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"CRITICAL REVIEW ON SHODHANA AND MARANA OF VARATIKA (COWRY SHELL) : A LITERATURE-BASED REVIEW"

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Abstract: Varatika is one of the Rasadravya explained in Rasashastra and it is described as external shell of sea animal Cyprea moneta linn. Raw Varatika contains marine salts, organic matter and compact crystalline calcium, making it unsuitable for direct internal use. Classical texts describe specific Shodhana and Marana procedures to convert it into safe and therapeutically potent Varatika Bhasma. This review consolidates information from classical texts and modern studies to highlight various classical methods of Shodhana and Marana and critically analyzes their pharmaceutical relevance. Acidic media used in

Shodhana help in removal of impurities and increase porosity, whereas repeated Gaja Puta with Kumari Swarasa Bhavana during Marana facilitates particle size reduction and formation of bio-acceptable calcium complexes. These processes are essential to ensure safety, enhanced absorption and clinical efficacy of Varatika Bhasma.

KEY WORDS:- Varatika, Kapardika, Shodhana, Marana, Varatika Bhasma

1. Introduction:

INTRODUCTION

Ayurveda describes numerous Rasaushadhi (mineral preparations) used for enhancing bioavailability and therapeutic efficacy. Varatika is one of the Rasadravya explained in Rasashastra and it is described as external shell of sea animal *Cyprea moneta linn*[1]. Varatika is explained under Sudha Vargiya dravya[2], Uparasa[3] and also under Sadharan rasa varga[3,4]. It is traditionally indicated in conditions such as Amlapitta, Grahani, Pradara and Asthi-kshaya due to its Pittashamaka, Grahi and Balya properties. Chemically, Varatika mainly consists of calcium carbonate embedded within an organic matrix and marine salts. In its raw form, it is hard, insoluble and biologically incompatible, and therefore unsuitable for direct internal administration.

To overcome these limitations, classical texts prescribe systematic pharmaceutical procedures namely Shodhana (purification) and Marana (incineration) to detoxify Varatika and convert it into a fine, bio-acceptable form known as Varatika Bhasma. These processes not only remove physical and chemical impurities but also bring about structural and physicochemical changes that enhance absorption and therapeutic efficacy. Hence, understanding and critically evaluating these traditional procedures is essential for ensuring the quality, safety and effectiveness of Varatika Bhasma in clinical practice.

AIMS AND OBJECTIVES

1. Review of Shodhana procedures of Varatika as per classics.

2. Review of Marana procedures of Varatika as per classics.

MATERIALS AND METHODS

A literature review was conducted from classical Ayurvedic texts including Rasa Tarangini, Rasa Ratna Samuccaya, Bhavaprakasha, Rasa Manjari, Rasa-Jala-Nidhi, Ayurved Prakash and Ayurvedic Formulary of India. Modern databases (PubMed, AYUSH Research Portal, Google Scholar) were searched for experimental and clinical studies on Varatika Bhasma and related Sudha-Varga drugs.

Results and Discussion

Identity and Pharmacological Properties

Varatika is classified under Sudha-Varga and is obtained from cowrie shells. Its pharmacological attributes are as follows

Varatika :-

Latin name:- *Cypraea moneta Linn.*[1,2,5]

English Name:- Cowrie, Marine Shell[5]

Group:-*Sudha-Varga, Uparasa, Sadharan Rasa*

Synonyms :- *Varat*[5,6,7] , *Varatika*[5,6,7] , *Kapardak, Kaparda*[5,7], *Kapardi*[5,6,7] , *Kapardika, Char*[5,7], *Balkridanak*[5,7], *Charachar*

Rasa :- *Katu*[5,8,9]

Veerya :-Ushna [5,8,9]

Vipak:- *Katu*[5]

Guna :- *Tikshna*[5], *Ushna*[5,7,8,9]

Karma :- *Deepana, Vrushya, Netrya, Rasendrajarana*[5,6,8,9]

Dosh Prabhava Ushna :- *Kaphavataghna* [5,8,9]

Definition of Shodhan[11,12]

- The process which eliminates the untowards quality is called Shodhana.
- When a substance is subjected to trituration with appropriate material for removal of unwanted material or impurities is known as Shodhana,
- Subjecting the Loha, Dhaatu, Rasa, Uparasa to the procedure likes Swedana, Marana etc with

appropriate minerals to remove the Doshas is termed as Shodhana.

