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## **Research Article**

### A PHARMACEUTICAL REVIEW OF SWARNAVANGA

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### **ABSTRACT**

Rasashastra is an ancient branch of Ayurveda which is said to be originated by lord Shiva it deals with the making n processing of metallic ashes and their compounds which are then used as medicines for various diseases via internal as well as external administration.

Kupipakva rasayana are one such category of metallic compounds in which the kajjali of metallic ashes are made by triturating it together with other mineral compounds i.e. sulphur, mercury etc. One such compound formulation is Swarnavanga which is used as an anti-diabetic drug, in UTI, Śvāsa(respiratory disorders), Pradara (menorrhagia), and as a Vrsya (aphrodisiac) drug. Although the history of Swarnavanga is not very ancient but still since its origination the pharmaceutical processing in different granthas evolved and a remarkable difference in the processing was noticed during the conceptual study of my thesis work. So here I am making a small effort of compiling different pharmaceutical processes mentioned in Rasa granthas for preparation of Swarnavanga.

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### INTRODUCTION

The pharmaceutical study of a drug is of great importance and when it is in context of the metallic ashes it becomes all the more important as nowadays many questions are being raised upon the therapeutic application of heavy metals compound for treatment of diseases. The review of the pharmaceutical procedure is also an important procedure so as to know that the procedure which has evolved now is for the better of the community or maybe there is some other process, much better then the process followed nowadays. In Rasashastra as it is an ancient science it becomes all the more important as different granthas has mentioned different pharmaceutical proceedings for the production of same drug. Similar is the case of Swarnavanga which has different pharmaceutical proceedings as per different grantha which are brought in light in this paper.

#### History

Swarnavanga does not have a very ancient history, as it seems that it has mainly emerged from the time of Bhaishajya Ratnavali by Govind Das Sen.

Although instead of Swarnavanga it is mentioned as mriganka rasa in Rasa Kaumudi by Acharya Shalivallabha which is more ancient then Bhaishajya Ratnawali. Although in Rasaprakashsudhakara it is also mentioned as a type of Vanga bhasma which was termed as "RasaVanga", and was mentioned to be similar to gold in appearance.

It is mentioned in almost every *rasa-grantha* after *bhaishajyaratnavali* i.e. Rasa *Tarangani, Rasamrita*, *Rasaushadhi Prakash, Bhartiya Rasashastra* & in the *granthas* written in & after 20<sup>th</sup> century.

Although in all the classical texts *Swarnavanga* is mentioned to be made by *Shodhit Parada*, *Shodhit Vanga*, *Shodhit Gandhak*, *Shuddha Navasadar*, but the ratio of these ingredients are mentioned in different ratio in different texts

### **MATERIAL AND METHODS**

Pharmaceutical preparation of different *Rasagranthas* from ancient time upto 20th century were collected and compiled in chronological order.

### Pharmaceutical processing

The processing of *Swarnavanga* can be described under 3 major headings i.e.

- 1. Purva Karma
- 2. Prahana karma
- 3. Paschata karma

### Purvakarma

'Purvakarma' are the procedures which are mandatory to be taken care of before carrying out the main pharmaceutical process. In case of Swarnavanga It includes following points:-

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Table No 1 Pharmaceutical preparation of Swarnavanga as per different Rasagrantha

