



## Research Article

www.ijrap.net



### ROLE OF DIFFERENT MEDIA USED IN GANDHAK SHODHAN REGARDING ANALYTICAL STUDY

Kavita Shailesh Deshmukh \*, Poonam Shete, Vikram Rajpurohit

Department of Rasashastra Bhaishajya Kalpana, Sumatibhai Shah Ayurved College, Malwadi, Hadapsar, Pune, Maharashtra, India

Received on: 07/02/17 Accepted on: 29/03/17

#### \*Corresponding author

E-mail: kirtitravels.deshmukh@gmail.com

DOI: 10.7897/2277-4343.08293

#### ABSTRACT

Ayurvedic text gives the various references of Shodhan and Marana of metals and minerals. One or many different dravyas are used for Shodhan and Marana. One of the causes may be its therapeutic effect and the other may be the availability of drug. The herbal drugs which are used for Shodhan and Marana, they also have some therapeutic properties, Synergetic action of both Shodhya dravya and Shodhan dravya is done while performing Shodhan and Marana. Analytical and Clinical study can give the answer to this question. These changes can be justified with the help of analytical study. Advance techniques like SEM EDX, FTIR and XRD etc. can be used to understand the outcome of Shodhan process. For this study Gandhaka is selected. Shodhan of Gandhaka is carried out in five different dravyas. Analytical study of Gandhaka shodhan in five different dravyas has been carried out. Physicochemical analysis is performed with modern techniques like SEM. The observations of this study are discussed in this article.

**Key words:** Shodhan, Gandhaka, Analytical study, Shodhya Dravya

#### INTRODUCTION

Shodhan is very important process in Rasashastra. For the preparation of medicine, herbal drugs as well as many minerals and metals are used like Parada, Loha, Abhraka, Shankha etc. These all dravyas are inorganic in nature. They have to convert it in organic form for the easy assimilation in the body. To convert this in organic form, Shodhan and Marana processes are required.

To make a drug of desired quality and efficacy various processes are performed like Bhavana, Mardana, Nirvapana etc. The process which is used to remove the Doshas i.e. Mala and make it in acceptable form for the absorption in the body is called Shodhana.<sup>1</sup> Shodhana is not only the purification of the dravyas. It removes the Dosha, it removes the toxicity but also increase the Gunas means quality of the drug. It converts into organo-metallic form for the easy assimilation in the body and also make suitable for the further Marana process. After Shodhana process physical, chemical and biological changes are occurred<sup>2</sup>.

Physical changes are

1. Elimination of physical impurities
2. Reduction in Hardness
3. Reduction in Brittleness
4. Reduction in Particle size

Chemical changes are

1. Elimination of chemical impurities
2. Formation of new chemical compound

Biological changes are

1. Increase the bioavailability of the drug
2. Potentiate its efficacy
3. Reduce irritability and helps in absorption.

To understand these changes modern techniques can be used. Physical and chemical changes can be justified with Analytical

study. To see the biological changes Experimental and Clinical study is required.

To perform these Shodhana process different dravyas from Plant or Animal origin, are described. In various texts, many different dravyas are used. for example,

For Gandhaka shodhana- Godugdha, Triphala Kwath, Maka Swarasa etc. dravyas are used.

For Hingul Shodhana-Godugdha, Ardraka Swarasa, Nimbu Swarasa etc. dravyas are used.

For this study Gandhaka is selected. Shodhan of Gandhaka is carried out in five different dravyas. Analytical study of Raw Gandhaka and after Shodhan in five different dravyas has been carried out. Physicochemical analysis is performed with modern techniques like SEM- EDX. The observations of this study are discussed in this article.

#### Aim and Objectives

1. To study the various methods of Gandhak Shodhan.
2. To study the role of Shodhan dravyas in Gandhaka Shodhana by its physicochemical analysis

#### MATERIALS AND METHODS

Gandhaka

It is the main drug used in Rasashastra. In all Rasakalpas Gandhaka is used.

Use of Gandhaka is found from the period of Charka Samhita. Gandhaka means Sulfur, it is yellow in colour, hard, and have glow and glossy surface.

