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# Comparison of Shankha Bhasmas prepared by two different methods

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## Abstract

There are many *Pranija Dravyas* (drugs of animal origin) mentioned in Ayurveda. *Rasashastra* mentioned some calcium rich *Pranija Dravyas* as *Sudhavarga* and Shankha is one of them. *Granthas* metioned *Marana* of Shankha Nabhi by two methods i.e. *Laghu Puta* method and *Gaja Puta* method. As Ayurveda considers *Agnimana* ( heating pattern) is crucial in Bhasmikarana and specific *Agnimana* makes changes in *Gunas* of bhasma. Thus it is considered that *laghu puta* makes bhasma soumya( smooth) rather *Gajaputa* makes it *Tikshna* (Strong). This study is done to observe the differences between these two methods. It was observed that *laghu Puta* method takes more time but as per *Pariksha* and yield, it is better than that of the *Gaja Puta* method. In this study only Ayurveda *Parikshas* are applied to observe the differences in the two samples.

## Keywords

*Sudhavarga , Shankha Nabhi, Laghu Puta, Gaja Puta*

## Introduction

Ayurveda *Granthas* have mentioned many *Pranija Dravyas* ( animal origin materials/drugs) for the use of treatment internally as well as externally. *Rasashastra Granthas* have also mentioned about the *Pranija Dravyas* and there is a group of some *Pranija Dravyas* which are rich in calcium and mentioned under the term *Sudha Varga*. *Shankha* is one of the important *Dravya* amongst these *Sudha Varga* . Many *Granthas* mentioned the process of *Marana* for it. There are two methods observed in the *Puta* of *Shankh*a ; one is *Laghu Puta* while another is *Gajaputa*. Though the processes of *Shodhana* and *Marana* are being same the *Agnimana* ( heating pattern)

is different for these two methods. Therefore a study was carried out to observe the effect of two different *Puta Mana* i.e. *Gaja Puta* and *Laghu Puta* on *Shankha.*

## Materials and Methods

Raw materials were procured form Ayurveda Rasayani , Pune and the processes were carried out in the *Bhatti* section of Ayurveda Rasayani.

*Shankha Shodhana*[1]

*Ashuddha Shankha Nabhi* was purified in *Nimbu Swarasa*( Citrus limon) by *Dolayantra* method for 6 hours. *Shankha Nabhi* was then washed with lukewarm water and dried. After *Shodhana, Shankha* became clear and white due to removal of external impurities.

*Shankha Marana*

Two methods are being used for Marana. These are known as Gaja *Puta* and *Laghu Puta* methods.

In the study *Gaja Puta* method was used for batch A and *Laghu Puta* method was used for Batch B.

Batch A method[2]

1. 500 gm of *Shodhita Shankha* was kept in *Sharava Samputa ( Earthen vessel)*
2. *Sharava Samputa* was sealed with mud layer cloth for 7 times and dried properly.
3. First *Puta* of 100 cow dung cakes was given.
4. After *Swangashaitya* again mud layer cloth was done and introduced to second *Puta* of 100 cow dung cakes .

Batch B method[3]:

1. 500 gm of *Shodhit Shankha* was kept in *Sharava Samputa*
2. *Sharava Samputa* was sealed with mud layer cloth for 7 times and dried properly.
3. First *Puta* of 40 cow dung cakes was given.
4. After *Swangashaitya* again mud layer cloth was done and introduced to second *Puta* of 40 cow dung cakes .
5. Same procedure was followed for 3 more time( total 5 *Laghu Puta* were given in this process

For both the batches Organoleptic parameters were observed

## Observation and Results

The observations were recorded for both the batches. The changes during the process were observed and at the end the drug *Pariksha as per Ayurveda was performed.*

Batch A : *in process* observations

| *Puta* number | Number of cow dung cakes | *Varna* (Colour ) | *Sparsha* | Rasa ( taste) | Weight |
|---|---|---|---|---|---|
| Before *Puta* | - | White , clean , shiny | *Kathin* ( hard) | - | 500gm |
| After 1st *Puta* | 100 | Bright white | Brittle | kshariya +++ | 457gm |
| After 2nd *Puta* | 100 | Bright white | Smooth | Ksharya+ | 394gm |

*T*he colour of *Shankha Nabhi* was changed to bright white after the first *Puta* and *Shankha* could be easily broken with minimum pressure. The colour of *Shankha* was very bright and when triturated in *Khalwa Yantra* it formed smooth powder very easily after second *Puta*

