

A CRITICAL REVIEW ON AYURVEDIC DRUG KAPARDIKA (*CYPRAEA MONETA* LINN.)Kulshrestha Mayank Krishna<sup>1\*</sup>, Karbhah Kamleshwar Singh<sup>2</sup><sup>1</sup>Dept. Of Rasa Shastra & Bhaisajya Kalpana, Rajiv Lochan Ayurveda Medical College & Hospital, Chandkhuri, Durg, (C.G), India<sup>2</sup>Dept. Of Rasa Shastra & Bhaisajya Kalpana, Govt. Ayurveda College, G.E. Road, Raipur, (C.G), India

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## ABSTRACT

Kapardika (*Cypraea moneta* Linn.) are the choice of drug for many indications in Ayurvedic practice. These are the sea products and obtained from seacoast. These were once used for playing purpose by children, ornamental purpose by women and used as money unit since ancient time. Literatures of ancient science and current available materials are reviewed to highlight the importance of Kapardika. This literary information may serve as an evidence to establish current research in ancient Ayurvedic systems.

**Key words-** Ayurveda, Kapardika, *Cypraea moneta*

## INTRODUCTION

Ayurveda is a well-documented traditional system of Indian Medicine. Rasa Shastra, an offshoot of Ayurveda popular from medieval period, mostly deals with therapeutic utilization of metals and minerals<sup>1,2</sup>. In traditional system of medicine the Kapardika (*Cypraea moneta*), have been used as medicine to cure various ailments mainly related with stomach and in the treatment of dyspepsia, jaundice, enlarged spleen, liver, asthma, cough and also reported to be externally used as caustic in various forms of ointments<sup>3,4</sup>. Kapardika is also included in Sadharan Rasa<sup>5,6</sup>. Kapardika is the name given to small convolute glossy shells of variegated colours of oblong, oval shape varying in size<sup>7</sup>. Cowries shells were used in many area of medicines i.e. dyspepsia, jaundice, enlarged spleens and liver, asthma and cough<sup>8</sup>. In the present scenario the use of Cowries preparations are single drugs or as ingredients in many Ayurvedic medicines has evoked concerns and debate in the scientific forums in the recent times. The present study was undertaken to review the Ayurvedic as well as modern concept of Kapardika.

## Synonyms

Kapardika has numerous synonyms like, varat, varatika, kapardaka, kaparda, kapardi, charachar, char etc. The various synonyms of kapardika as explained in different Rasa Sastra texts are given in Table-1.

## Historical Review

An ancient time, Indians had a special definite and decisive knowledge of Kapardika. According to the text, Kapardika has been possibly considered to be used since mid-eval period<sup>9</sup>. First affirms knowledge of Kapardika was known by the Indus Valley civilization. Ayurvedic texts have adequate knowledge about Kapardika bhasma, its various formulations and its medicinal properties. Mainly in Rasa Sastra texts Kapardika is mentioned in "Sadharan Rasa". The etymology of Kapardika has mentioned in the text "Amarkosha"<sup>10</sup>.

Vernacular names of kapardika<sup>7,8,12,20</sup>

Arabic - Sadaf

Bengali - Kadi

Chinese - Shou Mu Li

English - Cowrie, Marine shell, Covries

French - Porcelaneous Ecale

German - Porcelaneous Schalen

Gujarati - Kodi

Hindi - Kaudi

Kannada - Kauri

Latin - Cypraea Moneta

Marathi - Kauri

Oriya - Kauri

Persian - Kajak, Khar-mohara, Gosh Mahi

Sanskrit - Kaparda

Sindhi - Pingo

Tamil - Kauri

Telgu – Gavalu

## Description

Cowries generally belong to the member of mollusks and family of *Cypraeidae*, they are favourite of collectors because of their beautiful colours. The mantle is usually ornamented with papillae that provide camouflage and assist in respiration. The colour of the mantle some times matched the spongs it feed upon<sup>11</sup>.

## Habitat

It is found in the Sea. It lives on rocky ground particularly in and about coral reefs. It is found in Sea mainly in India and Pacific Oceans<sup>7</sup>.

## Morphology

It is small, convolute glossy shells of variegated colours (white, yellow, red) of oblong oval shape varying in size from a tamarind seed to an almond. The upper surface is smooth, shiny and convex. Base is compressed with a cleft in the center which runs longitudinally, toothed on both sides and channeled at each end<sup>7</sup>.

## Varieties

In Rasa sastra varieties of Kapardika are mentioned on the basis of its weight, size and colour. On the basis of weight<sup>5,13,15,27,28,31,39,40,41,43</sup>, there are three varieties i.e. 1<sup>1/2</sup> Niska, 1 Niska and 3/4 Niska. Kapardika which is one and half Niska (1<sup>1/2</sup> sana) in weight, is considered as Uttam (best). Kapardika which is one Niska in weight is Madhyama (medium). Kapardika which is 3/4 Niska in weight is Hina (inferior).

