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Pharmaceutical Preparation Of Abhrak Bhasma

Vd. Kishor N. Bodhakar¹, Dr. Prakash H. Khaparde²¹Professor, Rasashastra-B.K. Department, Sardar Patel Ayurvedic Medical College & Hospital, Balaghat (Madhya Pradesh) & PhD Scholar, Shri Ayurved Mahavidyala, Nagpur (Maharashtra)²Ex- Dean, Government Ayurved College Dharashiv Osmanabad (Maharashtra)

Corresponding author: Vd. Kishor Bodhakar

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Abstract

Background- Preparation of *Bhasmas* (Ayurvedic traditional medicine) from metals and minerals are tedious process which removes toxic properties of metals and minerals and improve medicinal properties. We prepared *Abhraka bhasma* by traditional method and analysis of raw *Abhraka*, pure *Abhraka* & *Abhrakabhasma* done by Ayurvedic & modern parameters. Objectives- The present study deals with the preparation and analysis of *Abhraka bhasma* by traditional method. Hence attempts have been made to see the physico-chemical differences between *Ashuddha* (Impure) *Abhraka*, *Shuddha* (Pure) *Abhraka* & *Abhrakabhasma* by using different analytical techniques. Material and Methods- *Abhrakabhasma* preparation includes *shodhana* (purification), *dhanyabhraka nirmana*, *marana* (incineration). The prepared *bhasma* were analyzed by classical ayurvedic tests (*Rekhapurnatva*, *Varitar*, *Nishchandratva*, etc.) and modern analytical techniques (loss on drying, ash value, assay for Fe, etc). Results- After *Shodhana* the layers of *Abhraka* were separated easily. Near about 80-85% of *Nishchandratva* was achieved after third *Putra* during *Mardana* procedure. After 40th *Putra*, *Abhraka* was *Sookshma*, *Shlakshna*, and *Ishtikabha* and fulfilled all the *Bhasma Pariksha*. Conclusion- *Dhanyabhrakikarana* of *Abhraka* produces uniform and fine powder of *Abhraka*, concludes that even in underdeveloped phase of human life technique used by ancient Acharya was scientific and of great significance. For the *Abhraka Marana*, *Gajaputa* is mentioned in texts but the quantity of *Bhasma* didn't mentioned. Hence proportion of *Agni* should be taken as per weight of *Chakrika* (pellets).

Keywords- *Ashuddha Abhraka*, *Shodhana*, *Dhanyabhraka*, *Marana*, Ayurvedic *bhasma pariksha*.

Introduction :

Detailed knowledge of metals and minerals has been explained in *Rasashastra* which is a branch of Ayurveda. The herbal medicines have their limitations due to requirement of higher dosage, non-palatability and less shelf-life. To overcome this, *Rasaushadhis* like *Bhasmas* are the best alternatives. *Bhasmas* prepared from the natural minerals/metals along with herbs by the process of *Bhasmikanana* in which toxic compounds are converted into non-toxic and bio-acceptable form.^[1,2] Though *bhasma* are superior than herbal products, improperly prepared *bhasmas* can produce adverse effects on the body & potentially severe, toxic. e.g. heavy metal poisoning and sometimes may lead to death. In mineral/metal based drugs, the use of plant extracts illuminate the toxic effects of minerals/metals.^[3,4] Preparation of particular *bhasma* from a single metal/mineral has been shown with different routes to enhance their therapeutic utility and ultimately medicinal values^[5]. The preparation of *abhraka bhasma* includes *shodhana* (purification of *abhraka*), *dhanyabhraka nirmana* (insertion of *abhraka* in sour gruel with rice husk), *marana* (incineration). *Shodhan* (purification) with different media like cow milk, decoction of *Triphala kwath* (*Amalaki*, *Haritaki*, *Bibhitaki* fruits), cow urine and Kanji (rice husk) are frequently used as medium^[6]. Among them *Nirvapa* process (heating and immediately quenching in liquid medium) for seven times is the process for *Shodhan* of *Abhraka*^[7]. *Marana* means trituration of metal/mineral with *Kalami sora* & *Guda* or other liquid media for several hours &

then repeated incineration at high temperature in a *Puti* system^[8]. *Bhasmas* can be obtained in different forms, colors and with different physiochemical properties by changing the method of preparation^[9]. These properties can be tested by variety of classical *Ayurvedic* tests^[10] to ensure quality of *bhasmas* such as fineness (*sukshmatva*), lusterlessness (*nishchandrata*), ability to float on water (*varitaratva*) etc.^[11] However, in ancient times no proper instrumentation facilities were available for such standardization. By modern analytical techniques we can now focus light on the hidden properties and composition of these compounds which are prepared using ancient knowledge. In all these processes, the impurities in the *Abhraka* removed & reducing the toxicity with increased medicinal value. Thus, the *Abhraka bhasma nirmana* process at each step is needed to be checked.

