



Review Article

OVERVIEW ON *DRAVAKA KALPANA* W.S.R. TO *SHANKHA DRAVAKA*

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ABSTRACT

Rasashastra is the Iatrochemistry of Ayurveda which deals with formulations containing herbals, minerals and metals. Various *Kalpanas* are mentioned in *Rasashastra* such as *Pottali Kalpana, Kharaliya Kalpana, Parpati Kalpana. Dravaka Kalpana* is one among them which is made out of predominately "*Lavana- Kshara*" *Dravyas*. *Dravaka Kalpana* is a liquid dosage form that is prepared either by using *Agni* or without the use of *Agni*. *Shankha Dravaka* is one such *Dravaka Kalpana* that is mentioned in the different classical texts. It is indicated in various diseases such as *Gulma* (abdominal lump), *Shoola* (pain), *Yakrit Dosh* (disorders of the Liver), *Pliha* (splenic disorders), *Ashmari* (calculus) etc. It is used in less dosage by diluting with water. Different Acharyas have mentioned different methods of its preparation. This article compiles review of Ayurvedic literature on *Shankha Dravaka*. This literature review is carried out to create the base for undertaking future research work because without research efficacy, the utility cannot be established.

INTRODUCTION

Dravakas are unique preparation of *Lavana & Ksharas* by *Tiryakpatana* (distillation apparatus) process with or without any addition of fluids [1]. *Dravakas* are used in less quantity and give higher curative attributes. The reference to the *Drava* was first found in *Rudramalaya Tantra* as *Agni Drava* prepared by using *Amla Rasa Dravyas* (sour liquids) [2]. The word "*Dravaka*" means the one that causes to liquefy or melt [3]. The main characteristic of *Dravaka Kalpana* is that they do not deteriorate by lapse of time [1]. There are more than 40 *Dravaka Kalpana* mentioned in the different classical texts. *Shankha Dravaka* is one among those with various curative attributes such as *Yakrit dosha* (disorders of the liver), *Pliha* (splenic disorders), *Shoola* (pain), *Udara Roga* (disease of the abdomen) etc.

Dravaka Kalpana: *Dravaka Kalpana* is acidic preparation that is highly potent, absorbs quickly and may have higher bioavailability.

There are two methods of preparation of *Dravaka Kalpana* i.e., *Agni* (with heat) and *Niragni* (without heat). In the *Agni* method, *Dravaka* is prepared by using distillation apparatus. The ingredients are taken into the distillation apparatus and subjected to heat. Ex. *Shankha Dravaka, Maha Dravaka*, etc. Most of the *Dravakas* are prepared using distillation apparatus like *Maha Dravaka, Lavana Dravaka, Shora Dravaka, Lavana Drava, Navasadara Bhashpa Drava* etc. In the *Niragni* method, *Dravaka* is prepared without employing heat. In this method the ingredients are mixed with the *Drava Dravyas*, once it dissolves it is kept for some time till it settles down and then the supernatant fluid is decanted and used eg., *Jambeera Dravaka, Nimbu Drava* etc. It can also be categorized as *Sandra* (concentrated) and *Sarala* (diluted)[4]. The one that is concentrated is called as *Sandra* and the diluted one is *Sarala* such as *Lavana Drava* and *Sajala Lavana Drava*. It is used for external and internal use such as *Tuttha Dravaka* is used in the cleaning of syphilitic wounds[5], *Tankanamla Darva* is used in *Shweta Pradara, Karnasrava, Netra Abhishyanda*[6], *Nayanamrita Drava* for various *Netrarogas* [7] etc.

