

PHARMACEUTICAL STUDY OF NAGARJUNA VARTI

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ABSTRACT

Varti Kalpana (Ayurvedic suppositories) is derivative of vati kalpana. One such significant ocular therapeutic formulation is Nagarjuna varti. It is a unique Herbo-Mineral preparation which comes under the khalviya rasayana yoga & reference from the text Bhaishajya Ratnavali¹. Here medicines are powdered, triturated and given the shape of varti. Among the general method of preparation of varti bhavana method is opted for Nagarjuna varti. Here fine powder of medicinal drugs are triturated with specific 'bhavanadravya' and rolled into desired sized vartis. Nagarjuna varti consist of 14 ingredients & 1 Bhavana dravya. Among that herbal ingredients are 10 in number. Those are Haritaki, Vibhitaki, Amalaki, Shunti, Maricha, Pippali, Yastimadhu, Prapoundarika, Vidanga, Lodra & a herbal preparation Rasanjana also included. Rasoushadhis are 3 in number. Those are Tuttha, Tamra bhasma & Saindhava lavana. Here for the preparation of Nagarjuna varti, equal quantity of fine powders of all ingredients are taken & bhavana done with Nabho jala & after bhavana whole mixture was turned to Dark greenish in colour. Rolling of vartis with hands were done when the whole mixture was a thick paste like consistency in wet condition & later dried completely.

KEYWORDS: Nagarjuna varti, Varti kalpana.

INTRODUCTION

Panchavidha Kashaya Kalpana known as primary preparations. They have few lacunas like less shelf life, Palatability issues etc. In order to overcome these lacunas, secondary preparations are developed. One among them is Varti Kalpana (Ayurvedic suppositories) which is derivative of Vati kalpana. Varti kalpanas are meant for local applications and helps in eliminating the sthanika doshas (site of administration). Ancient scholars have advocated different Varti/Anjana application in Timira stage itself. One such significant ocular therapeutic formulation is Nagarjuna varti. It is a unique Herbo- Mineral preparation which comes under the khalviya rasayana yoga. The reference of Nagarjuna varti is taken from the text Bhaishajya Ratnavali.^[1] The references are also available in Rasakamadhenu, Vrunda Madhava.

Varti kalpana got its name because of the particular shape ie. like the wick of the lamp. It can be prepared on almost similar to that of vati preparation. Here medicines are powdered, triturated and given the shape of varti. There are 2 general method of preparation of Varti.

Those are Paka & Bhavana. In Paka method - mainly guda/sita is used as a base and heated with water until paka of 2-3 thread consistency attains. Fine powder of other ingredients is added little by little and stirred continuously to make a homogenous mixture. Then vartis are prepared according to the desired size.

In Bhavana method - fine powder of medicinal drugs are triturated with specific 'bhavanadravya' and rolled into desired sized vartis. Nagarjuna varti preparation is done as per Bhavana method only.

Nagarjuna varti consist of 14 ingredients & 1 Bhavana dravya. Among that Herbal ingredients are 10 in number. Those are Haritaki, Vibhitaki, Amalaki, Shunti, Maricha, Pippali, Yastimadhu, Prapoundarika, Vidanga, Lodra & a herbal preparation Rasanjana also consist. Rasoushadhis are 3 in number. Those are Tuttha, Tamra bhasma & Saindhava lavana. Bhavana dravya is Nabho jala. Fine powders of all ingredients are taken & bhavana has to be done with Nabho jala & Hand rolled vartis are prepared.

MATERIALS AND METHODS

Pharmaceutical study of Nagarjuna varti Includes

A) Drug collection & Authentication

Drugs needed were collected from local vendor. Herbal ingredients were authenticated from the experts of

Dravya guna department. The mineral ingredients were authenticated from the experts of Rasashastra & Bhaishajya Kalpana department. Table No 1 gives the list of ingredients and quantity has taken.

Table 1: Ingredients and their Proportions.

SI No	Ingredients of Nagarjunavarti ^[1]	Botanical Name	Part Used	Quantity
1	Haritaki	Terminalia chebula	Fruit	1 Part (30g each)
2	Vibhitaki	Terminalia bellerica	Fruit	1 Part (30g each)
3	Amalaki	Embllica officinalis	Fruit	1 Part (30g each)
4	Saindhava Lavana	Rock Salt	Mineral	1 Part (30g each)
5	Shunti	Zingiber officinale	Tuber	1 Part (30g each)
6	Maricha	Piper nigrum	Seeds	1 Part (30g each)
7	Pippali	Piper longum	Fruit	1 Part (30g each)
8	Yashtimadhu	Glycyrrhiza glabra	Stem Bark	1 Part (30g each)
9	Suddha Tuttha	Purified Blue vitriol	Mineral	1 Part (30g each)
10	Rasanjana	Extract of Indian berberis		1 Part (30g each)
11	Prapoundarika	Cassia absus	Flower	1 Part (30g each)
12	Vidanga	Embelia ribes	Seeds	1 Part (30g each)
13	Lodhra	Symplocos racemosa	Stem	1 Part (30g each)
14	Tamra Bhasma	Incinerated (CuO) Copper	Metal	1 Part (30g each)
15	Nabho Jala	Rain water	Water	Quantity sufficient

B) Preparation of sookshma choorna of Herbal ingredients & Powdering of Saindhava lavana.