Material & Methods:

Abhraka Bhasma Nirmana includes

- A. *Shodhana* of *Abhraka*,
- B. *Dhanyabhraka Nirmana*,
- C. *Marana* of *Abhraka*

A) *Shodhana* of *Abhraka*

Reference- *Rasaratnasamucchaya* 2/16-17

Equipment-Steel vessel, *Bhatti*, metal tongs, cloth, measuring jar, weighing machine, iron pan etc.

Ingredients -

- 1) *Ashuddha Abhraka* - 2.5 kilogram
- 2) *Triphala Kwatha* - as required (5.5 litre)

Procedure – Required amount of *Triphala Kwatha* was taken in a steel vessel. Raw *Abhraka* chips were kept in *Bhatti* till they became red hot. The *Abhraka* chips were turned up and down with metal

tongs, when the *Abhraka* chips became completely red hot, they were quenched (*Nirvapana*) into the *Triphala Kwatha*^[12]. After few minutes the *Triphala Kwatha* was separated and soft pieces of *Abhraka* were collected in an iron pan to subject it for next *Nirvapana*. Same procedure was repeated for 7 times^[13].

Duration-3 days

Observation :

- Consistency- soft and brittle
- Colour - golden brown
- Colour of *Triphala kwatha*- dark brown
- Lustre - increased
- Weight after *Shodhana* - 1855 gram
- Loss of Weight - 645 gram

Other observations- Layers of *Abhraka* were easily separated. When pieces of *Abhraka* were quenched into *Triphala kwatha* typical 'hissing' sound was produced.

Precautions- Fresh *Triphala kwatha* was used every time. During *Nirvapana* procedure, the *Triphala kwatha* became hot and partials of *Abhraka* were expelled, hence this procedure was carried out carefully.

B) *Dhanyabhraka Nirmana*

Reference- *Rasaratnasamuchhaya* 1/154

Equipments- Jute cloth, Jute yarn, steel vessels, tray, spatula, plastic pot, etc.

Ingredients-

- 1) *Shuddha Abhraka* - 1845 gram
- 2) *Dhana* - 460 gram
- 3) *Kanji* - as required (7 litre)

Procedure- Firstly *Shuddha Abhraka* was transferred to a tray and ¼ quantity of *Dhana* with respect to *Abhraka* was added layer by layer. Then

a jute cloth (*Bora*) was spread on a table and mixture of *Dhana* and *Abhraka* was transferred on it. After covering it, a *Pottali* was tied by a jute yarn. Then required amount of *Kanji* was taken in a plastic pot and the *Pottali* was dipped in it completely for 72 hours. More *Kanji* was added when the quantity of *Kanji* was reduced, so as to keep *Pottali* completely dipped in it. On the 4th day, *Pottali* was taken out. A large plastic vessel containing water was taken. A *Pottali* was dipped in it and rubbed by sole. When the colour of water changed to black, a new pot with water was taken to give fresh media. The process is continued till the extraction of *Dhanyabhraka*. The upper clean water in the pot was separated after sedimentation and the residue was allowed to soak. At last lustrous black coloured coarse powder of *Dhanyabhraka*^[14] was collected.

Duration - 14 days

Observation :

- Consistency - Course powder
- Colour - Black
- Lustre - present
- Weight after *Shodhana* - 1550 gram
- Loss of Weight - 295 gram

Precautions – Regular monitoring and addition of *Kanji* is necessary. To avoid slippage *Pottali* was banded tightly. Fine particles of *Dhanyabhraka* also remain entangled in jute cloth. Therefore after *Mardana* process removal of residue achieved by soaking the jute cloth in water. After sedimentation the *Dhanyabhraka* was separated carefully to reduce the loss.