Shankha Dravaka: *Shankha Dravaka* is a distilled preparation, mainly made up of *Lavana* and *Kshara Dravyas*. It is indicated in various diseases such as *Kasa, Shwasa, Ajirna, Grahani, Udara Roga, Gulma, Aruchi, Agnimandya, Pliha Vridhi, Krimi Roga, Ashmari, Mutrakricha, Mutraghata, Pandu, Aamvata, Kushtha,*

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Pakshaghata, Vataj Roga, Shoola, Shosha, Kapha Roga etc. *Shankha Dravaka* dissolves *Shankhadi Sudha Varga Dravyas* when soaked in it. It is consumed in less quantity by diluting with water and its contact with teeth should be avoided as it can deteriorate the teeth. Acharyas have mentioned different preparation

methods for *Shankha Dravaka*. In *Rasa Tarangini*, on the basis of the preparation method, *Shankha Dravaka* is classified as *Sajala Shankha Dravaka* (prepared with the addition of water) and *Nirjala Shankha Dravaka* (prepared without the addition of water).

S.No.	Classical text	Method of Preparation	Therapeutic Uses
1.	<i>Bhaishajya Ratnavali</i> and AFI [8] [9]	1st method: <i>Arka Kshara, Snuhi Kshara, Chinch Kshara, Tila Kshara, Aaragvadh Kshara, Citraka Kshara, Apamarga Kshara</i> are well mixed with <i>Yava kshara, Svarjika Kshara, Tankana, Samudraphena, Godanti, Kasis, Soraka, Saindhav Lavana, Vida Lavana, Samudra Lavana, Sauvarchala Lavana, Audbhida Lavana</i> and then immersed in a glass or porcelain vessel containing <i>Matulunga Rasa</i> . After 7 days, <i>Shankha Churna</i> is added and put in <i>Varuni Yantra</i> to extract the <i>Dravaka</i> . 2nd method: <i>Shankha Bhasma, Yava kshara, Svarjika kshara, Tankana, Saindhav Lavana, Vida Lavana, Samudra Lavana, Sauvarchala Lavana, Audbhida Lavana, Shudha Sphatika, Navasagara</i> , take every drug in equal amount and make powder. Then put them in <i>Varuni Yantra</i> to obtain the <i>Dravaka</i> .	<i>Udara Roga, Shoola, Aadhmana, Yakrit Roga, Pliha Roga</i> Dosage- 5 drops <i>Anupana</i> - Water <i>Arsha, Mutrakriccha, Ashmari, Udara Roga, Gulma, Plihodara, Ajirna, Grahani Roga, Visuchika</i>
2.	<i>Rasa Tarangini</i> [10] [11] [12] 1 st and 2 nd method- <i>Nirjala Shankha Dravaka</i> 3 rd method: <i>Sajala Shankha Dravaka</i>	1st method: <i>Shankha Churna, Tankana, Sphatika, Yava kshara, Svarjika kshara, Navasagara</i> and five <i>Lavana</i> , take their powder in equal amounts and fill this powder up to half of the glass bottle. Fit one end of the pipe on the mouth of the glass bottle and another end on the mouth of another glass bottle and then subject to heat. Due to its <i>Teekshnatwa</i> , <i>Shankha Dravaka</i> can melt hard substances like <i>Shankha</i> (conch shell), <i>Shukti</i> (oyster shell) etc. which indicates the corrosive capability of <i>Shankha Dravaka</i> . Second method: <i>Sphatika, Saindhav Lavana, Yava Kshara, Navasagara, Soraka</i> and <i>Kasis</i> (same procedure as explained above) Third method: <i>Soraka Drava, Lavana Drava</i> , distilled water and mix them all in a glass bottle.	<i>Agnimandya, Grahani, Visuchika, Udara Roga, Gulma, Pleeha Roga, Arsh Roga, Mutrakriccha</i> Dosage – 1 drop <i>Anupana</i> - water Dosage- 5-10 drops <i>Anupana</i> - water
3.	<i>Rasa Kamadhenu</i> [13]	<i>Arka, Snuhi, Chinch, Apamarga Pipal, Citraka</i> and <i>Tila</i> , their <i>Kshara</i> is made and mixed well with <i>Yava kshara, Svarjika Kshara, Tankana, Hartala, Samudraphena, Godanti, Kasis, Soraka, Saindhav Lavana, Vida Lavana, Samudra Lavana, Sauvarchala Lavana, Audbhida Lavana</i> then immersed in a glass or porcelain vessel containing <i>Matulunga Rasa</i> . After 7 days, <i>Shankha Churna</i> is added and put in <i>Varuni Yantra</i> to extract the <i>Dravaka</i> .	<i>Gulma, Pliha, Udara Roga, Shoola, Ajirna, Mandagni</i> Dosage- 7 to 30 drops <i>Anupana</i> – water
4.	<i>Yoga Ratnakara</i> [14] [15] [16]	1st method: <i>Jambiri Nimbu, Kaknasa Moola, Svarjika Kshara, Sauvarchala Lavana, Saindhav Lavana, Vida Lavana, Navasagara</i> keep them in glass bottle for 14 days under sunlight. 2nd method: <i>Sphatika (1 Pala), Saindhav Lavana (1 Pala), Kasis (1/2 Pala), Yavakshara (2 Pala), Navasagara (2 Pala), and Soraka (4 Pala)</i> , keep them in <i>Damru Yantra</i> and Subject to heat. 3rd method: Same as the second method but <i>Saindhav Lavana</i> is taken in 2 <i>Pala</i> .	<i>Gulma, Udara Roga</i>
5.	<i>Vangasen</i> [17]	<i>Sphatika, Saindhav Lavana, Kasis, Tankana, Yavakshara, Navasagara, Svarjika Kshara</i> and <i>Soraka</i> , their powder (equal amount) is taken in <i>Dravaka yantra</i> to extract <i>Shankha Drava</i>	<i>Gulma, Pliha, Aanah, Udara Roga, Arsh, Bhagandra, Grahani, Vrana</i>
6.	<i>Rasa Sanket</i>	<i>Sphatika, Navasagara</i> and <i>Soraka</i> are taken in equal amounts	<i>Gulma, Udara, Yakrit, Pliha</i>

