

A PHARMACEUTICAL STUDY OF GARBHACHINTAMANI RAS

Dr. L. Sreelakshmi^{1*} and Dr. Ch. Sri Durga²¹P. G. Scholar, Department of Rasashastra & Bhaishajya Kalpana, Sri Venkateswara

Ayurvedic College and Hospital, T. T. D. Tirupati.

²Professor & HOD, P. G. Department of Rasashastra & Bhaishajya Kalpana Sri

Venkateswara Ayurvedic College and Hospital, T. T. D, Tirupati.

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*Corresponding Author

Dr. L. Sreelakshmi

P. G. Scholar, Department of
Rasashastra & Bhaishajya
Kalpana, Sri Venkateswara
Ayurvedic College and
Hospital, T. T. D. Tirupati.

ABSTRACT

Introduction: *Vati Kalpana* is the outcome of *Kalka Kalpana*, one of the five basic *Ayurvedic* pharmaceutical preparations. *Vati Kalpana* is an essential dosage form of *Ayurvedic* pharmaceuticals because of its various benefits, including ease of administration, palatability and ease of dispensing and transportation. *Garbha Chintamani ras* is one of the formulations mentioned in *Basavaraajiyam*, 16th chapter, *Asrugdhara roga nidana lakshana chikitsa adhyaya*.^[1] The ingredients are *Jati phala*, *Tankana Bhasma*, *Shunti*, *Pippali*, *Maricha* and *Shuddha Gairika*. **Materials:** *Gairika*, *Tankana*, *Trikatu*, *Jatiphala* and *Jambeera swarasa*. **Methods:** *Shodhana*, *Churna nirmana*, *Bhavana* and *Vati Kalpana*. **Results:** *Garbhachintamani rasa* was prepared. **Conclusion:** *Shodhana* helps to remove the toxic nature of drugs and enhances the therapeutic properties. *Garbhachintamani ras* is an effective formulation for the management of *sootika rogas*.

KEYWORDS: *Gairika*, *Tankana*, *Trikatu*, *Jatiphala* and *Jambeera swarasa*.

INTRODUCTION

Vati Kalpana^[2] is the widely used dosage form of medicine. It is palatable and easy to take. The postnatal period is an important phase of transition in women's life. The Postpartum period begins after childbirth and is typically considered to last for six weeks. There are three distinct phases of the postnatal period; the acute phase lasting for 6 to 12 hours after birth, the sub acute phase lasting six weeks and the delayed phase lasting up to 6 months. The World Health Organization describes the postnatal period as the most critical and yet the most

neglected phase in the lives of mothers and babies. Most maternal and newborn deaths occur during this period. *Garbhachintamani ras* is very useful in the Post natal period. It was taken from *Basavarajiyam* 16 th chapter, *Asrugdhara roga nidana lakshana Chikitsa Adhyaya*.

जातीफलं टंकणं च व्योषं दैत्येन्द्ररत्नकम् । तच्चूर्णं समभागेन मर्दितं प्रहरद्वयम् ॥

जंबीररसयोगेन वटीं कुर्याद्विचक्षणः । गुंजाद्वयं प्रमाणेन कृत्वा वैध्यः प्रयत्नतः ॥

आर्द्रकस्य रसेनैव भक्षयेदुष्णवारिणा । निहंति सूतिकारोगं भास्करस्तिमिरं यथा ॥

B.R (16 /62-64)

MATERIALS AND METHODS

Tankana, *Gairika*, *Trikatu*, *Jatiphala* and *Jambeera* were procured from the Tirupati market. *Shodhana*, *Churna nirmana*, *Bhavana* and *Vati nirmana* are the methods adopted in this study for the preparation of *Garbhachintamani ras*.

Apparatus: An earthen pot, gas stove, *khalwa yantra*, Spatula, clothes, weighing machine.

Procedure

The Pharmaceutical study was conducted in three stages as described below.

First Stage

1. *Shodhana* of *Tankana*
2. *Shodhana* of *Gairika*

Second stage: *Churna Nirmana*^[3]

1. Preparation of *Shunti churna*.
2. Preparation of *Pippali churna*.
3. Preparation of *Maricha churna*.
4. Preparation of *Jatiphala churna*.

Third stage: All powders are mixed homogenously and triturated with *Jambeera swarasa* for 2 *prahara*. (6 hours)

Shodana of *Tankana*^[4]: 200 g of *Tankana* is taken and pounded and made into powder. Powderd *Tankana* is taken in an earthen plate and subjected to heat till the water molecules

get completely evaporated. It is then allowed to cool. Then it is pounded in *khalwa Yantra* and stored in air tight container.

Shodhana of *Gairika*^[5]: 100 g of *Gairika* is taken pounded and made into powder in a *khalwa yantra*. It was taken in an iron pan, sufficient amount of ghee is added and is heated on mildfire, until it turns to brown colour.