C) *Abhraka Marana*

Reference - *Bruhat Yogatarangini*. part-1,
Taranga 41st /38-40

Equipment - *Khalvayantra*, cloth, mixer grinder,
drier, spoon, *Sharava Samputa etc*

Ingredients -

- 1) *Dhanyabhraka* - 1500 gram (1 part)
- 2) *Kalami Sora* - 1290 gram total (1/4 part each time)
- 3) *Guda*- 646 gram total (1/8 part each time)

Bhavana Dravya-

- 4) *Arka Patra Swarasa* - as required
- 5) *Dashamoola Kwatha* - as required
- 6) *Ghrithkumari Swarasa* - as required

Procedure – First 3 *Putas* were given with *Kalami Sora* and *Guda* for the *Nishchandrikarana* of *Abhraka*, as per *Anubhuta Vidhi*. The *Dhanyabhraka Choorna* mixed well with 1/4th part of *Kalami Sora* and 1/8th part of *Guda* and then triturated (*Mardana*) in *Khalva* by adding little amount of water. Small circular cakes (*Chakrika*) were made and weighed, then the cakes were packed in *Sharava Samputa* (*Earthan plate*) and allowed to dry after *Sandhibandhana*. This *Sharava Samputa* is then subjected for the *Putapaka*. According to weight of *Dhanyabhraka*, the cow dung cakes and coal was used for the *Agni*. On the next day after cooling down the *Sharava Samputa*, the cakes were separated and observation noted. Then cakes were crushed, triturated with same as above and subjected to second and third *Putas*. After these 3 *Putas*, next 10 *Putas* were given with *Arkapatra Swarasa* and 10 by *Dashamoola Kwatha Bhavana*. *Kumari Swarasa* was used as *Bhavana Dravya* for next 10 *Putas*. *Abhraka Prakshalana* - After 33 *Putas*, *Abhraka Bhasma* was taken in a stainless steel vessel & water was added and mixed.

After sedimentation water was separated from *bhasma*. This process is carried out 3 times and finally *Abhraka Bhasma* was kept in sunlight for dryness. *Putas* no. 34-40 was given by *Dasharmoola Kwatha bhavana*. Weight of *Abhraka Bhasma* after 40th *puta* was 850 gram. After 40 *Putas*, *Abhraka Bhasma Prakshalana* was done with water to remove *Vanaspatika Kshara*. After *Prakshalana* weight of *Abhraka* reduced and it becomes bright. Weight of *Abhraka Bhasma* after *Prakshalana* was 810 grams. Weight of *Abhraka* after *Putas*, *Bhavana Dravya*, *Agnipramana* and observations are mentioned in the Table 1 and 2.

Table No.1: *Putas* for *Nishchandrikarana* of *Abhraka* :

No . of <i>Putas</i>	Weight of the ingredients	<i>Bhavana Dravya</i>	Details of <i>Putas</i>	Weight of <i>Abhraka</i> after <i>Putas</i>	Observations
1	<i>Abhraka</i> - 1500 gm + <i>Kalami Sora</i> -375 gm+ <i>Guda</i> -188 gm	<i>Jala</i>	22 cow dung cakes +3 kg coal	1750gm	Yellowish brown, <i>Chandrika</i> +++, <i>Shlaksna</i> +, brittle
2	<i>Abhraka</i> - 1750 gm+ <i>Kalami Sora</i> -440 gm+ <i>Guda</i> -220gm	<i>Jala</i>	20 cow dung cakes+ 3 kg coal	1900gm	Blackish dark, <i>Nishchandratva</i> +++
3	<i>Abhraka</i> - 1900 gm+ <i>Kalami Sora</i> -475gm+ <i>Guda</i> -238gm	<i>Jala</i>	20 cow dung cakes+ 3 kg coal	1950gm	Yellowish Brown with black shade, <i>Nishchandratva</i> +++ +

Table No. 2: Showing Details of the Puta and Observations :