	<i>Kalika</i> [18]	(powder form) in <i>Kacha Kupi</i> . One end of the pipe is attached to the mouth of <i>Kupi</i> and the other end is attached to another glass bottle, then subjected to heat to extract <i>Dravaka</i> .	<i>Roga, Vidhardi, Shoola, Granthi, Bala and Pushti Vridhi</i> Dosage-8-10 drops
7.	<i>Yoga Chintamani</i> [19]	<i>Sphatika, Navasagara, Yava Kshara and Soraka</i> are taken in equal amounts in <i>Kacha Kupi</i> . One end of the pipe is attached to the mouth of <i>Kupi</i> and the other end is attached to another glass bottle, then subjected to heat to extract <i>Dravaka</i> . Due to its <i>Teekshnatwa</i> , <i>Dravaka</i> can easily melt <i>Shankha</i> (conch shell) in it, So it is known as <i>Shankha Dravaka</i> .	<i>Gulma, Udara, Yakrit, Pliha Roga, Hridroga Grahani, Shoola, Kasa, Shwasa, Aamvata, Agnideepana</i> Dosage-5 to 6 drops <i>Anupana</i> - water
8.	<i>Brihat Nighantu Ratnakara</i> [20]	Five <i>Lavana, Yava Kshara, Svarjika Kshara, Tankana, Kasis, Tuttha, Gandhak, Tila Kshara, Apamarga Kshara, Navasagara, Sphatika</i> are triturated with <i>Nimbu Swarasa</i> and kept in <i>Nalika Yantra</i> and subjected to heat.	<i>Ajirna</i> Dosage- 3-4 drops
9.	<i>Brihat Yoga Tarangini</i> [21]	<i>Chincha Kshara, Pipal Kshara, Snuhi Kshara, Muska Kshara, Apamarga Kshara, Arka Kshara, Yava Kshara, Svarjika Kshara, five Lavana, Hingu, Shudh Hartala, Navasagara, Som Kshara, Godanti Hartala, Makshika, Gandhaka, Samudraphena, Sphatika, Soraka, Vatsnabha, Shankh Churna, Shankh Nabhi Churna, Kasis and Manahshila</i> are taken in equal amount and triturated with <i>Amlavetasa (Garcinia pedunculata)</i> under sunlight. After drying, put it in <i>Varuni Yantra</i> and <i>Dravaka</i> is extracted	<i>Kasa, Shwasa, Ajirna, Grahani, Udara Roga, Gulma, Aruchi, Agnimandya, Pliha Vridhi, Krimi Roga, Ashmari, Mutrakricha, Mutraghata, Pandu, Aamvata, Kushtha, Pakshaghata, Vataj Roga, Shoola, Shosha, Kapha Roga</i> Dosage- 1 to 2 Ratti

