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STANDARDIZATION OF KAPARDIKA BHASMA PREPARED WITH THE CLASSICAL METHOD OF RASACHANDANSHU

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Abstract:

Kapardika is a mineral drug of Sadharana rasa varga. It is the outer shell of molluscs. It is known as Marine shell, cowrie or cowry. The shells are smooth, shiny, resembling egg shape with a flat under surface having a slit-like long, narrow-toothed aperture. They have a porcelain-like shine. The length ranges from 5 mm to 19 cm for some species. Kapardika is Katu in Rasa, Katu in Vipaka and Ushna in Virya. It is Alkaline in nature hence is used in many diseases like APD (Acid Peptic disease), Ajirna, Adhmana, Anaha etc. There are many methods in the texts to convert Kapardika in Kapardika Bhasma with different types of Puta. Rasa Chandanshu mentioned a very easy method for making Kapardika Bhasma. This method is easy to perform and prepares good quality Kapardika Bhasma. An effort was made here to standardise the procedure of preparation of Kapardika Bhasma according to the method described in Rasachandanshu. Also, the prepared Bhasma was tested with the modern methods and equipment like XRF etc. It shows increase in calcium content and decrease in other contents and the mean loss in the process was 16%. The results help in scientifically establishing the findings according to the principle of Ayurveda.

Key Words: Kapardika Bhasma, Rasachandanshu, XRF, Mean Loss.

Introduction:

Rasaushadhi became an important part of Ayurvedic therapeutics due to their additional advantages like smaller doses, quick action etc.¹ Kapardika is one such Rasaushadhi, described in Sadharana Rasa Varga which is being advocated in different forms in the management of various diseases.² Kapardika is a shell of small to large sea snails belonging to marine gastropod molluscs in the family Cypraeidae. It is indicated in all types of Dyspepsia (APD), Jaundice, Kasa Swasa (respiratory disorders), enlargement of liver and spleen.³ Kapardika is also used in ointments. It is included in Sudha Varga also as it contains calcium as its major constituting agent. Kapardika also called as Varatika are small convolute glossy shells of variegated colours of oblong, oval shape varying in size. Synonyms⁴: Varatako, Varata, Varatika, Varati, Kaparda, Kapardi, Kapardaka, Kapardika, Balakridanaka, Charchara, Chara. Occurrence⁵: Indian ocean, Sri Lanka, Maldives Island, Malabar Coast.

Types: According to Rasatarangini⁶ Pita, Shweta and Dhusara which are uttam, Madhyama and adhama respectively. According to Rasaratnasamucchaya⁷ Varatika gmand Varata. Grahyagrahyatva⁸ : Ayurved Prakash, Rasachandanshu and Rasaratnasamucchya mention sardha Nishka (6 gm) as shreshta, Nishka (4 gm) as madhyama, padona Nishka (2 gm) as kanishtha.. Marana⁹ of kapardika can be done by angar dhamana and puta method.

Rasaushadhi are generally used in a unique dose form without which it cannot be absorbed and assimilated in the body. In some of the classics Gaja Puta is mentioned for the preparation of Kapardika Bhasma. In Rasachandanshu one method of preparation is mentioned without Gaja puta which is very simple and less time consuming. This study is an attempt made to standardise the method of Kapardika Bhasma preparation according to Rasachandanshu and study the product achieved with the help of different modern techniques.

Aim and Objectives:

Pharmaceutical Standardization of Kapardika Bhasma according to Rasachandanshu.

Materials and Methods:

Reference: Rasachandanshu¹⁰

Kapardika (Monetaria Moneta): 1 kg Kapardika was procured from the local market, and it was authenticated by XRF analysis and sophisticated analytical lab.

Materials Used: iron mesh, gas stove with LPG cylinder 14.7 kg, cotton cloth, stainless steel vessel , tongs, measuring cylinder, weighing machine, motar and pestel.

Kapardika Shodhana :

Ingredients:

Sr. No.	Content	Proportion	Batch-1	Batch-2	Batch-3
1	Ashuddha Kapardika	1 part	200 gm	200 gm	200 gm
2	Kanji	Q.S.	800 ml	800 ml	800 ml

The procedure followed for Kapardika shodhana:

- ❖ Step 1: Ashuddha Kapardika is first soaked and washed with hot water to get rid of dirt and other impurities.
- ❖ Step 2: The cleaned Kapardika are tied in a cotton cloth to make a pottali. This pottali was hanged in a stainless-steel container of capacity 1 L with kanji filled in it. The precaution was taken to see that the pottali is fully immersed in kanji.
- ❖ Step 3: This prepared pottali along with stainless steel vessel was subjected to mild heat for 3 Hrs. while heating care was taken to see that the pottali remains immersed in kanji and the level of kanji is maintained by adding hot kanji to it.
- ❖ Step 4: After 3 Hrs the pottali is removed, opened and the Kapardika are washed again with lukewarm water. The obtained shuddha Kapardika are dried and stored in a clean and dry container till further procedure. The same above steps were followed for batch 2 and batch 3.



