STANDARDISATION OF PRAVALA BHASMA
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Received: 22 February, 1996
Accepted: 10 June, 1996

Abstract: Now-a-days it has become quite common to use modern electric heating devices in the place of conventional ones. A stud was conducted to standardize the temperature for the preparation of Pravala Bhasma by using Electric Muffle furnace (EMF) The details are presented in this article.

INTRODUCTION

Pravala (Coral) is the calcareous skeleton of the minute marine organism and belongs o phylum coelenterate. The skeleton is in the form of minute irregular deposits, called spicules which contain mainly calcium carbonate, the skeleton of coral is believed to possess a special affinity for iron which combines with a calcium organic complex to give colour pigments1. Pravala is widely indicated in the form of bhasma for several ailments Timira, Yakshma, Kasa etc2. and for Rasayana purpose also3. The therapeutic potentiality of pravala bhasma is varies according to anupana4.

Due to fast urbanization it may be quite difficult to use the traditional heating devices like Gaja Puta, Maha Puta etc., known as putas, which are described by our ancient scholars for the preparation of various bhasmas. In our department we have tried to standardize the temperature which help to prepare proper pravala bhasma by using electric muffle furnace (EMF) and adopted the sodhana (purification) and Marana (Incineration) processes from Rasa Tarangini. In Rasa Tarangini, the author has mentioned three putas for the preparation pravala bhasma5.

Materials and Methods

Pravala was purified according to sodhana process described in Rasa Tarangini. During Sodhana (purification) process6 pravala was kept in a clot and pottali was prepared. This pottali was hung in a bowl, containing jayati kvatha (decoction of Sesbania Sesban) with the help of glass rod and heat was given continuously for 3 hours. Later the pottali was removed from the bowl and pravala was washed and dried.

After sodhana process the sodhana pravala was subjected to marana (incineration) process. The total sodhita pravala was divided into seven samples. Weighing 50gms each. Each sample of pravala was triturated with cow’s milk separately to from a semisolid paste and pellets were made out of this mass of paste. After drying samputikarana process was done for each sample separately and we labeled these samples as A,B,C,D,E,F & G These saravasamputas were thereafter subjected to different temperature (putas) maintained at 200°C, 300°C, 400°C, 500°C, 600°C, 700°C & 800°C for thirty minutes for samples A,B,C,D,E,F, & G respectively by using electric muffle furnace (EMF). The
marana (incineration) process was repeated in the same above names for another two times to obtain white colour pravala bhasma. All the results and observations at different temperatures were shown in Table1.

Discussion and Conclusion

To standardize the temperature we have taken the raw pravala material from Ayurvedic pharmacy, I.M.S., B.H.U and purified according the process described in Rasa Tarangini and divided the total sodhita pravala into seven samples, weighing 50gms each. Later pellets of each samples were prepared by triturating with sow’s milk, dried and samputikarna process was done separately and labeled these samples as A,B,C,D,E,F, & G and different temperatures (putas) were maintained at 200°C, 300°C, 400°C, 500°C, 600°C, 700°C & 800°C for thirty minutes for samples A,B,C,D,E,F, & G respectively by using electric muffle furnace (EMF). In all samples the above maintained temperatures were increased gradually within two and half hours and maintained for thirty minutes. At above mentioned temperatures, we have repeated the marana process three times for each sample. Because in Rasa Tarangini the author has mentioned three putas for the preparation of pravala bhasma. That’s who here we have repeated the process three times at each temperature and tried to get the white colour pravala bhasma within three putas. The levels of temperatures were increased till the heated pravala sows the main desired character of pravala bhasma i.e., white is colour. At 200°C, 300°C, 400°C, 500°C, 600°C & 700°C temperatures the pellets of pravala are hard, black, fragile and grey in colour. At 800°C temperature only the pravala pellets are white in colour and soft in touch and showing the positive signs of bhasma pariksha i.e., varitara (floating on water), Rekhapurnata (able to enter into furrows of finger) Niscandratva (loss of luster) and suskshmative (very fine state). To standardize the temperature, we have repeated the Marana (incineration) process for five sodhita pravala samples at 800°C temperature. In all these five samples pravala bhasma was prepared as per out classics.

From this study it may be concluded that to prepare proper pravala bhasma, Marana (incineration) process needs 800°C temperature for thirty minutes and Marana process should be repeated three times.
Table 1. The effect of different temperatures for the preparation of pravala Bhasma

| Name of sample | Desired temp. (°C) | Time to reach desired temp. (Hours) | Duration of maintenance of desired temp. (Hours) | Total duration of heating (Hours) | OBSERVATION | RESULTS (Wt. in gm) | Loss in % | Reason for the loss |
|----------------|--------------------|------------------------------------|-----------------------------------------------|---------------------------------|-------------|---------------------|----------|---------------------|
|                |                    |                                    |                                               |                                 | After I Puta | After II Puta | After III Puta |                   |                          |
| A              | 200                | 2.5                                | 0.5                                           | 3.00                            | Pellets are hard & Black in colour | Pellets are hard & Black in colour | Pellets are hard & Black in colour | 50               | 44.0                 | 42                 | 39.0               | 37                 | 34                 | 9.3                 | May be due to burning of organic matter |
| B              | 300                | 2.5                                | 0.5                                           | 3.00                            | Pellets are hard & Black in colour | Pellets are hard & Black in colour | Pellets are hard & Black in colour | 50               | 41.0                 | 40                 | 35.5               | 33                 | 30                 | 13.4                | Matter during incense-ratioin process |
| C              | 400                | 2.5                                | 0.5                                           | 3.00                            | Pellets are hard & Black in colour | Pellets are hard & Black in colour | Pellets are hard & Black in colour | 50               | 38.5                 | 37                 | 31.5               | 30                 | 27                 | 17.1                |                                            |
| D              | 500                | 2.5                                | 0.5                                           | 3.00                            | Pellets are hard & Black in colour | Pellets are hard & Black in colour | Pellets are hard & Black in colour | 50               | 37.0                 | 35                 | 27.0               | 25                 | 21                 | 22.7                |                                            |
| E              | 600                | 2.5                                | 0.5                                           | 3.00                            | Pellets are hard & Black in colour | Pellets are hard & Black in colour | Pellets are hard & Black in colour | 50               | 35.5                 | 34                 | 28.0               | 25                 | 21                 | 22.5                |                                            |
| F              | 700                | 2.5                                | 0.5                                           | 3.00                            | Pellets are hard & Black in colour | Pellets are hard & Black in colour | Pellets are hard & Black in colour | 50               | 32.0                 | 30                 | 23.0               | 20                 | 18.5               | 26.5                |                                            |
| G              | 800                | 2.5                                | 0.5                                           | 3.00                            | Pellets are hard & Black in colour | Pellets are hard & Black in colour | Pellets are hard & Black in colour | 50               | 30.5                 | 28                 | 20.5               | 20                 | 18.0               | 29.6                |                                            |
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2. Agnivesh, “Charaka Samhita”, Chaukhamba orientalia., Varanasi, Chikitsa Sthan – 1-1/58 (1994)

3. Sadanand, “Rasa Tarangini”, Motilal Banarasi Das., Varanasi, 23/139-141 (1979).

4. Ibid – 23/143-193.

5. Ibid – 23/136

6. Ibid – 23/131.