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Review Article

Review on Classical Preparatory Methods of *Rasa Dravyaas*

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Abstract

The Ayurveda term *Rasashastra* merely involves science of mercury (*Parada*). This specialized modality works around mineral, metal and precious elements. The drugs or raw materials utilized under category of *Rasashastra* are known as '*Rasa dravyaas*'. These drugs offer several therapeutic responses and imparts excellent pattern of drug absorption, assimilation and quick action. *Rasa dravyaas* are utilized for treating diseases of skin, digestive system, respiratory system, reproductive system and excretory system, etc. The metal and mineral based products are prepared using specific procedures of purification, mixing, heating, incineration and size reduction, etc. The procedures involves in the preparation of these drugs provides particular characteristics in formulation therefore it is very essential to prepare *Rasa dravyaas* as per the specified protocol with great precaution, the error in preparation of *Rasa dravyaas* can hamper quality of drugs and also responsible for adverse reaction. Thus ancient Ayurveda philosopher advocated that a learned person should involve in the preparation of *Rasa dravyaas* with quality check in each step. Present article explores classical preparatory methods of *Rasa Dravyaas*.

Keywords: *Ayurveda, Rasashastra, Rasa dravyaas, Parada*

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Introduction

Rasashastra is science of processing and therapeutic utilization of mineral and metal based formulation. The processing of mercury for therapeutic purpose mainly initiated the science of alchemy. The science of *Rasashastra* extensively uses *Parada* and poisons substances along with other metals & minerals¹⁻⁴. The metallic and mineral substances used in Ayurveda especially in *Rasashastra* generally categorized into four classes as depicted in **Figure 1**.

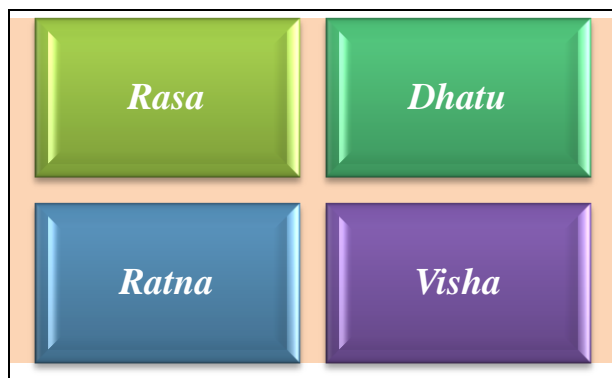


Figure 1: Categories of metallic and mineral substances used in Ayurveda *Rasashastra*

As per above classification these substances possess specific characteristics features; the compound comes under category of '*Rasa*' possessing adaptogenic (*Rasaayana*) effect. *Dhatu* are group of compounds possessing capacity to strengthen body physically as well as mentally. *Ratna* are minerals possessing gem quality and considered as precious elements. The poisonous substances categorized as *Visha* used in special cases.

These drugs possess *Laghu Guna*, long shelf life, high potency & low dose. These classical preparations are somewhat complicated to prepare and need precautions while using but offers significant therapeutic responses.

General processing of metal and mineral

The minerals and metal are not compatible for human consumption therefore processing is required to convert these non-compatible substances into compatible form. Mineral & metallic materials treated with plant or animal substances and purified by various procedure so to make them compatible with the human body. The procedures involve in processing of these substances facilitates their easy assimilation and reduces toxicity of such substances. The processing convert hard material into soft form that is edible and free from toxicity³⁻⁷.

Processing of Mercury (*Parada*):

The Mercury (*Parada*) purified by various means to convert into *Suddha Parada*, that after it is transformed into stable compound which is non-toxic and therapeutically effective and this form termed as *Baddha* or *Murcchita Parada*. Sulphur mainly used to prepare most of the mercurial formulation and depending upon method of preparation these mercurial (*Rasa*) *Dravyaas* can be categorized as follows:

- *Khalvi Rasa*
- *Parpati Rasa*
- *Kupipakwa Rasa*
- *Pottali Rasa*

Preparation of *Khalvi Rasa*:

Mercury, sulphur and other ingredients grinds together in a mortar to get powdered mixture. The mortar used for grinding or triturating purpose is termed as *Khalva* therefore formulation of mercury prepared by this method described as *Khalvi Rasa*. *Kajjali*, *Tribhuvankirti rasa* and *Aarogyavardhinivati*, etc. are examples of this category.

Preparation of *Parpati Rasa*:

The homogeneous black coloured fine powder of mercury and sulphur termed as *Kajjali*. This powdered mass further subjected to control heating to get molten mass, this mass further spread on a flat soft surface evenly; preferably banana leaf placed on a soft platform of cow dung or mud. The mass spread over leaf covered with another leaf and pressed gently, that after covered leaf is removed from flat sheet of material which is termed as *Parpati*. The fresh cow dung or mud is used in this method to provide smooth platform for the leaf placed on it which uniform spreading of liquefied *Kajjali* on surface of banana leaf. *Dootapapeshwar Rasa Parpati* is an example of *Parpati Rasa* ⁶⁻⁹.