Then *Sunti*, *Pippali*, *Maricha* and *Jatiphala* were examined to check the presence of insects and other external impurities if any. They were then pounded separately in a *khalwa yantra*. The pounded ingredients were then sieved through a clean cloth to obtain a very fine powder. Fresh *Jambeera* were taken washed well, cut into two pieces and squeezed to obtain the juice. Finally, all powders are taken in a *khalwa yantra* and mixed well to form homogenous mixture. Then it is triturated with *Jambeera swarasa* for 2 *prahara* (6 hours). It was rolled into pills of 2 *gunja size* (250 mg). This is administered along with *Ardraka swarasa* or warm water. This subsides all kinds of *Sootika rogas* just like the sunrays remove the darkness.

tablet colour: Reddish brown

The preparation of *Garbhachintamani ras* was done in the P.G. Department of *Rasa Shastra* and *Bhaishajya Kalpana*, S.V. Ayurvedic college and Hospital, T.T.D. Tirupati. All the guidelines prescribed in the classical literature were strictly followed in this preparation process.

Observations: 1. *Tankana* changed to pale white colour after *Shodhana*.

2. Crackling sounds were observed during the process.

3. *Tankana*, after *shodhana* bloomed and turned in to white opaque substance.

4. After *Shodhana* *Gairika* turns into brown colour.

Precaution

1. For *Tankana shodana* and *Gairika shodana* heating should be done on *Mandagni*.

2. Occasional stirring of *Tankana* is necessary.

3. For *Gairika shodana*, *Bharjana* should be done till the ghee gets evaporated.

4. Good quality raw *Trikatu* and *Jatiphala* should be taken

5. A sufficient quantity of *Jambeera swarasa* should be taken for trituration.

6. Trituration should be carried out slow and steady to prevent spillage of material.

7. After preparing the pill it should be stored in an air tight container.

RESULTS

Table No 1: Showing the change in weight of various methods in the preparation of *Garbhachintamani ras*.

S.No.	Name of the -practical	Intial weight(g)	Final weight(g)	Gain/Loss in weight (g)
1.	<i>Tankana Shodhana</i>	200 g	100 g	100g
2.	<i>Swarna Gairika Shodhana</i>	100 g	108 g	8 g
3.	<i>Sunti Churna</i>	100 g	90 g	10 g
4.	<i>Marica Churna</i>	100 g	92 g	8 g
5.	<i>Pippali Churna</i>	100 g	92 g	8 g
6.	<i>Jatiphala Churna</i>	100 g	90 g	10 g

Table No 2: Showing the result after completion of *Bhavana*.

Initial weight	Final weight	Gain in weight
572 g	600 g	28 g

DISCUSSION

Pharmaceutical study was carried out for the preparation of *Garbhachintamani ras*, in three stages to obtain the contents in desired form.

Garbhachintamani ras contains *Gairika*, *Tankana*, *Trikatu*, *Jambeera* as ingredients.

The pharmaceutical prodedures adopted in this study are *Shodhana*, *Churna Nirmana*, *Bhavana* and *Vati Kalpana*.

Shodhana: उद्दिष्टैरोषधैः सार्द्धं क्रियते पेषनादिकम्

मलविच्छिन्नतये यत्तु शोधनं तदिहोच्यते (R.T.2/52)

All the pharmaceutical procedures such as washing, trituration, heating, dipping etc carried out over a medicinal drug with the intention of getting it purified is called as *Shodhana*.

Tankana Shodhana

***Nirjalikarana*^[4]:** There are few methods of purification but in the commonly used one, raw *Tankana* is first powdered, heated over a low flame in an iron vessel and stirred till it looses water and *Tankana* particles swells up in the form of kheel. It is then allowed to cool, made into a fine powder to obtain *Shuddha Tankana*. The same is called *Tankana Bhasma*.

Ashuddha Tankana sevana doshas^[6]: If *Tankana* is consumed without purification it causes *Vanti, Branti*. Hence it should be purified to avoid those symptoms.

Gairika Shodhana^[5]

Bharjana: According to *Rasatarangini*, *Shodhana* of *Gairika* was done by *Bharjana* with *Go ghrita* till it attains *brown colour*. As it was roasted it becomes very smooth and converted into very fine powder. There was also increase in weight observed.

Churna nirmana^[7]

अत्यन्तशुष्कं यद्द्रव्यं सुपिष्टं वस्त्रगालितम् I

तस्याच्चूर्णं रजःक्षौदस्तन्मात्राकर्षसंमिता II (Sha.Sa.6/1)

Churna Nirmana, or powder preparation, is essential in this formulation because the effectiveness of the drug depends on the fineness of the powder. To create *Vati* (tablets), the powder must be very fine. The surface area of the tablet is directly related to the fineness of the powder, which, in turn, enhances its absorption.

Bhavana^[8]

यच्चूर्णितस्य धात्वादेर्द्रवैः सम्पेष्य शोषणम्

भावनं तन्मतं विज्ञैर्भावना च निगद्यते (R.T.2/49)

Powdered drugs (herbal, animal, or mineral origin) are mixed with a liquid media and triturated until the mixture becomes dry.

