



GANDHAKA BHASMA NIRMANA VIDHI

Ayurveda

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ABSTRACT

AIM: Preparation of Gandhaka bhasma. **OBJECTIVES:** Gandhaka bhasma preparation, Gandhaka bhasma Physico chemical test. **DISCUSSION:** All four varieties of preparation of Gandhaka bhasma is possible. Its bhasma pareeksha revealed that Gandhaka bhasma IV is Krishna varna Gandhaka in which Gandhaka percentage is 98.72%. **CONCLUSION:** Gandhaka bhasma IV is Krishna varna, Gandhaka bhasma I Gandhaka bhasma II, Gandhaka bhasma III are also bhasma preparation only.

KEYWORDS

Gandhaka bhasma, Kushtagana, Pamari, Skin diseases.

INTRODUCTION

Gandhaka : (Pu)¹

Ugra gandhoashyatiti | Arsu Aadhibhoach tatha: Svarthe Kan | Shobhajan Vrutha : | Iti Shabdharatnavali | Upadhatu Visheshha || All the Rasa Granthakaras mentioned the evolution of Gandhaka from Goddess Parvati.²

Ayurveda our traditional system has abundant treasures of Rasa Oushadhasees with least adverse effects on judicious use still there is much to put in practice of Ayurveda. The history of rasa Grantha shows that there is a gradual development different prakriya's in different rasa granthas at different period. There has been gradual change and up gradation of Rasa shastra. Newer things have been added later on by the scholars. A reference in Dr. Achant Laxmipati's "oushadha vignana"³ regarding preparation of Gandhaka Bhasma and its use in Madhumeha promoted me to look in other references too.

Reference of Gandhaka bhasma are also available in Balaji Ogale's Chikitsa Prabhakar⁴ "Oushadhee baada"⁵.

During the samhita kala study on skin diseases were done elaborately and a separate chapter on Kushta found the place, which is different than given in modern medicine (Uday 2019)⁶. Shuddha Gandhaka during the shodhana process gets free from physical and chemical impurities and attains pinda roopa⁷.

Sulphur is one of the most important mineral which has been in use since very long time for internal and external therapeutic purposes. As a single drug this is widely needed for various pharmaceutical purposes. It is included under uparasa group standing next to Rasa (Parada) in importance. The physical properties of Sulphur is pale yellow, brittle solid crystalline in nature⁸. I is soluble in water but readily soluble in carbon disulphide and sparingly soluble in alcohol and ether⁹. The Chemical properties it burns in air with a pale blue flame giving sulphurdioxide and little trioxide as well¹⁰. Effects of heating sulphur is yellow transparent mobile liquid, upon further heating the viscosity of the liquid decreases gradually at a minimum at 157degree C but then rapidly increases reaching a maximum value at about 187degree C¹¹.

Sulphur preparation are commonly used in Ayurveda as Kitaghana-Insecticide and Antibacterial; Kushtari - cures Dermal disorders and Pamari-

AIMS AND OBJECTIVES

- 1) Preparation of Gandhaka bhasma- 1 by using Nimbuka
- Preparation of Gandhaka bhasma- 2 by using Arjuna bhasma
- Preparation of Gandhaka bhasma- 3 by using Sudha churna
- Preparation of Gandhaka bhasma- 4 by using Babbula twak kwath bhavana & following kupipakva method.

2) PUTANISKARSHA

Temperature maintained.

Time taken

Fuel used

3) Physical changes taken during the procedures.

4) Chemical Analysis.

MATERIALS & METHODS

GANDHAKA BHASMA.- I

Cut the Nimbuka, Place the Shuddha Gandhaka in Nimbuka and Close both the cut edges. 15 cow dung cake fire was given. Temperature maintained is 250 °C, Weight of cow dung is 2.30 k.g. Time Taken for the procedure is 90 minutes. After swanga sheet Gandhaka Bhasma was collected and subjected for Bhasma Pareeksha and Physico-chemical analysis.