Probable Mode of Action

The probable mode of action of *Dravaka* is possible because of the *Ushna Virya, Tikshna Guna, Agni Deepana, Pachana*, and *Shoolagna* properties of its ingredients. *Shankha Dravaka* may be an alkaline preparation as its main ingredients are *Kshara* which is alkaline in nature^[22]. Sodium bicarbonate and Potassium bicarbonate are the main content present in *Svarjika Kshara* and *Yava Kshara* respectively. *Shankha Dravaka* helps in subsiding the *Annadrava Shoola* and *Udara Shoola* due to the presence of potassium bicarbonate and Sodium bicarbonate in *Dravaka*. *Shankha* (calcium carbonate) is the main ingredient in *Shankha Dravaka*. *Shankha* is specially processed with *Amla Dravyas* which facilitates the regulation of stomach pH more efficiently. *Shankha* is well known for its antacid and digestive properties. Calcium salts neutralize gastric acidity, resulting in increased gastric and duodenal bulb pH; they also inhibit pepsin's proteolytic activity if the pH is greater than 4 and increase lower oesophageal sphincter tone. The calcium released from calcium carbonate is known to increase peristalsis in the Oesophagus, pushing the acid into the stomach and providing relief from heartburn symptoms. The calcium salts also form combined insoluble compounds with dietary phosphate and prevent the absorption of the latter^[23].

DISCUSSION

Shankha Dravaka is essence of *Lavana* and *Kshara Dravyas*. *Kshara* is an alkaline substance obtained from the ash of drugs. Most of the *Kshara* are water-soluble inorganic salts of plant drugs; except

Tankana (borax) and *Soraka* (potassium nitrate) which are mineral in origin. *Lavana* are having *Ushna, Tikshna, Anatiguru* and *Anatisnigdha* properties. Due to *Teekshnatwa*, *Shankha Dravaka* can melt hard substances like *Shankha* (conch shell), *Shukti* (oyster shell) etc. Thus it is known as *Shankh Dravaka* indicating its corrosive capability.

In *Udara Roga*, accumulated *Doshas* causes the obstruction of *Sweda* (sweat) and *Ambu* (lymphatic) *Vaha Srotas* and further aggravates *Jataragni, Prana and Aapana Vayu*. Therefore, *Ushna Veerya, Tikshna Guna, Agni Deepana, Pachana* properties of *Shankha Dravaka* help in maintaining the Equilibrium of *Doshas* and treating the *Udara Roga*.

In *Annadrava Shoola* (gastric ulcer) and *Parinama Shoola* (duodenal ulcer), *Vata-Kapha Dosha* are involved which is pacified by *Ushna Virya* of *Shankha Dravaka*.

By *Deepana* of *Agni* and *Pachana* of *Ama*, *Shankha Dravaka* helps in the treatment of *Grahani Roga*.

Acharyas have mentioned different methods of preparation but with the same attributes such as *Udara Roga, Shoola, Aadhmana, Yakrit Roga, Pliha Roga* etc. In *Rasa Tarangini, Sajala* and *Nirjala* method of *Shankha Dravaka* preparation has been mentioned.

CONCLUSION

On the basis of classical data, it is clear that *Shankha Dravaka* is mainly indicated in treating gastrointestinal disorders, but it is rarely used because of the lack of clear classical data as well as the higher

precautions required during its use. Therefore, this is the need for an hour to carry out research on experimental and clinical grounds to further establish its therapeutic utility.

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