Due to *Bhavana* with *Jambeera Swarasa* partical size of the drugs decreased and the properties of the *Jambeera* incorporated into the drugs. *Tankana* (kshara) is levigated with *jambeera swarasa* (acidic) to obtain a neutral mixture with respect to pH. *Bhavana* makes pill preparation easy.

Vati Kalpana

Vati Kalpana is the outcome of *Kalka Kalpana*, It is made by rolling in the shape of small circular masses. It is one of the five basic Ayurvedic pharmaceutical preparations. *Vati Kalpana* is a essential dosage form of Ayurvedic pharmaceuticals because of its various benefits, including ease of administration, palatability, ease of dispensing and transportation.

General principles of Vati Nirmana: The dried drugs are made into fine powder separately. These drugs are put into a *khalwa yantra* and ground to a soft paste with the prescribed liquids.

This mass is properly grounded and the final stage of pill making is checked by rolling it in between two finger and it should not stick to it.

Pills can be dried in the shade or in hot air oven

Properties of the ingredients

Shuddha Tankana^[9] possesses *katu rasa*, *Tikshna*, *ruksha guna*, *saraka guna* and *ushna virya*. It mitigates vitiated *kapha dosha* and *vata dosha*. It is a good appetizer and relieves *adhmana*. In *Prasuti kaala*, *vata dosha* gets aggravated and due to this *adhmana*, *kati shula* occurs. *Tankana* helps in relieving *Adhmana* and *kati shula*.

Rasayana, *yogavahi*, and *samskaranuvartana* properties of *Goghrita*^[9] aid in the pacification of *pitta dosha* and the entry into *Sukshma srotas*. Constipation^[10] caused by iron preparation consumption is relieved by the smooth coating of *ghrita* on *Gairika* obtained as a result of the *shodhana* procedure.

Shuddha Swarna Gairika^[10] possesses *Madhura Kashaya rasa*, *snigdha* and *sita guna*. It nullifies the influence of poisons within the body. It improves the physical strength. The chemical formula for *Gairika* is Fe_2O_3 , It contains iron. So it is useful to improve the blood.

Shunti^[11] acts as *kapha vata hara*, it has *shoshana guna*, *Kapha ama dosha hara*. For increasing appetite and decreasing pain it is helpful.

Pippali^[12] acts as *vata kapha hara*, it has *deepana*, *pachaka gunas* and *vatanulomana* properties. It is used in *agnimandya*, *udara soola*. Hence it is useful in *prasuti kala*.

Marica^[13] has *pachaka*, *agnideepaka*, *ruchikara*, *sweda kara*, *kaphaghna*, *krimihara* properties.

Jati phala^[14] has *Deepana*, *vatanulomanana*, *shula hara* properties.

Bhavana with *Jambeera swarasa***Pharmacological properties of *Jambeera swarasa*^[15]**

Rasa: Amla

Guna: Guru, Teekshna

Virya: Ushna

Vipaka: Amla

Karma: Kapha, Vata shamaka, Pitta vardaka

Jambeers swarasa contains Citric acid, Oxalic acid, Coumarins and Bioflavonoids which help in the purification of tissues and repair the inner lining of blood vessels. Due to *Bhavana* with *Jambeera Swarasa* partical size of the drugs get decreased and properties of the *Jambeera* are incorporated into the drugs. *Tankana* (kshara) is levigated with *jambeera swarasa* (acidic) to obtain neutral mixture with respect to pH. *Bhavana* makes pill preparation easy.

Andraka swarasa^[16]: It has *Deepana, Pachana karma*

Sutika kala: Acarya Sushruta^[17] and Vagbhata^[18] explained *Sutika kala* for 1&1/2 months or until her first menstruation after delivery.

Acarya Kashyapa^[19] mentioned *Sutika kala* as 6 months.

Sutika rogas^[20]: According to *Madhava Nidana* *Sutika rogas* are *Jwara, Atisara, Shula, Shotha, Arochaka* etc. These are caused by the aggravation of *kapha, vata dosha*. In this formulation, all ingredients have *Kapha Vataghna* properties.

Hence *Garbhachintamani ras* is an efficient formulation to treat *Sutika rogas*.

Images showing the preparation of *Garbhachintamani ras* are provided.



Fig1: During Shodana process of Tankana.



Fig 2: Shodita Tankana



Fig 3: During Shodana of Gairika.



Fig 4: Shodita Gairika.



Fig 5: Shunti



Fig 6: Shunti Churna



Fig 7: Maricha



Fig 8: Maricha Churna.



Fig 9: Pippali



Fig10: Pippali Churna



Fig 11: Jatiphala



Fig 12: Jatiphala Churna



Fig 13: Mixing of all powders to powders



Fig 14: Adding Jambeera swarasa



Fig 15: During the Bhavana process



Fig 16: After completion of Bhavana procedure.



Fig.17: *Garbhachintamani ras*.

CONCLUSION

This formulation contains minerals such as *Gairika* and *Tankana*. It is very important that these minerals undergo proper purification. Quality raw materials and a hygienic environment are needed to prepare quality medicine. Finally, good quality *Garbhachintamani ras* was prepared. After preparation, packing and storage are very important for enhancing shelf life.

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