

Shodhana of Gandhaka (Sulphur) with Bhringaraj (Eclipta Alba) and Goghrita (Cow's Ghee)

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Abstract

According to the Indian alchemy (*Rasashastra*) literature, *Gandhaka* has been included in *Uparasa* category. It is the next drug after Mercury in terms of importance. In Indian medicine it has been used both externally and internally. Even today it is being used for its antimicrobial activity. In Ayurveda *Gandhaka* is used after the *Shodhan* (Purification) process. In the present study chemical analysis of *Gandhaka* was done after its purification in *Bhringaraj Swaras*. Ayurvedic texts suggest that after the purification process, physical appearance of *Gandhaka* changes. The purification process mentioned in *Rasashastra* not only removes the impurity of *Gandhaka* but also increases its therapeutic activity for internal and external uses without producing any harmful effects.

Keywords

Gandhaka, Sulphur, Godugdha (Cow's Milk), Goghrita (Cow's Ghee), Bhringaraj, Maka, Shodhan, Purification



Greentree Group

Received 14/06/16 Accepted 27/06/16 Published 10/07/16



INTRODUCTION

In *Rasashastra*, *Gandhaka* has been mentioned first among eight *Uparasa*¹ group and *Gandhaka*² stands next to Mercury in importance. It is also considered as essential agent for various processes of Mercury such as *Murcchana*, *Jarana*, *Bandhana* etc. When used along with Mercury, potency of Mercury can be increased and toxic effects are reduced which are included in impure Mercury³. This is the reason why Mercury is used internally along with *Gandhaka*.

The best accepted form of *Gandhaka* is greenish yellow in colour, lustrous as butter, smooth and oily in touch.

When purified *Gandhaka* is consumed it prevents death, old age, increases appetite, potency, can cure diseases like *Kushtha* (Skin diseases) etc; but impure *Gandhaka* when consumed causes increased body temperature, mental confusion, blood related diseases⁴. It also destroys brightness and beauty of the human body, strength as well as comfort, produces pitta disorder, causes pain and loss of *Oja* (Immunity)⁴. Hence purification is important for medicinal use.

MATERIALS AND METHODS

Gandhaka 500 gms, *Goghruta* QS, *Bhringaraj Swaras* QS.

Genuine raw material was produced from local market of Kolhapur, Maharashtra, India.

The purification of *Gandhaka* was done by *Dhalana* (Pouring into Liquid) of *Gandhaka* in *Bhringaraj Swarasa*. The process is to be repeated seven times.

Equipments:

Cotton Cloth, Iron Vessel, Mortar & Pestle, Gas.

Procedure:

Previously weighed *Gandhaka* was powdered fine with the help of mortar and pestle. The powdered *Gandhaka* was taken in an Iron vessel, smeared with *Goghruta* and subjected to *Mandagni* (Controlled Heat). When *Gandhaka* melted, it was poured in *Bhringaraj Swarasa* in a vessel. The vessel was covered with a cotton cloth before pouring melted *Gandhaka* in it. The *Gandhaka* from the vessel was then collected and washed with hot water and dried in shade. The process was repeated 7 times⁵ (Fig 1-3).

Precaution

- Equipments should be clean and dry.
- *Mandagni* should be maintained throughout the procedure.

- Gandhaka should be poured as soon as it is melted.
- The Bhringaraj swaras should be changed after each process.

Steps of purification of *Gandhaka*

Fig.1 “Raw *Gandhaka*”



Fig. 2 “During Pouring”



Fig. 3. “Purified *Gandhaka*”



OBSERVATIONS

- Time required for liquefaction of *Gandhaka* was 6-7 minutes, on an average.

- *Gandhaka* liquefied completely at 116 C in the first procedure. It liquefied at 110 C in the second procedure and afterwards it liquefied at 105 C in each process.

- Color changed from Dark yellow to orange yellow during liquefaction of *Gandhaka*.

- After each process *Gandhaka* became more brittle.

- Any physical impurities present in the *Gandhaka* were removed because of its filtration through the cotton cloth.

- Strong smell of *Gandhaka* reduced considerably in subsequent procedures.

- At the end of the procedure color of *Bhringraja swarasa* turned to yellowish green with oily appearance.

- *Gandhaka* found in *Bhringaraja swarasa* was greenish yellow granular solid mass.

- The quantity of *Goghruta* required in the first procedure was much more, compared to that required in the subsequent procedures.