- Following herbal drugs like - Haritaki, Vibhitaki, Amalaki, Shunti, Maricha, Pippali, Yastimadhu, Prapoundarika, Vidanga, Lodra were pounded separately. Vastra galitha sookshma choorna were prepared.
- Saindhava lavana was taken & powdering was done.

C) Preparation of Rasanjana^[1]

- Yavakuta choorna of Daruharidra was taken.
- Added with 16 parts of water & kashaya prepared in Mandagni till it reduced to 1/8th
- Prepared kashaya was filtered & measured.
- Equal quantity of Goksheera was added & heated till attains a semisolid consistency. Later it was dried in Shade Then Scraped out & stored.

D) Tuttha shodhana^[3]

- Sufficient quantity of Nimbu swarasa added to Ashodhitha tuttha & Bhavana done till appearance of Subhavitha Lakshana.
- After shodhana, Tuttha weighed & stored.

E) Tamra Bhasma preparation

It includes following steps

- Tamra shodhana^[4]
- Tamra Marana^[5]
- Tamra Amritikarana^[6]

1) Tamra Shodhana

- Nirvapa of Tamra patra done in Sauviraka for 8 times.
- Sauviraka prepared by fermentation of Dehusked

Yava for 12 days.

2) Tamra Marana

It includes following steps

a) Preparation of Kajjali

1) Parada shodhana^[7]

Carried out by doing Mardana of Parada with Haridra churna, Kumari swarasa for 1 day (12 Hours). Then obtained kalka underwent Urdwa patana procedure. Urdwapatita Parada was collected from the inner surface of the upper pot. Shodhitha Parada was weighed and stored.

2) Gandhaka Shodhana^[8]

Ashuddha Gandaka was taken in powder form on a Ghritalipta vastra & Ksheera was used as drava dravya. By using Bhoothara yantra Paka Shodhana was carried out. Melted Gandhaka started dribbling down through the cloth and got collected in the pot containing milk.

The pot was left for Swangashitata and later it was taken out of the pit. Shodhitha Gandhaka in the pot was collected and washed with the hot water and dried.

3) Kajjali preparation

Equal quantity of Shodhitha Parada & Shodhitha Gandhaka were taken and triturated in a Khalva Yantra. Trituration was continued till the powder became blackish in colour & fine. The test for Sushlakshnata, Rekapurnata, Nischandratva, Varitaratwa of Kajjali was assessed.

b) Tamra bhasmeekarana

Shodhitha Tamra was triturated with a paste of Nimbu

swarasa & Kajjali. Then made in to chakrika. Dried chakrika was placed in sharava & sandhi bandhana was done. Then subjected to Gajaputa. After swangasheeta sharava was opened and changes were noted. Entire procedure were repeated again till Bhasmalakshana obtained.

3) Tamra Amruteekarana

Tamra bhasma was triturated with sufficient quantity of Nimbu swarasa & made into a bolus. This bolus was kept inside suranakanda which was kept inside a pit and covered well. Then whole suranakanda was covered with kora cloth smeared with multanmitti . After proper drying subjected to Gajaputa.

F) Collection of Nabhojala

It was collected during raining time in a steel vessel & mouth of vessel was tied with a cloth to avoid falling of foreign body.

Preparation of Nagarjuna Varti

Ingredients of Nagarjuna varti (Table No:1) were taken separately & added to the Khalwa yantra one by one. After adding all powdered ingredients in to khalwa yantra, Sufficient quantity of Nabho jala was added & Bhavana was carried out. Preparation of Varti was done by rolling it into desired sized & later kept for drying.

OBSERVATION AND RESULT

1) Preparation of sookshma choorna of Herbal ingredients & Powdering of Saindhava lavana.

- Prapoundarika sookshma choorna preparation was little time consuming because of the fibrous nature of it as compared to others. Smell of each sookshma choorna was very appreciable.

2) Preparation of Rasanjana

- Daruharidra was very hard to powder in to yavakutachurna. 50 g Daruharidra yavakuta choorna was taken. 16 parts (800ml) water added & Reduced to 1/8th quantity ie, 100ml Kashaya was obtained. Smell of Kashaya appreciated during the procedure.
- After addition of milk (quantity sufficient), the dark yellow colour of kashaya changed to light yellow colour. on heating changed to thick consistency. obtained churna was very soft smooth, light yellow in colour. specific smell was appreciated. 30g Rasanjana obtained.

3) Tuttha shodhana

Colour of tuttha changed to light blue. It became soft and smell of nimbu was appreciated. It was cool to touch.

4) Tamra Bhasma preparation

It includes following steps

1) Tamra shodhana

Tamra patra Nirvapa in Sauviraka for 8 times was done. 500g of Ashudha Tamra patra was taken & after 8th Nirvapa finer and lustre less churna was obtained

weighing 400g. ie, 100 g loss.

