

PHARMACEUTICAL PREPARATION OF HEMGARBHA POTTALI

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ABSTRACT

Rasa sastra is one of the important branch of *Ayurveda* which deals with mineral and herbomineral pharmaceutical preparations like *kharliya rasayana*, *parpati rasayana*, *kupipakva rasayana* and *pottali rasayana*. *Pottali rasayana* is one among *rasa aushadhi* which is very effective and also known as emergency medicine. *Pottali rasayana* prepared by different method. Here we prepare with *gandhak drava swedana* method. The process of *pottali kalpana* is very unique, and from other dosage forms it has qualities like small dose, very high potency, easy to handle, and maximum shelf life. In *Hemagarbha pottali rasa* main drugs are *suddha parad*, *suddha gandhak*, *tamra bhasma* and *swarna bhasma* which gives compact form by *bhavna* with *kumari swarwsa*. In this article we attempted to described different methods of preparation and regarding pharmaceutical process of *Hemagarbha pottali rasa* in detail.

Keywords: *Pottali Rasayana*, *Hemagarbha pottali*, Pharmaceutical preparation

INTRODUCTION

Ayurved the Indian traditional system of medicine has been curing ailments of living being since ages. *Rasachikitsa* is considered as the effective when compared to others as it has lesser doses and quick effects. In today's era *ayurvedic* practitioners widely uses herbal and herbomineral drugs but in modern medicine metallic preparation are considered to be poisonous and rarely used it. In *rasasastra murchhita parad yogas* are classified as *kharliya rasayana*, *kupipakva rasayana*, *parpati rasayana* and *pottali rasayana*.

The word *pottali* means to collect scattered material into compact and comprehensive size.¹ The meaning of *pottali* is to minimize or to concise. In ancient era preservation and storage of medicine was very difficult especially during transportation. The brittle and fragile glass containers which

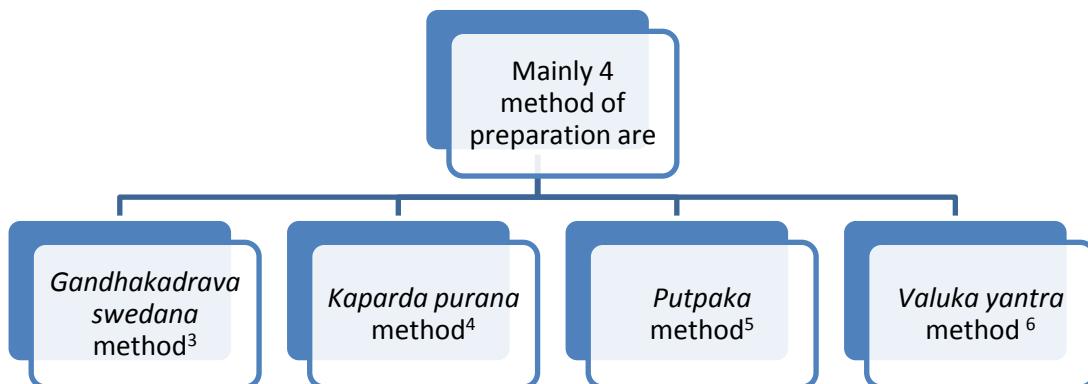
were used for storage frequently crumbled during transportation leading to the spillage and wastage of medicine. In *pottali rasayana* the end product is in hardened bolus or *pottali* form and does not go waste during transportation leading to spillage. *Pottali rasayana* has maximum potency and minimum dose are main characteristics. It is very useful as emergency medicine, convenience in transportation and lesser dose. All *pottali* preparation are not made in one single method, some *pottali* are prepared by *kaparda purana* method while some prepared in boiling *gandhaka dravana* and other are with *putapaka* method.

