

STANDARDISATION OF PRAVALA BHASMA

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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 to 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) process *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 form 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 ere 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 suskshmativa (very fine state). To standardize the temperature, we have repeated the **Marana** (incineration) process for five sodhita pravala samples at 800oC 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** (inceneration) 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 tem p. (°C)	Time to react e 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	In. wt.	Wt. after I Puta	Wt. before II Puta	Wt. after II Puta	Wt. before III Puta	Wt. 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 buring of organic
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 incene-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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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.