**Synonyms of Gandhaka-** Shulbari, Shulbaripu, Pamari, Kushthari, Lelitaka, Balivasa, Atigandha, Putigandha, Bali etc.

#### Types of Gandhaka

Rakta-Shukatunda  
Pita-Shukapichcha  
Shweta-Khatika  
Krushna-Durlabha

Among these types, Pita i.e. Amalsar Gandhaka is used in medicine. Gandhak is having two types of impurities i.e Sheelachurna and Visha, If Gandhaka is used without Shodhan it can cause toxic

effects. It can cause Kushtha, taapa i.e. heat, Pitta Vikara etc. Therefore, Shodhan is important.<sup>3</sup> Gandhaka Shodhan-Gandhaka shodhan performed in various dravyas is described in the following table.<sup>4,9</sup>

**Table 1: References of Shodhan dravyas and Shodhan processes from different Ayurvedic texts**

Sr. No.	Shodhan Dravya	Process	Reference
1.	Goghruata and Godugdha	Dhalana Process	Rasaratna Samuchchaya
2.	Goghruata and Maka swarasa	Dhalana Process	Rasaratna Samuchchaya
3.	Sarshap,Kusumbha Taila and Godugdha	Dhalana Process	Rasatarangini
4.	Bhallataka Tail,Triphala,Guduchi,Yashtimadhu Kwath	Dhalana Process	Rasendrasar Sangraha
5.	Eranda Sneha,Aragwdha or Karshanbeej Kwath	Dhalana Process	Rasendrasar Sangraha
6.	Tila Taila and Aragwadh Kwath	Dhalana Process	Rasendrasar Sangraha
7.	Jaipala Taila and Aragwadh or Karshanbeej Kwath	Dhalana Process	Rasendrasar Sangraha
8.	Goghruata and Shukeshtabeejambu	Dhalana Process	Rasayansar
9.	Gughruata and Palandu Swarasa	Dhalana Process	Rasendrasar Sangraha
10.	Triphala Kwath	Dhalana Process	Rasachandanshu
10.	Godugdha	Swedana Process	Rasaratna Samuchchaya
11.	Triphala Kwath	Swedana Process	Rasakamdenu
12.	Vasa,Sneha,Dugdha	Swedana Process	Rasakamdenu
13.	Churnodaka	Swedana Process	Rasatarangini
14.	Devadali,Navamalya,Vajryarka,Dugdha,Amla varga	Swedana Process	Rasakamdenu
15	Gandhaka	Adhapatan process	Rasatarangini

Mainly Shodhan of Gandhaka is done in Goghruata and other dravyas. It is also done in Taila and Godugdha. So, we took these 5 processes and analyse it.

Uses of Gandhaka-Gandhaka is having Madhura rasa,Usna Veerya, Katu Vipaka and Rasayan ,Vajikar in Prabhava. It is used in Kandu, Kushtha, Amaroga, Visha, Krumi, Prameha, Vali, Palitya, Dadru, Pama, Vicharchika, Visarpa, Dryshtimandya, Netraroga etc.<sup>10</sup>

**Methodology**

Gandhak Shodhan is performed in five different media.<sup>11-12</sup>

1. Goghurut and Godugdha-G1
2. Goghurut and Dadim (*Punica Granatum Linn*) swarasa-G2
3. Goghurut and Triphala kwath (*Terminalia Chebula, Terminalia Belerica, Embelica Officinalis*)-G3

4. Sarshapa Taila (Mustard Oil) and Godugdha-G4
5. Kusumbha Taila (Safflower Oil) and Godugdha-G5

**Procedure**

Gughruata was taken in the pan. It was heated, it gets melted. After Gandhaka is added in it. Then it is poured in Godugdha through cotton cloth. This procedure is repeated for three times. Afterwards it is washed with hot water and dried. Same procedure is done for five different dravyas, only difference is using Different Sneha dravya i.e. Goghruata or Taila and different drava dravya. These five samples were collected and physicochemical analysis was carried out. Organoleptic tests, Weight, Melting point and for elemental assay SEM- EDX test was carried out.

**OBSERVATIONS**

**Table 2: Observations of Raw Gandhaka and Gandhaka after Shodhan in five different media**

Test	Raw Gandhaka	G1	G2	G3	G4	G5
Bhanguratwa	Bhangur +++	Bhangurtwa decreased	Bhangurtwa decreased	Bhangurtwa decreased	Bhangurtwa decreased	Bhangurtwa decreased
Rukshata	Ruksha	Snigdha	Snigdha	Snigdha	Snigdha	Snigdha
Colour	Yellow	Bright yellow	Bright yellow	Bright yellow with blackish tinge	Dark yellow	Light yellow
Smell	Aartawa gandhi	Goghurut gandhi	Goghurut gandhi	Goghurut gandhi	SarshapTail gandhi	Kusumbha Tail Gandhi

**Table 3: Weight and Melting point of Raw Gandhaka and Gandhaka after Shodhan**

Test	Raw Gandhaka	G1	G2	G3	G4	G5
Weight	100	97	99	99	97	98
Melting Point	119	123	122	125	127	124

**Table 4: Chemical assay by SEM-EDX**

Test	Raw Gandhaka	G1	G2	G3	G4	G5
C	9.47	47.70	13.04	15.79	37.76	38.74
S	90.32	49.62	86.63	83.92	55.95	57.80
O	0.03	2.5	-	0.05	6.63	3.38
As	0.05	-	-	-	-	0.04
Mg	-	0.02	-	0.03	0.05	0.02
Ca	-	0.04	0.08	-	-	0.01
Fe	-	0.02	0.13	-	0.01	0.01
Zn	-	0.08	0.11	0.21	-	-

## DISCUSSION

In Ayurvedic Rasagranthas various references of Gandhaka shodhana are found. Different Shodhan dravyas are used for Shodhan. Different methods are also mentioned for Shodhan for e.g. Dhalana, Swedana and Adhapatan. Exact role of Shodhan dravyas in shodhan process has not been explained.