The method of *Gandhaka drava swedana* was firstly introduced by *Yashodhara* in 13th cent in the perspective of *vajra pottali*² and then after different *acharyas* has adopted this method. *Hemagarbha pottali rasa* is one of the medicine which is used

as *sannipataj awastha*. *Pottali* should be rubbed over a scratch stone with *ghrita* or *madhu* and take paste orally, In

Rasamritam rub the *pottali* with *ardraka rasa* or *nagavelli swarasa* in *sannipatika* condition³

MATERIALS AND METHODS



GANDHAKADRAVA SWEDANA METHOD³

The main drugs in this *pottali* are *Suddha parad*, *Suddha gandhak* and other *bhasma dravya*. *Kajjali* has to be prepared by triturating mentioned drugs for 5 to 6 days or until the *kajjali lakshana* are not appeared. The *kajjali* is given *bhavna* of mentioned *kwatha* or *bhavna dravya* and then drug mass is given shape of *pottali* either stout cone shape or any other shape mentioned in preparation, this *pottali* has to be dried under sun for 2 to 3 days. Now one square foot thick silk cloth taken and it is spread an even surface of *gandhak churna* then place *pottali* over *churna* and then cover it with other *suddha gandhak churna*. Now collect all the four corners of cloth and tie *pottali* with thread. Take one *mrtipatra* or enamel bowl and put *gandhak churna* in it. Now place the bowl on mild fire and continuously given heat over mild fire to liquefying *gandhak* and keep the *pottli* immersed in it. Maintain the temperature of melting sulphur not more than 120°C so that *paka* of *pottali* is appropriate. The heating is continued until

it attains *paka lakshana*. Later when the *pottali* is self cool, it is taken out and scrapped it to remove excess *gandhak* over it and the drug is collected and stored in air tight containers.

The main confirmatory test is *Vyomavarna tu gandhakam*- the colour of boiling *gandhaka* turns to *vyoma varna*³ & metallic sound of *pottali*.

MATERIAL

Raw material *Hingula* and *Gandhak* are collected based on their *ghrahya lakshna* from Parul institute of Ayurved Pharmacy. *Swarna bhasma* and *Tamra bhasma* purchased from Unjha Pharmacy. Pharmaceutical study was carried out at Department of *Rasasastra* and *Bhaishjya kalpana*, Parul institute of Ayurved, Vadodara.

METHOD OF PREPARATION

Hemagarbha pottali rasa contain mainly *Suddha parad*, *Suddha gandhak*, *Swarna bhasma* and *Tamra bhasma*. The pharmaceutical study is carried out under following steps. (As shown in Figure 1). Here we divided this method of preparation in 3 stages



Reference – *Rasamritam kshaya chikitsa*

Table No.1 showing Ingredients and their proportion

Sr. No.	Ingredient	Quantity
1	<i>Suddha Parad</i>	20 gm
2	<i>Suddha Gandhak</i>	10 gm
3	<i>Swarna bhasma</i>	5 gm
4	<i>Tamra bhasma</i>	15 gm
5	<i>Ghritakumari swarasa</i> for <i>bhavna</i>	As needed
Total duration – 26 days		

Equipments

Khalva yantra, stainless steel vessel, cotton cloth, gas stove, damru yantra, table spoon, one rode, enamel bowl, hot plate, electric balance.

1. *Hingulotha Parad nirman*⁷

Taken 150gms of *asuddha Hingula* in *khalvayantra* and make it powder form and given *bhavna* of *nimbu swarasa* for daily 7 days. After purifying *hingula*, spread *hingula* in one *mudpot* and prepared *damruyantra*, by putting another *mudpot* on it and done proper *sandhibandhna* of

multani mitti and cotton cloth. 5 layers of *sandhibandhana* was done and after drying it *damruyantra* given heat for 6 hours. Repeatedly change of wet cotton cloth over the *damruyantra* because the temperature of upper pot was cool, evaporated mercury easily collect in upper pot. Next morning when cool its down, carefully collected the whole drug mass and after proper *mardana* and washing *Suddha parad* was collected approximately 90gms.