- Weight of *Gandhaka* - 500 gms

- Weight loss - 17gms

(Table 1)

Table 1 “Observations during *Gandhaka Shodhana*”

Procedure	Weight of <i>Gandhaka</i> (gm)		pH of <i>Bhringaraja Swarasa</i>		Temperature (°C)	
	Before	After	Before	After	Before	After
1	500	498	6.03	6.23	112	120
2	498	495	6.05	6.35	113	123
3	495	491	6.2	6.21	115	123
4	491	489	6.3	6.32	116	122
5	489	487	6.2	6.21	115	126
6	487	485	6.1	6.21	115	120
7	485	483	6.2	6.32	115	126

RESULTS

1. Shiny, lustrous, sticky *Gandhaka* obtained.
2. Strong smell of *Gandhaka* subsided.
3. The pH of *Bhringaraj Swaras* increased from 6.03 to 6.32.

DISCUSSION

Gandhaka was used from very long period for therapeutic purpose. In many of the *Rasashastra* texts, the mythological origin of *Gandhaka* was stated and related with Goddess *Parvati*. The adverse effects of impure *Gandhaka* are supposed to be avoided by following the process of *Shodhana*.

In *Rasashastra*, *Shodhana* is considered as an important step towards

quality drug production. *Shodhan* includes various types of procedures by which the undesired part is eliminated from the drug and the desired part is elevated. After *Shodhana*, the dose of the drug is also found to be decreased. Its advantages are as follows:

1. It decreases the harmful part of the drug.
2. It increases the potency of the drug.
3. *Marana* process is easy after the *shodhan* procedure.
4. Because of the *Shodhan*, the drugs alter their native form which may be unstable.
5. Physical impurities like stone, dust are separated.

6. After the proper *Shodhan* procedure the shelf life of that particular drug is increased.

7. By using different *dravyas* for the *Shodhan*, the targeted action of that drug also changes.

There are different *dravyas* mentioned for the *Shodhan* of *Gandhaka*:

1. *Bhringraj Swarasa*
2. *Kanji*
3. *Karanja Taila*
4. *Godugdha*
5. *Nimbu Rasa*

Different methods are chosen as per the desired medicinal effects.

CONCLUSION

1. pH of *Gandhaka* decreased at the end of seventh cycle of purification and that of *Bhrungaraj swaras* increased considerably.

2. It is concluded that the total amount of 'Sulphur' in the raw material increased after purification.

3. The purification method stated in the *Rasashastra* text is to remove the impurities and to improve the quality of *Gandhaka*.

4. Such *Gandhaka* does not produce harmful effects by external or internal administration.

REFERENCES

1. Sharma Sadananda, Rasa tarangini, Motilal banarasi das publication, 11th edn, 1979.
2. Acharya Yadavji Trikamji, Rasamritam, Chaukhambha sanskrit Bhawan, Varnasi, 2nd edn, 2003.
3. Dwivedi Vishwanath, Bharatiya Rasashastra, Shri Sharma Ayurveda Mandir Varnasi publication, 1st edn, 1977.
4. Dole Vilas A. A text book of Rasashastra, Choukhamba Sanskrit Pratishtan, Delhi, Reprint 2006.
5. Jha C. B., Ayurvediya Rasashastra, Chaukhambha, Surabharati Prakashan, Varanasi, 2003.
6. Dandupanatha Bhajandas Swami, Rasadarpana, Nath Pustaka Bhandar Rohataka, Hariyana, 3rd edn, 1908.
7. P.L. Soni: Text book of Inorganic Chemistry. Pub: Sultanchanda & Sons. 20th Edn: 1991.
8. Baxi, Methods of Qualitative testing of some Ayurvedic formulations, Gujarat Ayurved University, Jamnagar, 2002.
9. Nadakarni K. M., Indian Materia Medica, Bombay Popular Prakashan, 1976.
10. Sharangdhara, Sharandhara Samhita, Adhamalla, Dipika commentary, Chaukhambha Orientalia, Varanasi, 2005.
11. Sharma S. N., Rasa Tarangini, Shastri K. N., Hindi commentary, Motilal Banarasi Das, Delhi, 2004.
12. Shri Vagbhattacharya, Rasa Ratna Samuchchaya, Kulkarni D.A., Hindi commentary, Meharchand Laxmandas publication, New Delhi, 1998.
13. Siddhinandana Mishra, Ayurvediya Rasa Shastra, Chaukhambha orientalia, Varanasi, 2006.
14. <http://en.wikipedia.org/wiki/Sulphur>