

PHARMACEUTICAL STUDY OF AMRITABHALLATAKA GHRITA

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ABSTRACT

It is believed that every *dravya* available on this earth has medicinal property in it, only thing it should be used rationally, furthermore it is said that even a poison can be a good medicament if used with caution. On the contrary, a drug if unknown is fatal like poison, weapon, fire and thunderbolt while if known, it vitalizes like nectar. *Amritabhallataka Ghrita* is a unique method of preparation, comes under *sneha kalpana* in which *shuddha Bhallataka* is the main ingredient and remaining are *godugdha*, *Ghrita* and *sharkara*. This formulation doesn't contain *amrita (guduchi)* but acts like *amrita* (nectar), so named as *Amritabhallataka Ghrita*. It is indicated in *puraanatwakroga*, *sushkaarsha*, *vali* (wrinkles in the skin), *palita* (graying of hairs), *smrutikshaya* (loss of memory), *dourbalya* and using as *Rasayana* (Nutrient to body and mind with adaptimmune-neuro-endocrinomodulator properties).

KEYWORDS: *Amritabhallataka Ghrita (ABG)*, *Rasayana*.**INTRODUCTION**

Sneha kalpana is one of the *upakalpana* which mainly comprises of *Ghrita* and *Taila*. *Sneha kalpana* proved itself as the better by completing and conquering each need of a good formulation. It incorporates the qualities of the drugs added to it without losing its own qualities. So it is sure that the fat soluble active principle of the drugs added to *sneha* can be easily extracted into the *sneha*. Moreover the quality of *ghrita* is *medhya*, *smritikara* it is best because of its *yogavahi guna*. *Ghrita* increases *ojas*. In *sneha kalpana* both water soluble and fat soluble active principles of individual ingredients can be extracted. If we go through the classics the *yoga Amritabhallataka Ghrita* is found in various texts in various *Rogadhikara*, here the *Amritabhallataka Ghrita* explained in context of *Rasayana adhikara* was selected. It is prepared by using *Shuddha Bhallataka*, *Godugdha*, *murchita Ghrita* and *sharkara churna*.

OBJECTIVES

- To carryout *Shodhana of Bhallataka*.
- To carryout *Ghrita murchana*.
- To prepare *Amritabhallataka Ghrita*.

MATERIALS AND METHODS**Ingredients**

Bhallataka: Sample procured from Molakalmuru, Chitradurga district- Karnataka.

Bhallataka, which sinks in the water, was selected. (May be due to presence of oil in the fruit may have more specific gravity than water).

भल्लातकानि पक्वानि नीरक्षिप्तानि यानि तु

निमज्जन्ति हि तान्येव ग्राह्याणीह विशुद्धये।^[2]

Associated Drugs

The other raw materials used for the present study are

- *Gomutra* – Collected from the local source i.e. *Goshala*.
- *Godugdha*– Collected from the local source i.e. *Goshala*.
- *Ishtika churna* – Collected from the local source i.e. *Brick factory*.
- *Goghrita*- Collected from the local source

1. Shodhana of Bhallataka:^[2,3]**Step 1: Sthapana in Gomutra**

Genuine *Bhallataka* seeds of 2000g were taken in an earthen pot. Then 5000ml of *Gomutra* was added and kept undisturbed for 1 day. On next day *Bhallataka* were washed with warm water, then wiped with cotton cloth

and again placed in an earthen pot, then fresh *gomutra* was added. Same procedure was followed for seven days.

Step 2: *Gomutra sthapita Bhallataka* of 2284g were wiped with clean cloth and taken in an earthen pot. Then 5000 ml of *Godugdha* was added and kept undisturbed for 1 day. On next day *Bhallataka* seeds were washed

with warm water, and then wiped with cloth. Same procedure was followed for 7days.

Step 3: *Godugdha sthapita Bhallataka* was taken in a bag containing coarse brick powder with which they were rubbed carefully, with a view to reduce the oil content. Then fruits were washed with water and dried in air.

❖ Observations

<i>Gomutra Sthapana</i>	<i>Godugdha Sthapana</i>	<i>Ishtika churna garshana</i>
Some of the <i>Bhallataka</i> fruits were swollen. Froath was developed. <i>Gomutra</i> smell was appreciated. Shining- was slightly reduced. pH of <i>gomutra</i> before <i>sthapana</i> -9. pH of <i>Gomutra</i> after <i>sthapana</i> -8.9 Colour of <i>Bhallataka</i> -dark black. Weight of <i>Bhallataka</i> after <i>gomutra sthapana</i> -2284g Gain- 284g	Some of the <i>Bhallataka</i> fruits were swollen. Curdling of milk was seen. Shining- was slightly reduced. Colour of <i>Bhallataka</i> -dark black. Weight of <i>Bhallataka</i> -1942g.	<ul style="list-style-type: none"> • Peeling of outer coating of <i>Bhallataka</i>. • Shining was reduced. • Oil was adhered to gloves during <i>garshana</i> procedure. • Weight of <i>Bhallataka</i> - 1867g.