According to Rasa ratna samucchaya<sup>5,15,27,28,31,39,40,41,43</sup>, Kapardika which is having yellowish tinge, has nodules on the back and which is oval in shape, is praised as Kapardika. The Kapardika which is not processing above mentioned qualities considered as Guru and to increase Kapha and Pitta dosa. On the basis of colour<sup>14</sup>, there are three varieties of

Kapardika are mentioned on the basis of colour i.e. Pitta (yellow), Sweta (white) and Dhusra (grey). Out of these Pitta (yellow) colour Kapardika is considered as best. Sweta (white) colour as medium and Dhusara (grey) colour as undesired. According to Ayurveda Prakash<sup>15,43</sup>, three types of Kapardika are Sweta (white), Rakta (Red) and Pitta (Yellow). Based on structure two types Kapardika are described i.e. Granthi Yukta (with knot) and Granthi Vihina (without Knot)<sup>16</sup>.

#### Physical Properties

Yellowish in colour, having nodules on back surface, heavy in weight and long Vrinta (Peripheri) should not have any Vrana (cut or fissure) on their surface<sup>6</sup>.

#### Modern View

The money cowrie shell or *Cypraea moneta* belongs to the cowrie family. It occurs in areas with warm water temperatures such as the Maldives. These shells have medium size teeth, not extending across the base. They are heavily margined, with base and margin white and unspotted. In some modern examples a black transverse line crosses the dorsum almost centrally<sup>17</sup>. The cowrie shell is one of the most remarkable primitive currencies ever used before the advent of gold and silver coinage. This shell extended its range further than any form of money before or since, spreading from China and India to the Pacific Islands, travelling across and encircling Africa and then penetrating the New World<sup>18</sup>. *Cypraea moneta* Linnaeus, 1758, is an abundant and easily recognized gastropod throughout the Indo-West-Pacific. A number of names distinguishing subspecies and races have been introduced for the money cowrie, and it is generally recognized as a highly variable species<sup>19</sup>. Different colours of cowries are dependent on the<sup>21</sup>

- » Sexual hormones
- » Genetic factor
- » Pigmentation
- » Disease
- » Injury
- » Diet
- » Presence or absence of aluminium and other compounds
- » The acidity of the soil and water<sup>22</sup>
- » Temperature of water

Primarily genetic abnormalities, injury, disease, and environmental factors. Genetic factors can for instance lead to albinism, while certain diseases produce unusually large and heavy shells with a calloused, mottled appearance.

#### Shodhana (Purification)

It is the process which removes the impurities to some extent and helps in increasing the therapeutic values of the drugs. The various media and procedures as explained in different Rasa Shastra texts are given in Table 2.

#### Marana (Incineration)

Marana (Incineration) is a process of Rasa Shastra to make Bhasmas out of metals and minerals for internal administration. This process is also known as Bhasmi karana. It is not advisable to use metals and minerals in their natural forms as a medicament. Very few of them can be used as such after Shodhana. Majority of them are subjected to the process of Marana. The various media and procedures as explained in different Rasa Shastra texts are given in Table 3.

#### Pharmacological & Therapeutic Properties

**Rasa**<sup>6</sup> - Katu

**Guna**<sup>6</sup> - Ruksha, Tiktsna

**Vipaka**<sup>6</sup> - Katu

**Verya**<sup>6</sup> - Ushna

**Karma**<sup>6</sup> - Depana, Vrushya, netrya, Rasayana, Sukrakara, Rasendrajarana, Dosahari, Vida nirmanakari.

**Dosa Prabhava**<sup>6</sup> - Kaphavataghna,

**Vyadhi Prabhava**<sup>6</sup> - Parinam asula, Grahani, Kshaya roga, Sula, Netra roga, Sukra susti, Sphota, Karna srava, Agnimandya, Pitta roga, Rakta roga, Kapharoga.

**Dose**<sup>20,43</sup> - 2 Ratti (250 mg).

**Anupana**<sup>20,43</sup> - Vasa swarasa, Nimbu swarasa, Trikatu kashaya, Udumbara swarasa.

#### Chemical Constituents

The ash form of *Cypraea moneta* known as cowrie bhasma contains phosphate, fluoride and Carbonate of Calcium, manganese and phosphate and manganese<sup>8</sup>. The analysis of the Kapardika bhasma shows that the overall process of the formation of kapardika bhasma involves decarbonation of calcium carbonate in aragonite form and reformation of the calcium carbonate in the calcite form. This transformation occurs via formation of calcium hydroxide and calcium oxide as the intermediates. Kapardika bhasma is thus highly crystalline calcium carbonate in the calcite form with presence of trace elements like Mg, Al, K, Fe and Zn<sup>13</sup>.