Book name	Pharmaceutical procedure	Indications	Anupana	Precautions
1.Rasaprakash	The process of making <i>Swarnavanga</i> is, under the heading of 2 <sup>nd</sup> method of making <i>Vanga bhasma</i> . The <i>Vanga bhasma</i> is taken in equal quantity with <i>Rasa-sindoora</i> and triturated together.	No indication for any		Final product obtained was golden in colour
sudhakara <sup>1</sup>	Subjection of <i>paka</i> by filling the mixture in <i>kachkupi</i> and subjecting to continuous <i>paka</i> of 16 yama  All the major 4 ingredient are taken in same quantity.	disease is given.		& was named as Rasavanga.
2.Rasaraj sundara <sup>1</sup>	All the drugs are triturated together. Here a clear indication of not using a dot during <i>paka</i> is mentioned.  Completion of <i>paka pareeksha</i> :- when the smoke stops coming out of the <i>kupi</i> , <i>paka</i> is considered complete.	Prameha	Laghuela churna + madhu	Named as fake Swarnamrigank a as it is similar to Swarna(gold).
3.Rasayanasara <sup>1</sup>	(Mentioned by the name of Swarnamriganka & 8th bheda of Vanga bhasma.) To melt Vanga in mrittikasharava to put shuddha Parada in the above melted Vanga to make pishti. Now triturate the above pishti with nimbuneera and saindhava lavana for 3 prahara. Prakshalana of the above triturated pishti should be done many times( to remove saindhava and nimbuneera) Now by putting shuddha Gandhaka and Navasadara in above prakshalita pishti ,kajjali should be made. This is done by mardana in stone pestel and mortar for 2-3 days(12 hours in each day as 'din' means time) The kupipaka should be done in a bhrashtri containing patthar koela which is ignited by babool wood. It sticks in both neck and base.	Prameha	6 elaichi with 6 masha honey	
4.Rasamrita <sup>1</sup>	Contains shuddha Vanga 12 parts & shuddha Gandhaka, shuddha Parada, and shuddha Navasadara 6 parts. Pishti of Vanga and Parada is made, the pishti should be washed up until the blackish water stops coming. Paka should be done for 4 yama in siktayantra 7 times kapadmittikrit kachakupi should be used. The kupi should be taken out after paka via sandansha yantra smoke stops coming out.	Prameha, puranikhansi and shwasa.	When honey not available syrup of <i>mishri</i> is used.	
5.Kupipakwa rasa Vigyan <sup>1</sup>	By putting melted <i>Vanga</i> in <i>Parada, pishti</i> is made. By triturating in equal quantity of <i>Saindhava</i> and <i>Nimbu swarasa</i> for a whole day and then should be washed from fresh water. This process should be repeated for 10 days. <i>Navasadara</i> should be added after roasting it. Temperature should not exceed 175°C.		Madhu	
6.Rasachandanshu <sup>1</sup>	Most simple description of adding all the four ingredients ( <i>parada</i> , <i>vanga</i> , <i>ganhaka &amp; navsadara</i> ) in equal parts thereby making <i>kajjali</i> . The <i>kajjali</i> is then subjected to <i>kupipaka</i> till the smoke stops coming out of the <i>kupi</i> . No <i>mukha-mudrana</i> of <i>kupi</i> should be done during <i>kupipaka</i> .	Madhumeha, prameha	Madhu and Sukshma ela (cardamom powder)	It was named as 'Maskamrigank' a rasa' by author.
7.Bhaishajya Ratnavali <sup>1</sup>	The molten <i>Vanga</i> is mixed with purified parade in stone mortar and pestel and <i>pishti</i> is made <i>Paka</i> should be done for <i>4 yama</i> A glass bottle of 20 ounce should be used for <i>kupipaka</i> .	Prameha apart from this also used as balya, rasayana, buddhi, smriti, virya, and agnivardhaka.	Madhu and yoganusara different anupana can be given.	
8.Rasa Tarangani <sup>1</sup>	Two pharmaceutical methods are mentioned in this <i>grantha</i> with different ratios of the ingredients as mentioned earlier has mentioned both mixing of <i>Parada</i> into molten <i>shuddha Vanga</i> and also mixing molten <i>shuddha Vanga</i> into <i>shuddha Parada</i> . In the <i>tika</i> by vaidya <i>Kashinath Shastri</i> he has mentioned to give <i>agni</i> for <i>4 prahara</i> although in original text it has said to give again until smoke stops coming out of the <i>kupi</i> . When smoke stops coming out of the <i>kupi</i> should be taken out of the <i>valuka yantra</i> via <i>sandansha yantra</i> and allowed to cool, there by collecting the <i>Swarnavanga</i> in the <i>kupitala</i> .	Prameha, Netraroga Shleshmaamyahara, Medohara.	By using different anupana different roga can be treated.i.e. Shwetapradara: sthulaailachurna, nagakesharakashaya, yashadabhasma. Shukrameha: pathyabhojana/ghritmishrimishritsantanikay uktadugdha. Vranameha: Sheetalajala/sheetalachinich urna, Balaswarasa / haridraswarasa,madhu Nutanaugravegavranameha: shwetasarivashitakashaya Ratrimeha: Shitalachinichurna Shukrataralya: with pathya for 1 masa Shukradaurbalya: Rasa-sindoora and madhu	,

All the A major contents i.e. Parada, Vanga, Gandhaka

9. Siddhabhaishajamanimala <sup>t</sup>	Navsadara, are taken in quantity of 2.5 tola each, and triturated together to make kajjali, which is then filled in the Kachkupi.  This Kachkupi filled with kajjali is then subjected to agni (16 ser coal according to hindi tika) The Swarnabha final product is then collected.	Prameha	No anupana is mentioned.	It was termed as 'Laghu Mriganka' by the author.
10. Ayurveda Sara Samgraha <sup>1</sup>	Shuddha Vanga 2 parts, and Shuddha Gandhaka, Parada, Navasadara and kalmishora 1 parts . Parada and Vanga pishti is made by triturating Parada with molten Vanga, nimbudswarasa and saindhava are added and triturated till black water stops coming, later Shuddha Gandhaka and navsadara and shora are mixed in it and subjected to 4 prahara agni. The kupipaka is stopped when white fumes stop coming.	Prameha, mutramargaroga used in prameha,	Different <i>anupana</i> as per its uses.	
11.AFI PART 1	Although AFI has taken the reference of <i>Rasamrita</i> 395-100 But it has mentioned specifically. <i>Vanga bhasma</i> instead of <i>Shuddha Vanga</i> . It has also mentioned to wash the <i>mishrana</i> of <i>Vanga</i> and <i>Parada</i> till the dark colour is removed. Addition of suryakshara to give bright colour is also mentioned in the text.	Prameha, UTI,swasa kasa.	Butter, honey	