Fig no-01 (GANDHAKA BHASAM – I Preparation)

GANDHAKA BHASMA. – II

In this procedure 3 parts of Arjuna Bhasma was added in a ghata 1 part of Shuddha Gandhaka placed in arjuna bhasma remaining portion of ghata is placed with arjuna bhasma and sandhi bandhana was done between sharava and ghata. This arrangement is placed in valuka yantra on mandagni for 3 hours.

Temperature – 100 °C

Fuel – Gas burner

Time Taken – 3 hours



Fig no – 02 (Gandhaka bhasma - II preparation)

GANDHAKA BHASMA – III

In this procedure, 1 part of shuddha gandhaka & 10 parts of sudha churna are added in moosha. Sandhi bandhana was done between moosha and sharava. This arrangement cowdung cakes are used as a fuel. Thus I got Gandhaka bhasma III

After the procedure I got the Gandhaka bhasma – III which is subjected for bhasma pareeksha and physio chemical changes.

Temperature - 140°C
 Fuel – Cowdung cake
 Time taken – 90 minutes.



Fig no – 03 (Gandhaka bhasma – III Preparation)

GANDHAKA BHASMA – IV

Bhavana of Babbula Twak, Kwath was given for 12 parts of shuddha Gandhaka for 14 hours and dried. Bhavita Gandhaka was placed in mrit lepita kachakupi mukha mudra was done. Place the mrit lepita kachakupi in valuka yantra 12 hours on mandagni i.e., 120° - 140° C and 12 hours teervagni i.e., 260° - 280°C was given. After swangsheeta Krishna varna Gandhaka Bhasma was obtained after breaking of kachakupi.

Temperature :
 Mandagni - 120° - 140° C
 Teervagni - 260° - 280°C
 Fuel - Gas burner
 Time taken – 24 hours



Fig no – 04 (Gandhaka Bhasma – IV Preparation)

GANDHAKA BHSAMA PAREEKSHA

Table no : 01

PATTERN OF EXAMINATION	GANDHAKA BHSAMA - I	GANDHAKA BHSAMA - II	GANDHAKA BHSAMA - III	GANDHAKA BHSAMA - IV
Varna	Ati peeta	Peetabha	Shayava	Krishna
Sparsha	Rekhapurna	Rekhapurna	Rekhapurna	Rekhapurna
Rasa	Nirasa	Nirasa	Nirasa	Nirasa
Special Test	Vareetara Unam	Vareetara Unam	Vareetara Unam	Vareetara Unam
Agni	Nirdhooma Drav	Nirdhooma Drav	Sadhooma Ghana	Nirdhooma Drav

PHYSIO – CHEMICAL ANALYSIS

Table no : 02

TEST	GANDHAKA BHSAMA- I	GANDHAKA BHSAMA – II	GANDHAKA BHSAMA - III	GANDHAKA BHSAMA – IV
P.S	29.75 µm	14.25 µm	18.35 µm	32.5 µm
S%	95.238%	71.62%	26.08%	98.72%
pH	7.46	9.24	11.63	5.45
L.O.D	2.63%	3.15%	15%	18.5%
A.V	3.15%	3.05%	55%	14.5%

P.S – Partical size, S%- Percentage of Sulphur, pH- potential of hydrogen, L.O.D- Loss on drying, A.V- Acid value

INTERPRETATION AND CONCLUSION:

Bhasma pareeksha reveals that Gandhaka Bhasma can be prepared successfully.

Though Gandhaka sublimes at lower temperature since different media used and the different pattern of agni used Gandhaka Bhasma could be prepared.

All four preparations have passed Bhasma Pareeksha chemical analysis shows that G.B-I can be considered to be the best bhasma.

Gandhaka bhsama IV reveals that Krishna varna Gandhaka is possible by following Gandhaka bhasma IV procedure, Sulphur percentage is 98.72%.