Generally Gandhaka shodhan is performed in Goghruata and other liquid for e.g. Godugdha, Maka swarasa etc. In some text it is performed in Taila like Sarshapa and Kusumbha etc. with Godugdha. It is observed that Gandhaka is first dissolved in Fat media like Goghruata and Taila, then it is mixed with liquid media like Godugdha and Triphala Kwath etc.

Gandhaka is Ushna, Tikshna, Krimighna. Its toxicity is dissolved in fat media. Different dravyas has different use in therapeutics. When Gandhaka shodhan is performed in Goghruata and Godugdha it can be used as Rasayana. When it is performed in Taila it can be used in Kushtha. If Triphala kwath, Maka swaras are used then It is used in Krumi vikara etc.

Analysis of Gandhaka is useful to study the physicochemical changes occurring in Gandhaka after shodhan. After Shodhan, Bhanguratwa is increased and Rukshata is decreased. Colour of Gandhak is changed and smell of Shodhya dravya is appeared. Weight of Gandhaka is slightly decreased, Melting point is increased but mostly similar in all media. SEM EDX shows C % is more in Godugdha and Goghruat and also high in Taila media but it is low in Dadim and Triphala kwath. S % is high in Dadim and Triphala media. O % is high in Sarshap Taila. It indicates that Properties of shodhya dravya affects the shodhan dravya. Chemical ingredients are changed. So, the different properties of Shodhan dravyas are observed.

## CONCLUSION

Therefore, it can be concluded that Shodhya dravya acts on Shodhan dravya. Its physicochemical properties are changed. Due to change in chemical ingredients its efficacy also affects. Therefore, uses of Shodhan dravyas are different when different

Shodhya dravyas are used. More advance techniques can be used to analyse the data, Experimental and clinical study can add more information to find out the role of different dravyas used in Shodhan and Marana processes.

## REFERENCES

1. Vd.Kashinath Shastri, Rasatarangini, Sadanand Sharma, 11th edition, 1982, Page No.22
2. Dr. Damodar Joshi, Rasashastra English Edition, Choukhamba Orientalia, Varanasi, second edition 2008, Page No.91-92
3. Dr.K. Ramchandra Reddy, Textbook of Rasashastra, Choukhamba Orientalia, Varanasi, Second edition 2010 Page No.253
4. Dr.D.A. Kulkarni, Rasaratna Samuchchaya, Vagbhatacharya Meherchand Laxmandas Publications, Third edition, 1982 Page No. 45-47
5. Vd.Kashinath Shastri, Rasatarangini, Sadanand Sharma, 11<sup>th</sup> edition, 1982, Page No.176-180
6. Vd. Satyarth Prakash, Rasendrasar Sangraha, Choukhamba Publication, First edition, 1994, Page No.83-84
7. Vd. Santoshkumar Sharma, Rasakamdhenu, Choukhamba Pubication, Second edition, 2007
8. Vd. Shankara, Rasachansanshu, edited by Vd. Dattaram, Translated in Kannada by Dr.Halseekar, Atreya Prakashan, Hubli.
9. Pandit Shyamsundaracharya Vaishya, Rasayansar, Part -1, Krushnadas Academy, Varanasi, sixth edition, 1997, Page No.100
10. Dr.K.Ramchandra Reddy, Textbook of Rasashastra, Choukhamba Orientalia, Varanasi, second edition 2008, Page No.254-255

## Cite this article as:

Kavita Shailesh Deshmukh *et al.* Role of different media used in Gandhak shodhan regarding analytical study. Int. J. Res. Ayurveda Pharm. 2017;8(Suppl 2):112-114 <http://dx.doi.org/10.7897/2277-4343.08293>

Source of support: Nil, Conflict of interest: None Declared

Disclaimer: IJRAP is solely owned by Moksha Publishing House - A non-profit publishing house, dedicated to publish quality research, while every effort has been taken to verify the accuracy of the content published in our Journal. IJRAP cannot accept any responsibility or liability for the site content and articles published. The views expressed in articles by our contributing authors are not necessarily those of IJRAP editor or editorial board members.