Table 2 showing extraction of *Parad* from *Hingula*

Amount of <i>asuddha</i> <i>hingula</i>	<i>Bhavna</i> of <i>nimbu</i> <i>swarasa</i>	Amount of <i>hingula</i> after <i>sodhana</i>	Amount of <i>parad</i> extracted	Residue in lower pot	Observation

150gms	20ml 3hours for 7 days	137gms	90gms	12gms	<i>Parad</i> adhered to upper pot in very minute globule form. Earthen pot becomes black during heating.
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2. *Gandhak Sodhan*⁸

Around 2kg *asuddha gandhak* was taken and make it in powder form, 150gm *Goghrita* was taken each time, poured it in *lohadarvi*, melted it, poured *asuddha gandhak* in it and given low temperature

after melting *gandhak* it immediately poured in *godugha* through cotton cloth. Filtered *gandhak* wash with hot water, dried and powdered it. This method was repeated 6 times. Total 7 times *gandhak sodhan* was done. Final weight of *suddha gandhak* was 1800gms

Table 3 showing *Sodhan* of *Asuddha Gandhak*

<i>Asuddha Gandhak</i>	<i>Goghrita</i>	<i>Godugha</i>	<i>Suddha Gandhak</i>
2 kg	1kg	7 litre	1800gms

3. *Kajjali preparation*⁹

Suddha parad was taken in *khalva yantra* and done *mardana* by gradually adding *sudha gandhak* in it. *Mardana* was done daily for 3 hours for 6 days. After proper *mardana* particles of *parad* were disappeared, there were no any shiny particles in it. The process was continued until *kajjali* attains the *lakshna* like *Varitara*, *Rekhapurnatva* and *Nischandratva*.

4. *Pottali preparation*

After preparing *kajjali*, added *swarna bhasma* and *tamra bhasma* in it. Both the *bhasma* passes *bhasma pariksha* like *varitara*, *rekhapurnatva*, and for *tamrabhasma dadhipariksha* also. After mixing of all the drugs properly added *kumari swarasa* around 30ml daily and done *mardana* for 3 hours. *Bhavna* was given for daily 3 hour 7 days. Last day the drug mass given the *shanku aakara* shape to *pottali* and 2 *pottali* were prepared. They were dried in shade for 5 days. After complete drying of *pottali*, four folded silk cloth was taken and *Suddha gandhak churana* spread over it, in between one *pottali* was kept over this *churana* and some

gandhak churana kept over *pottali*, tied it with thread.

5. *Swedana in gandhak dravana*

One enamel bowl was taken, filled with fine powder of *suddha gandhak churana* in it and kept it over hot plate for heating. When *gandhak* was melted, the *pottali* was immersed in it and given heat for 12 hours. The heat was not given more than 120°C. *Gandhak churana* was added As and when it was required.

6. *Observation and storage*

Next day after *swang sita*, the cloth has been removed and excess *gandhak* was scraped with blunt knife, the *pottali* gets a shiny luster, very hard and it produces metallic sound.

Table4 showing organoleptic characters of *pottali*

CHARACTER	POTTALI
Color	Black
Odor	Odorless
Taste	Tasteless
Form	Cone shaped
Touch	Rough

Color of *Gandhak drava* changed, in starting it was yellow and at last stage it was dark red colored, *pottali* becomes hard and sound of *pottali* was resonant.

Two *pottali* were prepared from totally drug mass

Table 5 showing initial and final weight of *pottali*.

Batch	Initial Weight	Final Weight
First <i>Pottali</i>	27 gm	22 gm
Second <i>Pottali</i>	29 gm	23 gm

Mode of administration of *Pottali*

Pottali should be rubbed over a scratch surface with *madhu* or *ghrita*. *Pottali* rub with *Ardraka rasa* or *Nagavelli swarasa* in *sannipatik* condition.³

Indications

Sannipatij avastha, it is administered to the patient who is unconscious, in coma, or

even death bed, where the patient recover himself by its administration.¹⁰

It could be proved as an alternative medicine in place of modern antibiotics as this medicine is also effective against multi drug resistant bacterial strains.¹¹

Table 6 showing other references of *Hemagarbha pottali*

Text name	Kala	Method
<i>Rasendra sangraha</i>	13 th cent	<i>Putapaka</i>
<i>Rasa Prakash sudhakar</i>	13 th cent	<i>Bhudhar yantra and gajaputa</i>
<i>Rasa Ratna Samuchchaya</i>	14 th cent	<i>Kapardpurana</i>
<i>Sharangadhar Samhita</i>	14 th cent	<i>Kaparda purana, Putapaka</i>
<i>Rasa kamdhenu</i>	17 th cent	<i>Putapaka</i>
<i>Yogaratnakar</i>	18 th cent	<i>Gajaputa, Sikta yantra, Vitastimatra bhugarta, Gandhaka drava swedana</i>
<i>Bhaishjya ratnavali</i>	18 th cent	<i>Kaparda purana Gajaputa</i>
<i>Nighantu ratnakara</i>	19 th cent	<i>Kaparda purana, Gajaputa</i>
<i>Sidhdha bhesaja Manimala</i>	19 th cent	<i>Gandhaka drava swedana</i>
<i>Rasayana sara</i>	20 th cent	<i>Kaparda purana, Gajaputa, Gandhaka drava sweana</i>