GANDHAKA BHASMA – I

WEIGHT OF MARITA GANDHAKA

Table no : 03

Before Marana	After Marana
20 gm	18 gm

BHASMA PAREEKSHA

Table no : 04

Pattern of Examination	Property of Bhasma Examined
Varna	Ati Peeta
Sparsh	Rekhapurna
Rasa	Gatarastwa
Special Test	Vareetara Unam
Agni	Nirdhooma Drava

CHEMICAL ANALYSIS

Table no : 05

Test	Result
P.S.	29.75 µm
S%	95.238
p ^H	7.46
L.O.D.	2.63%
AV	3.15%

GANDHAKA BHASMA - II

ORGANOLEPTIC CHARACTER

Table no : 06

Pattern of Examination	Property of Bhasma Examined
Varna	Raktabha Sweta
Gandha	Nirgandha
Rasa	Lavana
Sparsha	Mrudu

CHEMICAL ANALYSIS

Table no : 07

Test	Result
p ^H	9.95

WEIGHT OF MARITA GANDHAKA

Table no : 08

Before Marana	After Marana
20 gm	15 gm

BHASMA PAREEKSHA

Table no : 09

Pattern of Examination	Property of Bhasma Examined
Varna	Peetabha Varna
Sparsh	Rekchapurna
Rasa	Gatarasa

Special Test	Vareetara, Unam
Agni	Nirdhooma Drav

CHEMICAL ANALYSIS**Table no : 10**

Test	Result
P.S.	14.25µm
S%	71.62%
p ^H	9.24
L.O.D.	3.15%
AV	3.05%

GANDHAKA BHASMA - III**WEIGHT OF MARITA GANDHAKA****Table no : 11**

Before Marana	After Marana
20 gm	40 gm

BHASMA PAREEKSHA**Table no : 12**

Pattern of Examination	Property of Bhasma Examined
Varna	Shyava Varna
Sparsh	Rekhapurna Mrudu
Rasa	Gatarasa
Special Test	Vareetara Unam
Agni	Sadhoomra Ghana

CHEMICAL ANALYSIS**Table no : 13**

Test	Result
P.S.	18.35µm
S%	26.08%
p ^H	11.63%
L.O.D.	15%
AV	55.1%

GANDHAKA BHASMA - IV**WEIGHT OF MARITA GANDHAKA****Table no : 14**

Before Marana	After Marana
140 gm	118 gm

BHASMA PAREEKSHA**Table no : 15**

Pattern of Examination	Property of Bhasma Examined
Varna	Krishna Varna
Sparsh	Rekhapurna Mrudu
Rasa	Gatarasa
Special Test	Vareetara Unam
Agni	Nirdhooma Drava

CHEMICAL ANALYSIS**Table no : 16**

Test	Result
P.S.	32.5µm
S%	98.72%
p ^H	5.45
L.O.D.	18.5%
AV	14.5%

RESULTS:**Shodhana of Gandhaka Weight of Gandhaka****Table no : 17**

Before Shodhana	After Shodhana
500gm	460gm

ORGANOLEPTIC CHARACTERS**Table no : 18**

Guna	Before Shodhana	After Shodhana
Varna	Peeta	Peetabha
Gandha	Ugra	Soumya
Sparsha	Katheena	Mrudu
Rasa	Katu	Katu

CHEMICAL TEST**Table no : 19**

Test	Before Shodhana	After Shodhana
S%	99%	96.6107%

DISCUSSION:

All the bhasma are passing physical test like Rekhapurna, Vareetara and Unam. Chemical analysis of all the four bhasma's are significant. Gandhaka bhasma IV being Krishna varna and Sulphur percentage is 98.72% which is the highest among all the four bhasma's.

CONCLUSION :

The present study was conducted to prepare gandhaka bhasma by 4 different procedures and to assess their Physio - Chemical analysis of the same.

1. Gandhaka bhasma is possible.
2. Gandhaka bhasma IV is Krishna varna gandhaka.
3. All the Bhasma's passed bhasma pareeksha viz., Rekhapurna, Vareetara, Unam, Niswadu and Agni successfully.

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