha*. Overall effect of the therapy showed that there is a marked improvement in the symptoms among 41.18% of patients and moderate improvement among 52.94% of patients. An increase of 1.6% in serum calcium level was observed among treated patients which was significant at $P < 0.05$.²¹ Chaturvedi K DV *et al.* (1996) Muzaffarpur, Bihar revalidated action on *udara shula*.²² A study on effect of *Shankha vati* on *Ajeerna* is also reported at Pune and a comparative study on spasmolytic activity of *Shankha Bhasma* and *Shankha vati* on smooth muscles of isolated mammalian intestine is reported to be in progress at RHUHS, Bengaluru. Revalidation of action of *Shankha Vati* on other indications remains the thrust area of research for evidence based *Ayurveda*.

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