DISCUSSION

Hemagarbha pottali rasa is a unique metal base preparation mentioned in different books of *Rasashastra* which has

characteristic like it can cure all types of diseases. *Parad* is known as *rasayana*, *yogavahi*, *vrishya*, *sarv vyadhi nashak* and it use mainly in *kshaya*, *sosha*, *atisara*.

Gandhak is used in all types of *kushtha roga* and *kasa, shwasa*. *Swarna bhasma* has *guna* like *madhur rasa* and is used as *vrushya, medhya, rasayana* and useful in *antra kshaya* and *visama jwara*. *Tamra bhasma* has properties like *lekhana* and *pittasaraka* and it can cure all types of *kapha* and *pitta* dominance diseases. Though this formulation is used rarely clinically because its occult method of preparation and very high cost. *Pottali* has been prepared mainly by 4 different methods *gandhak drava swedana, putpaka method, kapard purana* method and *valuka yantra method*, but commonly adopted is *gandhak drava swedana* method. The shape of *pottali* are also different mentioned in *sutra*, but in any shape it reduce surface area and proper heat will reach to every particle of it. For *swedana* silk cloth is taken because high tensile strength of cloth therefore heat resistance. Here *sudhda gandhak curna* is taken for *swedana* because other liquid media has temperature around 90 to 100°C, for proper *paka* of *pottali* high temperature is

required, Sulfur bath maintain temperature up to 250°C.

CONCLUSION

Hemagarbha pottali rasa is *sagni sagandha murchchana* of *parad* along with other *dhatus*. *Parad* is known as *yogavahi* thus quick in action. This medicine has less dose, more potent due to *agnisanskara*, its sustained heat of pattern and media use for its *paka* its an unique preparation. The administration of the drug is easy, it absorb even from tongue and it has longer shelf life. Like this we prepared different types of *pottali* by using single drug with *rasa garbha pottali* eg *Arjuna pottali, Silajatu pottali, Sarpagandha pottali* etc. because *parad* is *yogavahi* and by mixing other drug in it increase potency of that drug also. Though these products are claimed quite potent and effective, they are not widely use and not more large scale production of this medicine. More pharmaceutical companies should encourage for large scale production of *pottali rasayana* and proper documentation regarding standardization and quality control parameters are needed.

Figure 1 – showing detail pharmaceutical process of Hemagarbha pottali



Asudhdha Hingula



Bhavna of nimbu swaras



spread hingula churna



Given heat to damruyantra



Sudhdha parad



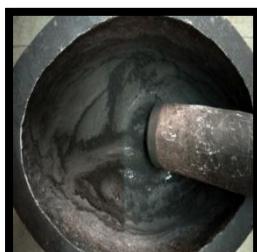
Asudhdha Gandhak



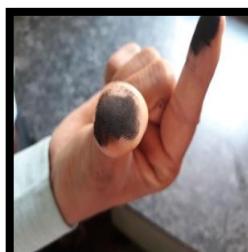
Sodhan in godugha



Su Gandhak churna



Kajjali preparation



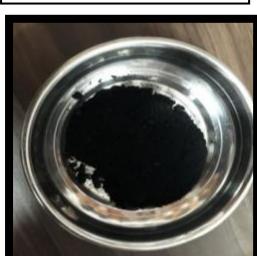
Rekha purnatva



Varitara



Swarna bhasma



Tamra bhasma



Bhavna of kumari swaras



Mardana



Thick paste like form



prepared 2 pottali



Put pottli in Su gandhak



Immersed pottali gandhak



Initial stage of dravana



Final stage



Removal of silk cloth



Hemgarbha pottali

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