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# **Review Article**

## A REVIEW ON KOSTHI WSR TO RASATARANGINI AND RASA RATNA SAMUCCHYA

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#### ABSTRACT

Ayurveda the science of life gives importance to keep balance between nature and human relationship. From Vedic period to Samhita period there was less of metals/minerals in formulation, but from the period of Nagarjuna formulation of herbo-mineral drugs are used profusely. A careful survey of the original text on Rasashastra shows that the subject covers the entire field of inorganic pharmaceutical preparation like metallic, non-metallic and ongano-metallic compounds of Ayurvedic Materia medica. Shodhana and Marana of the substance are done with some special processes and thereafter can be used therapeutically. Kosthi is defined as for extraction of dravyas sattva and for the purpose of Dhalana, the special ovens used are called Kosthika. They can be correlated with Gas stove, Hot plate and Heating mantle in modern science. Kosthi are the special devices mentioned in Rasa Shastra to process the Rasa Dravya. They are mentioned in text of Rasa Shastra depicting its importance to other devices like Yantra, Musha, Puta. Kosthi in scientific way. Therefore, in the present paper an attempt to review the different Kosthi.

Keywords: Ayurveda, Kosthi, Rasatarangini, Rasa Ratna Samucchya

# INTRODUCTION

The word Rasa Shastra literally means the "Science of Mercury". It is defined as a branch of Ayurveda dealing mainly with materials which are known as "Rasa Dravyas". In Rasa Shastra, there is description of Yantra, Musha, Kosthi and Puta to understand the science of Parad processing and its formulations.

The concept behind explaining Yantra, Musha, Kosthi and Puta separately is to know their functions and necessity as per their particular processing. During ancient times Acharyas used to construct different sized, different shaped fireplaces for uniform heating of substances.

**Synonyms of Kosthi** are Angardhanika, Hsanti, Hsantika, Angarshaktti, Hasni.<sup>1</sup>

Kosthi is defined as for extraction of dravyas sattva and for the purpose of Dhalana, the special ovens used are called Kosthika<sup>2</sup>.

#### **Contents of Text**

Here the sources of data selected are Rasa Ratna Samucchya and Rasa Taringini. Data of Kosthi regarding its definition, types and functions are collected. They are analysed and interpreted to extract the knowledge of Kosthi in simple ways.

# Table 1: Classification of Kosthi according to Rasa Taringini and RasaRatna Samucchya <sup>3,4</sup>

Kosthi	Rasa Taringini	Rasa Ratna Samucchya
Angar Kosthi	+	+
Patal Kosthi	+	+
Gara Kosthi	-	+
Musha Kosthi	-	+

#### Angar Kosthi

A fireplace (bhatti) is built on a plane ground using bricks with an empty space of one nripahasta (rajahasta; 22 inches) height and half nripahasta (11 inches) length and width inside. The empty place inside is not round but quadrangular which means that all the four corners inside should comply with above said height, length and width.

Now, the inner and the outer walls of the bhatti are evenly covered with fine soft clay, so that the fire/heat from inside do not escape out. Now a round opening of 4-angula diameter is created at the base of any sidewall. In this opening, a metal pipe of required length is fixed. The outer opening of the pipe is connected with a blower.

Now, the bhatti base is filled with one layer of good quality charcoal. Over that, the drug filled and sealed crucibles are firmly placed. Above them, another layer of charcoal is filled and ignited. The bhatti constructed in this manner is called as 'angara-koşthika'. This kosthi is used for 'dhalana' or 'sattvapatana' of the selected drugs.<sup>5</sup>

#### Patal Kosthi

A cylindrical pit measuring 12-angula length (1 vitasta) is made inside the earth. At the base of this pit, another smaller cylindrical pit measuring 4 angula length is made. The base of the smaller pit is fixed with one end of a strong tube that runs out through the earth to the surface by the side of the larger pit. The other end of the tube is connected to a 'vankanala' (air- blower) placed by the side of the pit on the ground.

Now, the top of the smaller pit is fixed with a strong mesh (lattice) and the larger pit base is filled with one layer of good quality charcoal. Over that, the drug filled and sealed crucibles are firmly placed. Above them, another layer of charcoal is filled and ignited. The air blow is regulated with the help of air blower to the smaller pit. The ash from the larger pit trickles down through the mesh and gets collect at the base of the smaller pit.

The bhatti constructed in this manner is called as 'Patal Kosthi'. This kosthi is used for 'sattvapatana' of the selected mridu dravya (soft drugs).  $^{6}$ 

#### Gara Kosthi

A quadrangular oven measuring 12-angula height and 'one pradesa' (enough) length and width is made inside the earth as a pit of on a plane ground. At the base of this pit, about 4 angula above from the base a strong iron sieve is strongly fixed in the walls of the kosthi.

Above this iron sieve, the charcoal is 'samputita auşadha dravya' is placed and ignited. The heating process is kept intense with the help of blower (vankanala). This type of special oven is called 'Gara kosthi'. This kosthi is used for melting gold, silver, copper etc with the intention of removing the minor alloy metals in it.<sup>7</sup>

#### Musha Kosthi

12 angula length and 4 angula. It is cylindrical in shape and appears like a big musha. Air is blown by a vanknala fom the side manually. It is used in shodhana of mridu Dravya.<sup>8</sup>

Kosthi	Uses	
Angar Kosthi	Satvapatna of Kathina Dravya	
Patal Kosthi	Satvapatna of Mridu Dravya	
Gara Kosthi	For Bhasma nirmana of Shodhita Lohadi Dhatu	
Musha Kosthi	Shodhana of Mridu Dravya	

#### Vanknala

A metallic pipe of roughly one 'hasta' (18 inches) length, made of any suitable metal (brass, iron, copper etc), used for blowing the fire to intensify the heat is known as 'vankanala' (blower). It is also called as 'vaktranala' as it is used for blowing through mouth. This 'vaktranala' is still in use where the cooking is done over firewood.<sup>10</sup>

**Gas Stove:** LPG gas stoves are household cooking means nowa-days. These are used for small scale production of pharmaceutical products. <sup>11</sup>

**Hot plate:** Hot plates are electrically run cooking devices. When plugged, the plate above the device heats up. Any flat based vessel is placed on the plate and cooked. These are also used during pharmaceutical procedures. <sup>11</sup>

**Heating mantle:** Heating mantles are electrical devices used for heating especially in Research and Development laboratory of pharmaceutical companies. These mantles are required while carrying out procedures of many standardization parameters. <sup>11</sup>

### DISCUSSION

Rasashastra is defined as the science of mercury. It is a branch of Ayurveda dealing mainly with materials known as 'Rasa Dravyas.' During ancient times Acharyas used to construct different sized fireplaces for uniform heating of substances.

Different types of Kosthi are mentioned in our classical texts like Angar Kosthi, Patal Kosthi, Gara Kosthi, Musha Kosthi. To do Satwapatana of Dhatus and to do purification of Satwas, Koshtis are useful. Many substances of Rasashastra yield Satwa only after subjecting them to very high temperature. In some procedures of Satwapatana, a small sized Koshti would be sufficient. But in some, a bigger sized koshti necessary. To enhance fuel efficiency and to make the process cost effective, and less laborious, different Koshtis are explained.

#### CONCLUSION

The explanation regarding Kosthi told in Rasa Shastra is very scientific. Its properties have important applications. Its utility in Rasa Karma is vast. This review helps to understand the concept of Kosthi in a clear manner.

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