- Samanya shodhana of Vanga
- Vishishta shodhana of Vanga
- Shodhana of Gandhaka
- Shodhana of Parada
- Shodhana( nirmalikarana) of Navasadara
- Making of *Kajjali*
- Making of Kupi.
- Making of Valuka yantra
- Making of Shalaka

#### Pradhana Karma

- Keeping kupi in valuka yantra and subjecting it for paka.
- Kramagni paka should be done, with mridu, madhyama and tikshana paka.
- *Ushna shalaka pareekshana* when required (when the neck of bottle is blocked).
- Shita shalaka pareekshana when required.(in the end)

### Paschata Karma

- Kupi uddharana
- Kupibhedana
- Aushadha sanrakshana (packaging)

The points included in above subheading of *poorvakarmadi* are the main points for the pharmaceutical processing of *Swarnavanga*, of which different points are described in different *rasagranthas*, which are compiled as follows in below table.

# **DISCUSSION**

Following points are clear from the above description:-

- The history of *Swarnavanga* is not very ancient as an individual *Rasa aushadhi*, but its description by the name of a type of *Vanga bhasma* is seen in "*Rasaprakashsudhakara*" the first text which described the *Kupipakwa rasayana*.
- Acharya yashodhara bhatta described it as one of the form of Vanga bhasma later in the verse naming it as "Rasa-Vanga", even the ingredients are different and also the time mentioned is very long as compared to the time mentioned later in other texts where it is described as an individual Kupipakwa rasayana.

This may be because *Acharya yashodhara bhatta* was 1<sup>st</sup> to make it while proceeding for *Vanga bhasma* and as it had therapeutic properties similar to *Vanga bhasma* he described it as a type of *Vanga bhasma*. Also the ingredient used for making it was *Vanga bhasma* and *Rasa-sindoora* which has more thermal threshold then the *Vanga, Gandhaka, Navasadara* and *Parada* they required more time and heating for chemical reaction to occur then the methods described later in the *Rasa granthas* of 19<sup>th</sup> & 20<sup>th</sup> centaury which used *shuddha Vanga, Parada, Navsadara, & Gandhaka* as ingredients for making of *Swarnavanga*.

- It was noticed that even after the origin of Swarnavanga in Rasaprakashsudhakara, it was not very frequently adopted and mentioned by every grantha after it, that is the kupipakwa rasayana like Rasa-sindoora or Rasakarpura which were described by almost all the authors after Yashodhara bhatta in one way or other which might be because it was not used as frequently as & was not as popular Rasa-sindoora and Rasakarpura.
- Later other *granthas* of different regions of *India* explained it by the name of *Mriganka rasa*, *Laghu mriganka rasa* etc, by different *granthas* of 19<sup>th</sup> & 20<sup>th</sup>, by which we can assume at that time it was still not a very well known *Rasayana* and the technique for making it was still evolving, finally *Bhaishajya Ratnavali* which os also a *grantha* of 19<sup>th</sup> centaury described it an indivisual *Kupipakwa rasayana* but also was first to give it name of "*Swarnavanga*", the name with which we know it now.
- R.T a grantha of 20<sup>th</sup> was first to give a brief description of the therapeutic usage of Swarnavanga in various diseases other then Prameha along with their anupana.
- Ayurvedasarasamgraha another book of 20<sup>th</sup> centaury but comparatively later to R.T, has used kalmishora as 5<sup>th</sup> ingredient and that too in amount equal to gandhaka, navsadara etc, this grantha was first to describe the properties i.e. guna of Swarnavanga which were not described before it by any other book, as shitavirya, ruksha sara, tikta, kinchita lavana, & amlarasa yukta, also a very brief therapeutic usage of Swarnavanga is mentioned in this grantha.

AFI-1 the book by the Government of India, is the latest book among all the other mentioned granthas in this paper which has accepted the use of Vanga bhasma instead of Shuddha vanga as per other granthas of 19<sup>th</sup> and 20<sup>th</sup> centuary and also indicated the use of kalmishora but in minute quantity contrary to its usage mentioned in Ayurvedasarasangraha.

### CONCLUSION

A clear difference is seen in the how briefly the pharmaceutical proceedings of *Swarnavanga* are described in different *grantha*. Although the first description was given in *Rasaprakashsudhakara*, a *grantha* of 13<sup>th</sup> centaury it was not seen in any other *grantha* in any form till the *grantha* of 19<sup>th</sup> centaury, in *grantha* of 19<sup>th</sup> & 20<sup>th</sup> centaury too its pharmaceutical proceedings were completely changed from the proceeding mentioned in *Rasaprakashsudhakara*, infact the proceedings were slightly different in every grantha of 19<sup>th</sup> & 20<sup>th</sup> centaury, Which proves that it became popular recently & this lead to its increased demand among *vaidyas* & common people & thus lead to the need in increased pharmaceutical production, this also lead to evolvement of the pharmaceutical proceedings for better yield which was clear in the above description.

Also its therapeutic uses in diseases other then *Prameha* were firstly mentioned in R.T which proves that its therapeutic usage were also evolved later in 20<sup>th</sup> centaury.

This proves that the history of *Swarnavanga* is not very ancient and a research should be done to choose better pharmaceutical procedure among the above mentioned procedures in this era.

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