2) Tamra Marana

a) Preparation of Kajjali

1) Parada shodhana

- During Mardana, the Parada globules started disappearing & became invisible. Smell of Haridra was more felt during mardana procedure. After 10-15min of heating during urdwa patana the burnt smell of kalka was appreciated. For Urdwa patana of parada total 6 Hour 30 minute was taken. Temperature pattern maintained was like this as follows. ie, first 2 hour Mandagni, next 3 hour Madyamagni. Last 1 Hour 30 minutes Teekshagni .
- The Shuddha Parada was very clear and bright. 500g of Ashudha Parada was taken & After shodhana 446g Parada obtained. ie, 54g loss.

2) Gandhaka Shodhana

Total time taken for procedure was 1 hour 20 minutes. Then left for swanga sheeta. Maximum temperature noted was 552^o C. Yellowish crystalline Gandhaka turned to lemon yellow coloured beads (Pindatva). The stones and mud particles were observed over the cloth. The milk became hot and impurities of Gandhaka along with Ghrita were seen floating on the surface. 500 g Ashudha Gandhaka was taken & after shodhana 480 g obtained. ie, 20g loss.

3) Kajjali preparation

- 250gm each of shudha Parada, Gandhaka was taken for Kajjali preparation.
- Total Maradana was done for 80 hrs. Weight of Kajjali obtained was 445gm. ie, wt loss was 55gm.
- Cause of weight loss was because of Spillage of mixture during the process of trituration. Kajjali got adhered to the Khalwa which made it difficult to collect after completion.

b) Tamra bhasmeekarana

360g Shodhitha tamra was taken for Basmeeekarana process. Total 22 puta was required for tamra bhasma preparation. Tamra bhasma obtained after 22nd puta was 248g which was black in colour.

3) Tamra Amruteekarana

3 hours of continuous trituration was required to get the consistency of the bolus. 2.5 kg of Surana kanda used for the preparation. After 7 hrs bandhana was completely dried. After subjecting to gajaputa it took 18 hours to become swangasheeta. While opening, Surana was found totally burnt. After the trituration of the bolus it was converted in to black, smooth and fine powder.

F) Collection of Nabhojala

Clean & clear Nabhojala was collected in the steel vessel.

Preparation of Nagarjuna varti

- Once the proper mardana done with Nabho jala, colour was turned to Dark greenish in colour.

- Continous Mardana with pressure was needed for proper mixing.
- Rolling to a varti form was done with hands when the whole mixture was turned to a little wetpaste like consistency.
- While rolling to avoid sticking of contents to hands & for ease for rolling little drops of Nabhojala was added.
- After drying weight of Varti was reduced than in wet condition.

Table 3: Showing Parameters of Nagarjuna varti.

Parameters	Nagarjuna varti
Quantity of Drug taken	420 g
Total quantity of Nabho jala used	120 ml
Total time of Bhavana done	1 Hour 30 minutes
Obtained quantity	510 g
Difference	+ 150 g
Gain/Loss	21 %
Number of Varti Obtained	150 Varti
Weight of Varti after Drying	400 g

DISCUSSION

Among the ingredients of Nagarjuna varti, Rasanjana was prepared from Daruharidra rasakriya, Tuttha shodhana by bhavana with nimbu swarasa .Tamra bhasma preparation consist shodhana by Nirvapa in Souveera for 8 times, Marana of tamra with kajjali followed by Amruteekarana with nimbu swarasa in soorana kanda.

Here for the preparation of Nagarjuna varti, Equal quantity of fine powders of all ingredients are taken & bhavan done by Nabho jala & After bhavana whole mixture was turned to Dark greenish in colour. Rolling of vartis with hands were done when the whole mixture was a thickpaste like consistency in wet condition.

CONCLUSION

Nagarjuna varti is a unique Herbo mineral preparation which comes under the khalviya rasayana yoga mainly indicated in several ocular diseases like timira etc.

REFERENCE

1. Govinda Das Sen.Bhaishajya Ratnavali Hindi Commentary By Ambika Datta Shastri.ED/18 Th Varanasi: Chaukhambha Prakashan, 2007; 1007.
2. Krishnachand Chunekar. Bhava Prakasha edited by Dr. Gangasahay Pandeya.Varanasi: Choukambha Bharitiya Academy, 2010; 117.
3. Sadanand Sharma. Rasatarangini edited by Kashinath Shastri. Delhi: Mottilal Banarsidas, 1971; 540.
4. Vagbhataacharya. Rasaratnasamuchchaya edited by Ambika Dhatta Shastri. Varanasi: Choukambha Bharati Prakashan, 1995; 66.
5. Vagbhataacharya. Rasaratnasamuchchaya edited by Ambika Dhatta Shastri.Varanasi: Choukambha Bharati Prakashan, 1995; 101.
6. Sadanand Sharma. Rasatarangini edited by Kashinath Shastri.Delhi:Mottilal Banarsidas, 1971; 417
7. Tripati Indra dev (Ed) Rasendra sara sangraha of Gopal Krishna, Varanasi, Chaukamba orientalia, 2010; 9.

8. Kashinath shastri Pandit (Ed) Rasa taragini of Shri Sadananda sharma .Delhi Motilal Banarasidas, 1979; 651-652.