No. of Puta	Weight of Abhraka Before Puta (in gram)	Details of Putas (Agnipramana)	Weight of Abhraka after Puta (in gram)	Observations
4	1950	18 Cow dung cakes (9 above, 9 below) + 2.5 kg coal	1800	Yellowish brown with black shades, <i>Nishchandra</i> + + + +, <i>Kharata</i> + +, brittle + + +
5	1800	18 cow dung cakes + 2.5 kg coal	1700	<i>Ishtikabha</i> with black shade, Hardness + +, <i>Nishchandra</i> + + + +
6	1700	18 cow dung cakes + 2.5 kg coal	1650	<i>Ishtikabha</i> with black shade, Hardness + +, <i>Nishchandra</i> + + + +
7	1650	18 cow dung cakes + 1.5 kg coal	1625	<i>Istikabha</i> with black shade, <i>Nishchandra</i> + + + +, Hardness + +, <i>Kharata</i> + +
8	1625	20 cow dung cakes + 2.5 kg coal	1600	<i>Istikabha</i> , brittle +, <i>Kharata</i> +, <i>Nishchandra</i> + + + +, <i>Sookshma</i> +
9	1600	20 cow dung cakes + 2.5 kg coal	1575	<i>Ishtikabha</i> , brittle + +, <i>Sookshmatva</i> +, <i>Nishchandra</i> + + + +,

No. of Puta	Weight of Abhraka Before Puta (in gram)	Details of Putas (Agnipramana)	Weight of Abhraka after Puta (in gram)	Observations
10	1575	20 cow dung cakes + 2.5 kg coal	1555	<i>Ishtikabha</i> , Hardness + +, <i>Nishchandra</i> + + + +, <i>Sookshmatva</i> +
11	1555	20 cow dung cakes + 2.5 kg coal	1530	<i>Ishtikabha</i> , Hardness + +, <i>Nishchandra</i> + + + +, <i>Sookshmatva</i> +
12	1530	20 cow dung cakes + 2.5 kg coal	1500	<i>Ishtikabha</i> , <i>Nishchandra</i> + + + +, <i>Sookshma</i> + +, Hardness + +
13	1500	20 cow dung cakes + 2.5 kg coal	1470	<i>Ishtikabha</i> , <i>Nishchandra</i> + + + +, <i>Sookshma</i> + +
14	1470	20 cow dung cakes + 2.5 kg coal	1450	<i>Ishtikavarna</i> , <i>Nishchandra</i> + + + + +, <i>Sookshmatva</i> + +, Hardness +, <i>Rekhapurnatva</i> +
15	1450	20 cow dung cakes + 2.5 kg coal	1425	<i>Ishtikavarna</i> , <i>Nishchandra</i> +, <i>Sookshmatva</i> + +, Hardness +, <i>Rekhapurnatva</i> + +

No. of Puta	Weight of Abhraka Before Puta (in gram)	Details of Putas (Agnipramana)	Weight of Abhraka after Puta (in gram)	Observations
16	1425	20 cow dung cakes + 2.5 kg coal	1405	Ishtikavarna , Nishchandra, Sookshmatva ++, Hardness +, Rekhapurnatva ++
17	1405	20 cow dung cakes + 2.5 kg coal	1385	Ishtikavarna , Nishchandra, Sookshmatva ++, Hardness +, Rekhapurnatva ++
18	1385	20 cow dung cakes + 2.5 kg coal	1370	Ishtikavarna , Nishchandra, Sookshmatva +++, brittle +, Rekhapurnatva +++, Shlakshna+
19	1370	20 cow dung cakes + 2.5 kg coal	1350	Ishtikavarna , Nishchandra, Sookshmatva +++, brittle ++, Rekhapurnatva +++, Shlakshna+ +
20	1350	20 cow dung cakes + 2.5 kg coal	1335	Ishtikavarna , Nishchandra, Sookshmatva +++, brittle ++, Rekhapurnatva +++, Shlakshna+ +

No. of Puta	Weight of Abhraka Before Puta (in gram)	Details of Putas (Agnipramana)	Weight of Abhraka after Puta (in gram)	Observations
21	1335	20 cow dung cakes + 2.5 kg coal	1320	Ishtikavarna , Nishchandra, Sookshmatva +++, brittle ++, Rekhapurnatva +++, Shlakshna ++
22	1320	20 cow dung cakes + 2.5 kg coal	1310	Ishtikavarna , Nishchandra, Sookshmatva +++, brittle +++, Rekhapurnatva +++, Shlakshna, Varitaratva +
23	1310	20 cow dung cakes + 2.5 kg coal	1300	Ishtikavarna , Nishchandra, Sookshmatva +++, brittle +++, Rekhapurnatva +++, Shlakshna, Varitaratva +
24	1300	21 cow dung cakes + 2.5 kg coal	1285	Ishtikavarna , Nishchandra, Sookshmatva +++, brittle +++, Rekhapurnatva +++, Shlakshna ++, Varitaratva +