Shodhana of Varatika

Shodhana has been defined as the process by which physical and chemical impurities get separated by treatment with various drugs. Varatika, if properly purified as per procedure adopted for Shodhana and Marana , as explained in the classics will not produce any of the side effects. Different drugs and their Kalpas have been mentioned for Shodhana of Varatika in different Rasa classics. In different Rasashastra classical texts Shodhana Of Varatika was explained by doing swedana of varatika in dolayantra by using different media for Swedana and also in Rasatantrasar book Varatika Shodhana was explained by using nirvap method in different nirvap dravyas.

Table 1: Showing various procedures of Shodhana of Varatika explained in different Rasa classics

No.	Media	Procedure	Reference. No
1	Kanji	Swedana in Dola Yantra for 3 hours	5,13, 14,15 , 16, 17, 18, 19, 20, 21, 22, 23, 24, 25
2	Kulattha Kwath	Swedana in Dola Yantra for 3 hours	26
3	Amla Drava	Swedana in Dola Yantra for 3 hours	23, 26
4	Nimbu Swarasa / Jambir Nimbu Swarasa	Swedana in Dola Yantra for 3 hours	5,13,26,20,21,22,23,27
5	Kusmand Swarasa	Swedana in Dola Yantra for 3 hours	24
6	Gomutra	Swedana in Dola Yantra for 3 hours	24
7	Takra	Nirvap (Soaking) for 7 days	28
8	Churnodak (Lime water)	Nirvap (Soaking) for 7 days	28
9	Nimbu Swarasa	Nirvap (Soaking) for 7 days	28
10	Adrak Swarasa	Trituration for 3 times	5,13, 21,22,23

Table 2: Showing various procedures adopted for Marana of Varatika

No.	Media	Procedures	Referance No.
1.	Tivra Agni Dhaman	Dhaman on Angar	5,14,16, 20, 21, 22,25, 26
2.	Puta	Gajaputa with Cowdung cakes	5,22,26
3.	Puta	Gajaputa with Paddy husks and Cowdung cakes	5,15,22
4.	Angar Dhaman and Puta	Dhamana in angar, bhavana with Nimbu or Kumari swarasa, Gaj puta with cow dung cake	5,20,23,30,31

Marana procedures[29]

Marana is derived from the word Neu Dhatu" which means Vadha or Hinsa (to kill). In Rasa Shastra this word is used as a synonym of Bhasmikarana. The process of Marana converts the Rasa Dravya to irreversible form called Bhasma under the influence of fire in which Shodhita Rasa Dravya treated with Marakagana Dravyas so that Marita Dravya attains Pharmaco therapeutically new form. Marana is one of the processes adopted for converting metals and minerals into Bhasma form, suitable for internal use after Shodhana. In the process of Marana metals and minerals are converted into such a fine state of subdivision that when used internally they become easily digestible and absorbed.

The process of Marana has various stages that can be described in the following series:

- Shodhana
- Bhavana
- Chakrika Nirmana
- Samputikarana
- Puta
- Swaangsheeta (Self cooling)
- Kuttanum (pestling)
- Parichalna
- Samrakshana

Indications of *Varatika Bhasma* according to various Rasashastra texts

Varatika Bhasma is indicated in *Parinamshul*(Duodenal ulcer), *Grahani* (Irritable Bowel Syndrome), *Kshaya/Rajayakshma* (Tuberculosis), *Netra Roga* (Eye disorder), *Karnasrava* (Otorrhea), *Sphota* (Skin disease), *Agnimandya* (Indigestion), *Raktavikar* (Blood disorders), *Shukrashaya* (Oligospermia) In different classical texts are as listed in table no 3

Indications	*Rasaratna Samuchaya*[4]	*Rasa Tarangini*[7]	*Rasa Manjiri*[9]	*Rasa jala nidhi*[8]	*Ayurveda prakash*[6]	Ayurvedic Formulary of india[10]
Parinamshul	+	+	+	+	+	+
Grahani	+	+	+	+	+	+
Kshaya	+	+	+	+	+	+
Netra Roga	+	+	+	+	+	+
Karnasrava	-	+	-	-	+	+
Sphota	-	+	-	-	+	+
Agnimandya	-	+	-	-	+	+
Raktavikar	-	-	-	-	+	+
Shukrashaya	-	+	+	+	+	+