Preparation of *Kupipakwa Rasa*

Mercury grinded with sulphur along with other ingredients to prepare *Kajjali*, this *Kajjali* further subjected for controlled heating in a narrow mouth long neck glass flask and final formulation obtained then termed as *Kupipakwa Rasa*. There are different types of *Kupipakwa Rasa* i.e.; *Antardhoom & Bahirdhoom*, *Sagandha & Nirgandha*.

Initially mercury with Sulphur and other ingredients subjected for *Shodhana* procedure. Purified mercury then processed in *Khalva Yantra*. Purified sulphur and other ingredients with mercury mixed thoroughly to get homogeneous black coloured powder termed as *Kajjali*. This *Kajjali* then subjected for controlled heating in glass flask (*Kupi*). The heating of *Kajjali* in *Kupi* (narrow mouth long neck glass flask) performed on sand bath which in Ayurveda termed as *Vaalukaa Yantra*. In this step glass bottle is fully wrapped with layers of clay smeared pieces of cloth. The *Kajjali* filled in glass in a manner leaving 2/3rd of the flask empty. The *Kupi* filled with *Kajjali* placed on sand in the container for controlled heating. The mouth of glass bottle (*Kupi*) covered during filling of sand around it so to prevent entry of sand particles into *Kupi*. Specially designed heating device of bricks and mud called *Culhaa* is mainly used for controlled heating of *Vaalukaa Yantra* used to prepare *Kupipakwa Rasa*. Heating continued for hours with low flame around 100 to 200°C. Finally opening of '*Kupi*' is performed by breaking it into two halves. The product of the process is called *Kupipakwa Rasaayana* which obtained in the upper and lower half of the *Kupi*. The drug or formulation obtained from upper half (neck of the bottle) is termed as *Kanthastha*

Rasaayana, while the formulation obtained from lower half (bottom of bottle) is termed as *Talastha Rasaayana* and formulation obtained from the both halves of the broken bottle is termed as *Ubhayastha Rasaayana*. The drug finally collected by scrapping sides of *Kupi* and further subjected for dry grinding in a mortar to get fine powder which then stored in an airtight container. *Rasa Sindura*, *Makardhwaja*, *Rasa Karpura*, *Rasa Pushpa* and *Malla Sindura*, etc. are examples of *Kupipakwa Rasa*

Preparation of *Pottali Rasa*:

The *Kajjali* prepared by grinding mercury and sulphur with other ingredients is tightly wrapped in a cloth especially silk cloth termed as *Pottali*. Sulphur powder taken in a wide mouthed pan and kept on fire due to which sulphur get melt. The bundle of *Kajjali* (*Pottali*) prepared earlier is immersed into the melted sulphur which further subjected to heating. The *Kajjali* wrapped in silk cloth becomes hard and converts into *Pottali Rasa*. The burnt cloth removed by scratching and *Pottali Rasa* is stored for further uses. *Hemagarbha Pottali Rasa* is an example of *Pottali Rasa* formulation.

General methods involves in *Rasashastra*:

Minerals and metals subjected to *Shodhana* and *Maarana* processes. *Shodhana* involves grinding with specific media or heating for purification purpose. Cow milk, cow urine, sesame oil, juice & extract of plants and butter milk, etc. are used for this purpose. The *Maarana* involves grinding of therapeutically purified material with decoctions of plant and juices, etc., thereafter incineration of ground material in closed container was performed to get fine and soft product.

Sometimes *Bhasma* or raw materials of *Bhasma* subjected to specific processing to acquire desire qualities, these procedures are *Amritikarana* and *Lohitikarana*. This type of procedure mainly require for specific types of *Bhasma* i.e.; *Abhraka Bhasma*. The *Amritikarana* involves cooking of *Bhasma* with ghee and decoction of *Triphalaa* while *Lohitikarana* involves incineration of *Bhasma* with specified medicinal plants ⁸⁻¹⁰.

Conclusion

Khalvi Rasa, *Parpati Rasa*, *Kupipakwa Rasa* and *Pottali Rasa* are specific formulations prepared from mercury (*Rasa*) *Dravyaas*. Ayurveda described particular methods for the preparation of these *Rasa Dravyaas*. *Shodhana* is process used for the purification of such *Rasa Dravya*. *Shodhana* removes visible foreign material, pacify harmful activity, alter undesirable physical and chemical properties and enhances intended therapeutic action of *Rasa Dravya*. *Maarana* is another processes involved in the preparation of *Rasa* drugs. *Maarana* is process of incineration or calcination which performed in two stages *Bhaavana* and *Putapaaka*. These all special methods involved in the preparation of *Rasa Dravya* imparts desirable qualities in formulations, reduces toxicity, improves self life and palatability. These all preparatory methods convert non compatible forms of minerals and metals into biological compatible form which are non toxic for human use and posses some therapeutic values.

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