No. of Puta	Weight of Abhraka Before Puta (in gram)	Details of Putas (Agnipramana)	Weight of Abhraka after Puta (in gram)	Observations
25	1285	22 cow dung cakes + 2.5 kg coal	1275	Ishtikavarna , Nishchandra , Sookshmatva +++, brittle ++, Rekhapurnatva+++++, Shlakshna ++, Varitaratva +
26	1275	22 cow dung cakes + 2.5 kg coal	1250	Ishtikavarna , Nishchandra , Sookshmatva++++, brittle++, Rekhapurnatva, Shlakshna+ +,Varitaratva++
27	1250	22 cow dung cakes + 2.5 kg coal	1240	Ishtikavarna , Nishchandra , Sookshmatva +++++, brittle + ,Rekhapurnatva, Shlakshna +++, Varitaratva ++
28	1240	22 cow dung cakes + 3 kg coal	1225	Ishtikavarna , Nishchandra , Sookshmatva,brittle+, Rekhapurnatva , Shlakshna ++, Varitaratva +

No. of Puta	Weight of Abhraka Before Puta (in gram)	Details of Putas (Agnipramana)	Weight of Abhraka after Puta (in gram)	Observations
29	1225	22 cow dung cakes + 3 kg coal	1215	Ishtikavarna , Nishchandra , Sookshmatva , brittle +, Rekhapurnatva, Shlakshna ++, Varitaratva +
30	1215	22 cow dung cakes + 3 kg coal	1200	Ishtikavarna , Nishchandra , Sookshmatva , brittle ++, Rekhapurnatva, Shlakshna +++++, Varitaratva +
31	1200	22 cow dung cakes + 3 kg coal	1190	Ishtikavarna , Nishchandra , Sookshmatva , Shlakshna, Rekhapurnatva, Varitaratva +
32	1190	22 cow dung cakes + 3 kg coal	1175	Ishtikavarna , Nishchandra , Sookshmatva , Shlakshna, Rekhapurnatva, Varitaratva +

No. of Puta	Weight of Abhraka Before Puta (in gram)	Details of Putas (Agnipramana)	Weight of Abhraka after Puta (in gram)	Observations
33	1175	22 cow dung cakes + 2.5 kg coal	1150	Ishtikavarna, Nishchandra, Sookshmatva, Shlakshna, Rekhpurnatva, Varitaratva +++
34	1010	15 cow dung cakes + 2.5 kg coal	1000	Ishtikavarna, Nishchandra, Sookshmatva, Shlakshna, Rekhpurnatva, Varitaratva +++
35	1000	15 cow dung cakes + 2.5 kg coal	980	Ishtikavarna, Nishchandra, Sookshma, Shlakshna, Varitaratva
36	980	18 cow dung cakes + 2.5 kg coal	960	Ishtikavarna black shadow on upper cakes, Nishchandra, Sookshma, Shlakshna, brittle, Varitaratva

No. of Puta	Weight of Abhraka Before Puta (in gram)	Details of Putas (Agnipramana)	Weight of Abhraka after Puta (in gram)	Observations
37	960	18 cow dung cakes + 2.5 kg coal	940	Ishtikavarna bright, Nishchandra, Sookshma, Shlakshna, brittle, Varitaratva ++++,
38	940	18 cow dung cakes + 2.5 kg coal	915	Ishtikavarna, bright, Nishchandra, Sookshma, Shlakshna, brittle, Varitaratva ++++,
39	915	20 cow dung cakes + 3 kg coal	880	Ishtikavarna, bright, Nishchandra, Sookshma, Shlakshna, brittle, Varitaratva ++++,
40	880	20 cow dung cakes + 3 kg coal	850	Ishtikavarna bright, Nishchandra, Sookshma, Shlakshna, brittle, Varitaratva ++++,

Observation & Result:-

After *Shodhana* the layers of *Abhraka* were separated easily. Fine particles of *Dhanyabhraka* were entangled in jute cloth, therefore after *Mardana* residue achieved by soaking the jute cloth

in water. Near about 80-85% of *Nishchandratva* was achieved after third *Putra* during *Mardana* procedure. After first 3 *Putra* *Abhraka* was swollen and cake like in appearance. After *Prakshalana* of *Abhraka*, the weight of *Abhraka* was reduced and it was brighter in appearance. After 40th *Putra*, *Abhraka* was *Sookshma*, *Shlakshna*, and *Ishtikabha* and fulfilled all the *Bhasma Pariksha*. Observations of Raw *Abhraka* before *Shodhana*, after *Shodhana* and *Abhrakabhasma* are as follows.