Batch B : *in process* observations

| Puta number | Number of cow dung cakes | *Varna* (Colour ) | *Sparsha* | Rasa | Weight |
|---|---|---|---|---|---|
| Before *Puta* | - | White , clean , shiny | *Kathin* ( hard) | - | 500gm |
| After 1st *Puta* | 40 | Greyish white | *Kathin* | Kshariya +++ | 494gm |
| After 2nd *Puta* | 40 | Greyish white | *Kathin* | Kshariya ++ | 488gm |
| After 3rd *Puta* | 40 | Dull white | Brittle | Kshariya + | 483 gm |
| After 4th *Puta* | 40 | Dull white | Smooth | Tasteless | 482 gm |
| After 5th *Puta* | 40 | white | Very smooth | Tasteless (non corrosive ) | 470 gm |

In batch B after first *Puta* the *Shankha Nabhi* was greyish white and it was very hard to break.

After second *Puta* also the texture of *Shankha Nabhi* was unchanged. After 3rd *Puta* it changed to dull white and it became brittle which could be broken with pressure. After 4th *Puta* it became more dull in colour and when triturated in *Khalwa* it formed smooth powder. After 5th *Puta* it became white (not bright white) and when triturate in *Khala Yantra* it formed very smooth powder.

*Ayurvedic Bhasma Pariksha*

| Parameter | Batch A | Batch B |
|---|---|---|
| Sparsha | *Shlakshnatwa* + *Mrudu* + | *Shlakshna* +++( very smooth and delicate ) |

| | | |
|---|---|---|
| | | *Mrudu* +++ |
| *Rasa* | *Kshariya* | Tasteless (non corrosive) |
| *Rupa* | Bright white | White |
| *Gandha* | Odourless | Odourless |
| *Rekhapurna* | Positive | Positive |

| Batch | *Putamana* | Total no of cow dung cakes | Number of *Putas* | Time duration for total process | Yield |
|---|---|---|---|---|---|
| Batch A | *Gajaputa* | 200 | 2 | 3 days | 78.8% |
| Batch B | *Laghuputa* | 200 | 5 | 6 days | 94% |

**Discussion**

*Shankha* is calcium rich compound as mentioned under *Sudhavarga Dravya*. It is used in various diseases like *Amlapitta , Shula , Udaramaya, Vishtambha, Adhman , Grahani , Atisar , Prameha , Tarunya Pidaka , Raktapitta , Vishadosha* as per *Rasagranthas.*

*Acharyas* have mentioned two *Marana* methods for Shankha. These *Marana* methods are termed as *Laghu puta* while another is with *Gajaputa.*

*Shankha Nabhi Shodhan* was carried out in *Limbu Swarasa* by *Dolayantra* method. It was observed that after *Shodhana, Shankha Nabhi* turned into clean, white and shiny as its external impurities like dust, stones, earth were removed completely.

*in process* observations of batch A and Batch B, it was revealed that *Shankha* became brittle after first *Puta* in batch A while in batch B it became brittle after 3$^{rd}$ *Puta.* Colour was changed to bright white in Bach A after 1$^{st}$ *Puta* while it became white in batch B after 5$^{th}$ *Puta.*

The comparative observations showed that batch A *Shankha Bhasma* was little *Kshariya* but smooth in texture while batch B *Shankha Bhasma* was tasteless and very smooth and delicate in texture.

After *Marana* of *Shankha* The yield of *Bhasma* was 78.8% by *Gaja puta* method ( Batch A ) and the yield of *Bhasma* was 94% by *Laghu puta* method ( Batch B)

Thus it was observed that both the batches required same number of cow dung cakes but the duration for *Laghu puta* method was twice as compared with the *Gaja puta* method by taking into consideration the methods adopted for both the batches. Further the study revealed that *Shakha Bhasma* yield was more in *Laghu puta* method than that of *Gaja Puta* method.Also the taste and texture of *Laghu puta* method was better than *Gaja Puta* method of *Shankha*

*Bhasma*.However therapeutic efficacy needs to be studied prior to accept the process in an industrial environment.

## Conclusion

In present study *Shankha Bhasma* was prepared by *Laghu Puta* and *Gaja Puta* method . The quantity and quality of both *Bhasmas* showed considerable differences. *Laghu Puta* method *Bhasma* was high in yield, tasteless (non corrosive) and very smooth and delicate in texture. As both the *Bhasmas* are prepared with the different *Agnimana* and *Agnisanskar Kala* is different in both the methods there will be changes in *Guna* of both *Bhasmas* so study should be conducted on its therapeutic efficacy. Also as Laghuputa bhasma is more smooth and delicate, particles size analysis should be done to analyse the differences between both the processes.

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