Preparation of Kapardika Bhasma

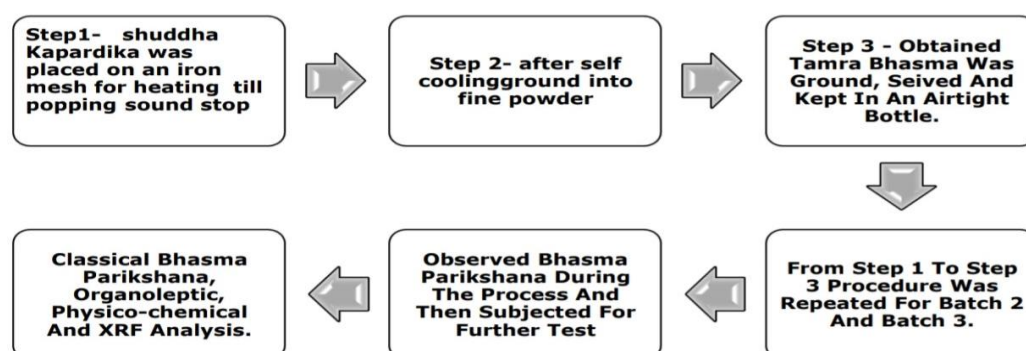
Kapardika Marana Ingredients:

Reference: Rasachandanshu¹¹

Sr. No.	Content	Batch-1	Batch-2	Batch-3
1	Shuddha Kapardika	180gm	183 gm	180 gm

The procedure followed for Kapardika Marana:

- ❖ Step 1: shuddha Kapardika was placed on an iron mesh and subjected to heat till the popping sound stopped.
- ❖ Step 2: after self-cooling, the Kapardika was taken in a clean and dry khalva yantra and ground into fine powder.
- ❖ Step 3: This obtained powder was sieved and stored in a clean and dry airtight container till further preparation. The same procedure was followed for batch 2 and batch 3



Images of kapardika Marana:



Organoleptic analysis of Kapardika Bhasma:

Sr no	Test	Batch 1	Batch 2	Batch 3
1	Appearance	Soft Fine powder	Soft Fine powder	Soft Fine powder
2	Colour	White	White	White
3	Taste	Tasteless	Tasteless	Tasteless
4	Odour	Odourless	Odourless	Odourless

Physico-chemical analysis of Kapardika Bhasma:

Sr no	Test	Batch 1	Batch 2	Batch 3	Mean
1	Moisture content	0.48	0.56	0.23	0.423333
2	TA%	99.5	96.1	96.4	97.33333
3	AIA%	1.24	1.3	1.4	1.313333
4	ASE%	1.34	1.45	1.86	1.55
5	WSE%	0.23	0.34	0.26	0.276667
6	pH	9.65	10.2	9.35	9.733333

XRF Analysis of Raw, Shodhita Kapardika and Kapardika Bhasma:

Component	Raw Kapardika	Shuddha Kapardika	Kapardika Bhasma
Ca	96.4	97.1	98.4
Si	1.49	1.06	0.346333
Al	0.969	0.655	0.736733
S	0.712	0.631667	0.549667
Sr	0.322	0.540333	0.341
Zr	0.0513	0.036367	0.038567
Fe	0.0432	0.076667	0.048667
Ni	0.008	0.004	0
Cu	0.0061	0.005333	0.031667
Zn	0.0044	0.004233	0.004867

Weight Loss during Procedure:

Sr. No.	Stage	Batch 1	Batch 2	Batch 3	Mean
1	Raw	200 gm	200 gm	200 gm	200 gm
2	Kapardika Bhasma	164 gm	171 gm	169 gm	168 gm
3	% Loss	18%	14.5%	15.5%	16 %

Discussion:

To get rid of physical impurities shodhana of Kapardika is necessary. The method selected of Kapardika shodhana is adopted from the text Rasachandanshu. It is kept in dolayantra filled with kanji and subjected to heat for 3 hrs. Precaution was taken to maintain the level of kanji so that the pottali remained immersed in kanji and temperature about 110°C. After removing the pottali after completing the shodhana procedure the yellow, shiny Kapardika were now white and lustreless.

The XRF analysis showed increase in Ca value from 96.4% to 97.1%.

The Marana of Kapardika is necessary as before giving it for consumption it should be converted in such a form that it is absorbed by the body easily. The procedure of Marana breaks the size of the particles and increases its therapeutic efficacy. The method selected of preparation of Kapardika bhasma is adopted from the text Rasachandanshu. Shuddha Kapardika is placed over fire till it pops, after cooling they are converted into powder.

The Kapardika when subjected to heat turn red hot and start popping. Once the popping stopped, they were allowed to cool. The Kapardika when taken in khalva yantra were easy to ground and got converted into soft powder after trituration. The bhasma when placed on tongue was tasteless and did not irritate the tongue, it passed the Rekhapornatva, Varitaratva and Unnam pariksha of bhasma.

The organoleptic analysis showed white, soft, fine, tasteless, odourless powder. The physicochemical analysis showed pH of 9.73, TA% 97.33%, AIA% 1.31%, ASE% 1.55%, WES% 0.27%. XRF analysis showed Ca 98.4 %.

Conclusion:

This method of preparation of kapardika Bhasma is achievable and less time consuming compared to other methods. The effect of the shodhana procedure on Kapardika is that it becomes lustreless and whitish in colour from yellow. The XRF analysis shows a slight increase in Ca content after shodhana and Marana.

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