Table No. 3: Analysis of Raw *Abhraka* Before *Shodhana*, After *Shodhana* & *Abhrakabhasma*^[15]

Ingred ients	Shabda	Spar sha	Rupa	Rasa	Gand ha
Ashud dha (raw) <i>Abhraka</i>	-	Khar a, Kathi na, Ruks ha	Blackish, shiny	-	-
Shudd ha <i>Abhraka</i>	-	Ruks ha, Khar a	Black coloured with Chandrika, powder form	-	-
<i>Abhraka bhasma</i>	Dantag rekacha kachabhava	Shlakshna, Mrudu, Laghu, Sookshma	Ishtikavarna, Nishchandra, Rekhapurnatva, Varitara, Unama, Nirdhuma	Niswadu (Tasteless)	Nirgandha (Odourless)

Table No.4 : Results of Raw *Abhraka* Study

Sample	Test	Value
Mica (Raw <i>Abhraka</i>)	Aluminium as Al ₂ O ₃	11.26% w/w
	Iron as Fe ₂ O ₃	2.61% w/w
	Silica as SiO ₂	48.39% w/w
	Magnesium as MgO	23.16% w/w
	K ₂ O content	3.82% w/w

Table No.5: Results of Analysis of *Abhrakabhasma*

Sr. No.	Test	Value of <i>Abhraka Bhasma</i>
1	Loss on Drying (% w/w)	0.16
2	Total ash	99.21
3	Acid Insoluble Ash (% w/w)	58.37
4	Iron as Fe (% w/w)	14.79

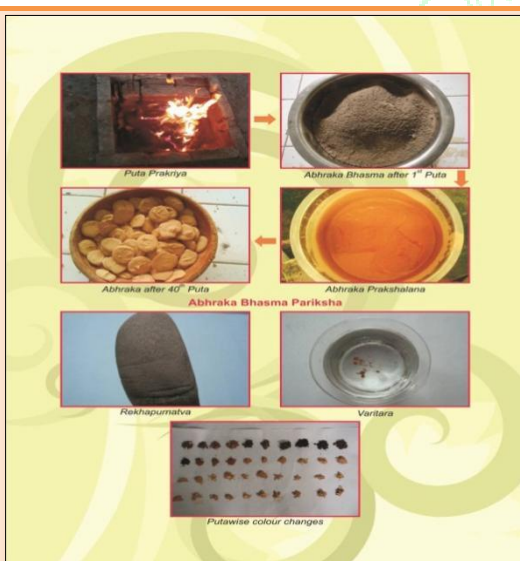
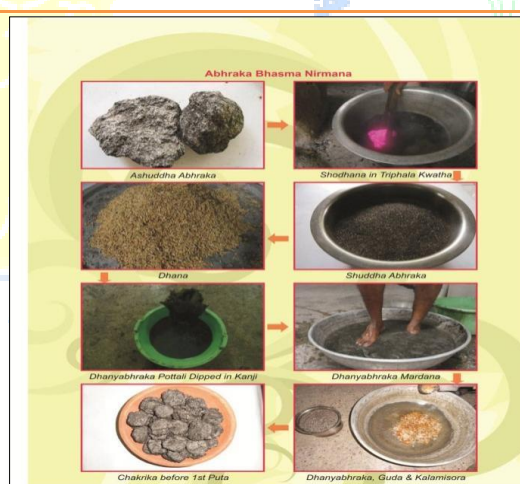
Discussion :

Abhraka Bhasma was prepared as per classical text method. *Krishna Vajrabhraka* was selected for *Abhraka Bhasma* preparation which didn't lose its property on *Agnipariksha*. *Abhraka Shodhana* was done in *Triphala kwatha* by *Nirvapana* procedure. *Dhanyabhraka* was prepared by the proportion of *Shodhit Abhraka* 1 part and *Dhana* ¼ part and *pottali* of it dipped in *kanji* for 3 days. After that it was rubbed by sole for extraction of *Abhraka* through the pores of *pottali*. *Abhraka* is ionic compound, so excessive temperature leads to *Satvapata*, hence temperature should be proper. The cow dung and coal was used for *puta* according to weight of *Abhraka*. For