Therapeutic Dose – 250 mg[10,5]

Anupana - Vasa swarasa, Nimbu swarasa, Trikatu Kshaya, Udumbara Swarasa [5,10]

Discussion :- Varatika (Cowry shell), chemically composed predominantly of calcium carbonate ($CaCO_3$) with minor amounts of magnesium carbonate and organic matrix, is classified under Sudha Varga dravya in Rasashastra. In its natural form it is hard, compact, non-absorbable and unsuitable for internal administration. Hence, classical texts have emphasized systematic Shodhana (purification) and Marana (incineration) procedures to transform Varatika into therapeutically potent, bio-assimilable and safe Varatika Bhasma. By Shodhana and Marana following changes are seen :

Objectives of Shodhana

Raw drugs often contain various impurities and toxic components that may adversely affect patient health when consumed. The process of Shodhana not only removes these unwanted impurities but also enhances the therapeutic potential of the drug. The media employed during Shodhana plays a crucial role in decomposing or eliminating undesirable chemical constituents while simultaneously improving the biological activity of the substance. Through the process of shodhan , the following objectives are achieved

process of Shodhana, the following objectives are achieved:

- Removal of unwanted physical and chemical contaminants.
- Reduction or complete elimination of toxic properties of the material.
- Conversion of hard and non-uniform substances into soft, brittle, ductile, and homogeneous forms.
- Incorporation of desirable attributes into the drug.
- Enhancement of the therapeutic efficacy of the formulation.
- Conversion of the substance into an appropriate form suitable for
- subsequent pharmaceutical processing.
- Induction of distinctive and favorable physicochemical modifications.
- Rendering the drug fit for direct therapeutic application in certain instances.

Changes during Shodhana process

1. Physical Changes

▪ Removal of physical contaminants: During Shodhana Of Varatika physical impurities like sand, mud was removed.

▪ Decrease in hardness: Repeated cycles of heating and quenching reduce the hardness of metals and minerals.

▪ Enhancement of brittleness: Successive heating and immersion in liquid media produce surface fissures in metals and minerals, making them more brittle.

▪ Reduction in particle size: The Nirvapa process produces surface cracks that facilitate fragmentation into coarse powder, while further particle size reduction is accomplished through the Bhavana process.

2. Biological Changes

▪ The primary aim of the physicochemical alterations produced during processing is to enhance the bioavailability of the substance. The material, either in its original state or after undergoing Shodhana and subsequent procedures, exhibits improved biological effectiveness.

▪ These biological modifications facilitate smoother absorption, reduce irritant properties, and collectively render the drug more compatible with the human body.

Significance of Marana[32]

Aacharya Nagarjuna has elaborated the importance of Marana in Rasendra Mangalam. The metal after proper Marana achieves the state of Rasibhavanam i.e. colloidal state. If this is administered properly. It can alleviate various diseases. Marana process reduces the drug into its

finest particle form so that they can be easily absorbed in the system, mix in the Dhatus and produce their desired effects without producing any complications. This procedure has an important significance in the following ways:

▪ Conversion of a hard metal or a mineral into a fine form.

▪ Elimination of any unwanted material by subjecting it to a high temperature under a suitable media of Marana.

▪ Increased therapeutic value of the drug in the body

▪ Conversion of a heterogenous substance into a homogenous one Reduction of particle size

▪ Natural properties of the mineral subjected to Marana gets enhanced and even new properties are induced

▪ Imparts organic equalities in an inorganic mineral.

▪ Removal of any form of toxicity and making them absorbable into the system

Conclusion:-

Varatika is classified under Sudha Varga and is primarily composed of calcium carbonate. It is widely indicated in the management of disorders such as Amlapitta, Grahani, Atisara, Shula and other gastrointestinal ailments. Varatika undergoes specific pharmaceutical procedures of Shodhana and Marana to render it suitable for therapeutic use. The process of Shodhana removes physical and chemical impurities, reduces toxicity, increases brittleness, and facilitates particle size reduction, thereby preparing the drug for further pharmaceutical operations. The subsequent Marana process results in the conversion of Shodhita Varatika into Varatika Bhasma, a fine, bioavailable ash form that can be safely administered internally to achieve the desired therapeutic outcomes. Thus, the classical procedures of Shodhana and Marana play a pivotal role in enhancing the safety, efficacy, and biological acceptability of Varatika for clinical applications.

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