#### Pharmacological Activity

Cowries shells were used in many areas of medicine, examples include deadly venoms of some cowries shells used to help victims of strokes and heart diseases and to produce a revolutionary new drug for chronic pain control. The cement of the carrier shell is used as a possible cement for bone fractures. Powdered Pearl's from shell are used as a topical eye medicine and it has been scientifically proved to have some anti-inflammatory effect in painful condition called conjunctivitis and is also used as calcium supplement both for human and animal and is an inhibitor of cancer in mice<sup>22</sup>. Report shows that 10% of all cowries had been investigated in detail for bioactive agent<sup>24,25</sup>.

#### Toxicity Study

Animals (mice) treated with Kapardika bhasma did not show any sign of toxicity in the acute toxicity study. No abnormal behavior and mortality was observed during 72 hrs after drug treatment in any experimental group. The haematological, biochemical parameters and biopsy were also taken into consideration for assessing the toxicity of above-mentioned drug<sup>26</sup>.

#### Uses And Indications

It is used in indigestion, colic, peptic ulcer, eye diseases, dysentery, earache, ulcer<sup>7</sup>, dyspepsia, jaundice, enlarged spleen & liver, asthma and cough<sup>8</sup>. Calx is prepared from the shells of *Cypraea moneta* and used as expectorant in chronic bronchitis. A yellow variety is considered good. It is diuretic, anti-diarrhoeic and of value in eye diseases, if used in the form of "Surama", local application with Saltpetre is good for leucoderma and skin diseases. Ash is mixed with butter and used for leucoderma and skin diseases and also ash is mixed with butter and used for curing blemishes and clearing complexion. Instillation of ash with lemon juice alleviates ear-ache<sup>7</sup>.

#### Ayurvedic Formulation On Kapardika

Agnikumar Rasa

Pradarantaka Lauha

Lokanath Rasa

Hiranya Garbha Pottali Rasa

**Table 1: Synonyms of Kapardika**

S.No.	Sanskrit name	Rasendra Chudamani <sup>27</sup>	Anand kanda <sup>13</sup>	Ayurved Prakash <sup>15</sup>	Rasa Tarangini <sup>14</sup>
1.	Varat	+	+	-	+
2.	Varatika	+	+	+	+
3.	Kapardak	-	+	-	+
4.	Kaparda	-	+	-	+
5.	Kapardi	-	-	+	+
6.	Kapardik	-	-	-	+
7.	Kapardika	-	-	+	+
8.	Varti	-	-	+	+
9.	Varatika	-	-	+	+
10.	Varya	-	+	-	-
11.	Bal kridnak	-	+	-	+
12.	Charya	-	-	-	-
13.	Char	-	+	-	+
14.	Charachar	-	+	-	+

**Table 2: Sodhana of Kapardika**

No.	Media	Procedure	References
1	Kanji	Swedana in Dola Yantra for 3 hours	5,15,27,28,29,30,31,37,39,40,41,42,43
2	Kulattha Kwath	Swedana in Dola Yantra for 3 hours	14
3	Amla Drava	Swedana in Dola Yantra for 3 hours	14,41
4	Nimbu Swarasa/ Jambir Nimbu Swarasa	Swedana in Dola Yantra for 3 hours	5,14,33,37,39,40,41
5	Kusmand Swrasa	Swedana in Dola Yantra for 3 hours	42
6	Gomutra	Swedana in Dola Yantra for 3 hours	42
7	Takra	Nirvap(Soaking) for 7 days	34
8	Churnodak (Lime water)	Nirvap(Soaking) for 7 days	34
9	Nimbu Swarasa	Nirvap (Soaking) for 7 days	34
10	Adrak Swarasa	Tituration for 3 times	5,39,40,41

**Table 3: Marana of Kapardika**

No.	Media	Procedure	References
1.	Tivra-agni Dhamana	Dhamana in angar	14,15,28,37,39,40,43
2	Putra-paka	Gaja puta with Cow dung cake	14,40
3	Putra-paka	Putra with Paddy husk & Cow dung cake	27,40
4	Angar dhamana & Putra-paka	Dhamana in angar, bhavana with Nimbu or Kumari swarasa, Gaj puta with cow dung cake	34,37,38,41

## CONCLUSION

Varatika (*Cypraea moneta* Linn.) were used in many area of medicine. It plays important role in Ayurvedic medical practice. The usage mentioned in Ayurvedic literatures has to be reviewed. it has been scientifically proved to reassure the facts claimed in the literatures. It is also used as calcium supplement both for human and animal.

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