Nishchandrikarana of *Abhraka* first 3 *putas* were given by *Guda* and *Kalami sora* (*Anubhuta vidhi*) and *chandrika* reduced up to 80-85 % after 3 *puta*. *Arkapatra swarasa*, *Dashmoola kwatha* and *Kumari swarasa* was used to achieve *Vataghna* property. *Ishtika varna* of *Abhraka* is because of Iron oxide is the chief constituent of *Abhraka Bhasma* which believed to be causative factor of that typical Brick Red colour. In the Analysis of Raw *Abhraka* - Aluminum was 11.26%w/w, Iron - 2.61% w/w, Silica- 48.39% w/w, Magnesium- 23.16% w/w and potassium- 3.82% w/w was found. These contents are naturally present in *Abhraka*; the analysis was carried out to check the presence of contents. **Loss on Drying** – This test is carried out to check the moisture content of the mixture and its percentage should be less in *Bhasmas*. It was found that *Abhraka Bhasma* has loss on drying in 0.16. **Total ash** - It indicates the percentage of inorganic matter present in the sample. The remaining matter should be considered as loss on ignition. In the *Bhasma* values of Total ash should be less and it was 99.21% in *Abhraka*. **Acid Insoluble Ash** - It is carried out to check the percentage of insoluble inorganic content of the *Bhasma* in dilute acid. Since a drug must first pass into solution before it can be absorbed. So Acid Insoluble Ash test of *Bhasma* is therapeutically very important. *Abhraka Bhasma* contains Acid Insoluble Ash 58.37%w/w. **Assay** – Assay for Fe, Cu indicates the parentage of that particular metal (Compound form) in the *Bhasma* which was in range mentioned in standards of C.C.R.A.S. In *Abhraka Bhasma*, Assay for Fe was 14.79.

Conclusion :

Dhanyabhrikarana of *Abhraka* produces uniform and fine powder of *Abhraka*, concludes that even in underdeveloped phase of human life technique used by ancient *Acharya* was scientific and of great significance. For the *Nishchandrikarana* of *Abhraka* first 3 *Putas* given with *Guda* and *Kalamisora*, after this process there was marked reduction in *Chandrika* (lusture). For the *Abhraka Marana*, *Gajaputa* is mentioned in texts but the quantity of *Bhasma* didn't mentioned. Hence proportion of *Agni* should be taken as per weight of *Chakrika*. Modern analytical tools proved the quality of *Abhrakabhasma*, so it's needed for standardization of *Bhasma*.



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 "Swami Samarth Commercial Complex", 4, North Bazar Road,
 Gokulpeh Market, Nagpur-440 010
 Email: vj@qualichemlabs.com Fax: 0712-2564552
 Web: www.qualichemlabs.com Tel: 2532482

CERTIFICATE OF ANALYSIS

1. Name of Party : P.G. STUDENT
 2. Reference No. & Date of letter from the manufacturer : DE-23/19/2012
 3. Date of receipt of sample : ABHRAK BHASMA
 4. Name of sample : APP-15 GRM
 5. Quantity submitted
 6. Manufactured by
 7. Supplied by
 8. Batch No.
 9. Batch Size
 10. Date of Manufacture
 11. Date of Expiry if any
 12. Results of analysis with protocols of test applied

Report no : M/801/2012

No.	Test	Result
1.	DESCRIPTION Light brown colour powder packed in plastic bag.	-
2.	LOSS ON DRYING Method: As per A.P.	% w/w 0.16
3.	TOTAL ASH Method: As per A.P.	% w/w 99.21
4.	ACID INSOLUBLE ASH Method: As per A.P.	% w/w 58.37
5.	Iron as Fe Method: As per A.P.	%w/w 14.79

Report: Sample submitted is analyzed as per the procedure mentioned in the test

Date: 3-Nov-12
 NOT SAMPLED BY QUALICHEM
 ISO 9001: 2008 Certified Lab
 Approved by Food & Drugs Administration (M.S.) and AGMARK

Page 1 of 1
 Signature of person-in-charge of testing

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Declaration :**Conflict of Interest : None****ISSN: 2584-2757****DOI : 10.5281/zenodo.17359153****Dr. Kishor Bodhakar Inter. J.Digno. and Research**

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