2. *Ghritha murchana*^[4,5]

Drugs: *Haritaki churna*-145g

Amalaki churna-145g

Vibhitaki churna-145g

Musta churna-145g

Haridra churna-145g

Matulunga swarasa-145ml

Ghritha-2320ml

Jala-9280ml

Equipments: Steel vessel, weighing machine, measuring cylinder.

Procedure: 2320ml of *Ghritha* was taken in a steel vessel and heated slightly over *mandagni* till up to evaporation of moisture content, disappearance of foam and sound coming from *Ghritha*. Then the vessel was kept out of the fire and allowed to cool for sometimes. Then *kalka* was added in small quantity with constant stirring. Then 9280ml of water was added and mixed well. Started to heat on *mandagni* till *snehasiddhi lakshanas* appear. Then filtered and used for further preparation.

Observations

- ◆ On heating bubbles were started to seen on the surface of the vessel.
- ◆ After 20minutes the bubbles disappeared and sound also stopped.
- ◆ Smell of *haridra* was appreciated.
- ◆ When *Ghritha* was moisture free, the colour of *Ghritha* changed to light yellow from dark yellow.
- ◆ Froath was appeared when *kalka* was added.
- ◆ Fumes and sound was coming at that time, specific smell of *Goghritha* was smelt.
- ◆ Colour of *Goghritha* was converted into dark yellow, after 9hrs heating.
- ◆ Bubble and sound appears during *Snehapaka*.

- ◆ A layer of *Ghritha* remains at the upper portion of the vessel after completion of *Snehapaka*.
- ◆ A layer of fine particles of *Bhallataka kwathayukta dugdha* occurred over *Sneha* during *Snehapaka*.
- ◆ At final stage sound disappeared and *Phenashanti* was observed.
- ◆ Quantity of *Ghritha* after *murchana*-2180ml
- ◆ Loss- 140ml (6.03%).

Table 1: Showing *Sneha Siddhi Lakshanas* during *Ghritha Murchana*.

Sl. No	<i>Sneha Siddhi Lakshana</i>	<i>Kalka</i>	<i>Ghritha</i>
1.	<i>Vartivat snehakalka syat</i>	+	-
2.	<i>Madhye Darvi Vimunchati</i>	+	-
3.	<i>Shabda Hino Agni Nikshipta</i>	-	+
4.	<i>Phenashanti</i>	-	+
5.	<i>Gandha Varna Rasotpatti</i>	-	+

Precautions

- *Mandagni* was maintained.
- Continuous stirring was done in order to avoid the sticking of *kalka dravyas* at the base of the vessel.
- As the hot *Ghritha* started to spill out of the vessel, care taken to avoid the contact of body surface.
- Fire was reduced after reaching *samyak sneha paka lakshanas*.
- The vessel was taken out from the fire immediately after observing *Samyak paka lakshanas*.

Filtration and storage

The hot *murchita Ghritha* was filtered by using cotton cloth and the *kalka* was remained after filtration. The maximum quantity of *Murchita Ghritha* was extracted and stored in air tight container.

3. Preparation of Amritabhallataka Ghrita^[6,7]

Procedure

Shodhita Bhallataka of 1500g was cut into pieces then taken in a *kwathapatra* and 6000ml of water was added and then heated over *Mandagni* till contents are reduced to 1/4th and filtered with a clean cloth. Then *Bhallataka Kwatha* was taken in a clean vessel and 6 lit of milk was added to it and boiled till it reduces to 1/4th quantity and filtered with a clean cloth. *Murchita Ghrita* was taken in clean and dry steel vessel.

Bhallataka Kwatha mixed with milk was added carefully and heated on moderate heat, by adjusting the time of heating such that the process of *Ghrita paka* will be completed in 17hr 40min with continuous and gentle stirring up to the appearance of *Ghrita paka siddha lakshana (Madhyama Paka)*. It was filtered in the warm stage itself with a clean and dry cloth.

- Day 1- *snehapaka* done for 5 hours
- Day 2-*snehapaka* done for 9 hours

- Day 3- *snehapaka* done for 3 h 40minutes – (snehasiddhi lakshanas were appeared)
- Total duration of *snehapaka*-17hours 40minutes.
- After *Swangasheeta*, *Sharkara churna* (1/4th part of *Ghrita*) was added and kept in *Dhanyarashi*.

Observations

- Froath was seen during boiling.
- Seeds were swollen.
- Fumes were observed.
- Sticky oil was adhered to the filtered cloth.
- Quantity of reduced kwatha-1500ml.

Precautions

- ☞ *Mandagni* was maintained.
- ☞ As *kwatha* started to spill out of the vessel, care taken to avoid the contact of body surface.
- ☞ The vessel was taken out from the fire immediately after observing it reduces to 1/4th.

Table 2: Showing observations during Snehapaka of ABG.

Day	Time	Observations
Day 1	After 1 Hour	-Froath was seen during boiling process.
	After 2 Hours	-Froath was seen during boiling process.
	After 3 Hours	-Reduced <i>kwatha</i> and <i>dugdha</i> became thick during boiling process.
	After 4 Hours	- <i>Kalka</i> - sticky on touch.
	After 5 Hours	-Characteristic smell of <i>Ghrita</i> was appreciated.
Day 2	After 1 Hour	-Reduced <i>kwatha</i> and <i>dugdha</i> became thick during boiling process.
	After 2 Hours	-Colour of the <i>Ghrita</i> was turned to greenish yellow
	After 3 Hours	-Dense fumes were observed.
	After 4 Hours	-Smell of <i>Ghrita</i> was appreciated.
	After 5 Hours	-Lump formation of <i>kalka</i> was seen
	After 5 Hours	- <i>Kalka</i> was sticky on touch. - <i>Kalka</i> when pressed in between the fingers, it yields large quantity of <i>sneha</i> .(<i>mridu paka</i>)
	After 6 Hours	-Lump of <i>kalka</i> started settling down in the vessel.
	After 7 Hours	-Incomplete formation of <i>varti</i> was seen when pressed in-between two fingers.
	After 8 Hours	- <i>Kalka</i> produced crackling sound when kept on fire.
Day 3	After 1 Hour	-Partial formation of <i>varti</i> was seen when rolled between two fingers.
	After 2 Hours	- The <i>kalka</i> could be rolled into <i>varti</i> . -Liquid portion of <i>Kwatha</i> was reduced.
	After 3 Hours	- Complete formation of <i>varti</i> was seen when rolled between two fingers
	After 4 Hours	- <i>Kalka</i> remained soft in consistency. - <i>Kalka</i> was non-sticky. -When <i>kalka</i> put on fire burns without any crackling sound. -Disappearance of froth was seen.(<i>Madhyama paka</i>)

Completion test

- **Ghrita:** Put in fire, burns without any cracking sound
- **Kalka:** Fire test – No sound
- **Consistency:** Soft in nature Made in to *varti* form Finger print seen.
- **Colour:** Blackish.

RESULTS

2000 g raw *Bhallataka* was taken for *shodhana* and after *shodhana*, obtained product was 1867 g i.e.93.35%. For the preparation of *Amritabhallataka Ghrita* 1500g of *shodhita bhallataka* was taken. 1300ml of *Amritabhallataka Ghrita* was obtained.

DISCUSSION

Bhallataka Shodhana

Crude *Bhallataka* was judged for the *Grahya Lakshanas* explained in the classics and subjected to *Shodhana* by doing *Sthapana in Gomutra, Godugdha* and *ishtikachurna gharshana*.

During the *Shodhana*, on addition of *Gomutra* to *Bhallataka*, it is observed that there may be reaction taking place on urushiol, in order to reduce the toxicity.

As *Godugdha* is an antidote for *Bhallataka*, so used for the purification.

Brick powder is having adsorbent property; by which it absorbs irritant oil in the fruit.

More percentage of oil might have got reduced by soaking the fruits in the *gomutra* and *godugdha*. The brick powder is having the adsorbing nature, so some percentage of oil may be absorbed by the brick powder. There are probable chances that some chemical changes might have taken place due to the various Medias like *gomutra, godugdha* etc used for its purification.

Ghritha murchana: *Phenashanti lakshana*- it might be due to hydrolysis of saturated fatty acids.

Amritabhallataka Ghritha: Yoga was prepared classically as mentioned in *Astanga Hridaya uttarasthana* and AFI. It is a unique method of preparation, comes under *Sneha kalpana*. Prepared by using *Shuddha Bhallataka, Godugdha, Goghritha* and *sharkara churna*.

CONCLUSION

- *Amritabhallataka Ghritha* is one of the *Sneha kalpana*. There are total 3 references available with variation in the ingredients and method of preparation and dosage. Among them, Ayurvedic Formulary of India (AFI) reference was selected for the preparation. The drug was prepared with *Shuddha Bhallataka, Jala, Godugdha, murchita Ghritha* and *sharkara churna*. *Shodhana* of *Bhallataka* is essential step before usage, which will modify the raw drugs into safe, bio-active, therapeutic form. Yield of *Bhallataka* is 93.35%. From the *Gomutra sthapana, Godugdha sthapana* and *Ishtika churna garshana* method.
- *Ghritha murchana* was carried out by using *Haritaki, amalaki, vibhitaki, musta, haridra* and *matulunga swarasa* according to B.R and AFI. The yield was 2180ml (93.97%), out of 2320ml.
- ABG total quantity is 1200ml. It is prepared by- *Shuddha Bhallataka*-1500g, *jala*-6000ml, *Ksheera*-6000ml, *Murchita Ghritha*-1500ml and *Sharkara churna*-308g.

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