



A Unique Ayurvedic Preparation, *Kupipakva rasayana*: A Review

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Abstract

Rasayana means rejuvenation therapy, meant to provide the required nourishment to the body for both physical and mental well-being. Metals and minerals in *Ayurveda* are used, for both preventive and curative means. *Kupipakva rasayana* is one such popular and commonly used preparation, mainly used for rejuvenation therapy and in critical illnesses as an emergency drug. The method preparation of *Kupipakva rasayana* is unique, which substantiates the knowledge of alchemy prevailing in ancient India.

Keywords: *Kupipakva*; *Rasayanas*; *Parad*; *Jarana*; *Murcchana*

Introduction

Through the history of the branch of Rasashastra, it can be known that it developed as a special branch when morbidity and mortality were on the rise. With its advent, came new metal, mineral and herbomineral combinations, formulations and procedures. *Kupipakva* was one such procedure developed mainly for *Gandhi Jarana*. *Kupi* was one of such apparatus. During such procedures, it became known to the peers that the same, with some slight variations can be used for therapeutic values. More developments were done and *Kupipakva Rasayana* emerged to be one of the best *Rasoushadhis* (mercurial preparations). These are also called *Sindoor kalpas* as their final product is red in colour [1].

Definitions

- *Kajjali*: *Shudha Parad* and *Shudha Gandhak* are triturated together vigorously to obtain a soft, black colored powder, free from any glittery particles known as *Kajjali*.
- *Jarana*: *Gandhak jarana* is a process in which *Gandhak* is heated in different proportions with *Parad* (mercury) in some specially designed apparatus.
- *Murcchana*: *Murcchana* is a process in which *Shudha Parad* with or without *Gandhak*, mainly used as preventive or curative therapy.
- *Kupi*: Glass bottle coated with seven layers of mud smeared cloth strips.
- *Valuka Yantra*: Earthen pot filled with sand, at the center of which the *Kupi* is immersed for heating.
- *Kupipakva rasayana*: The *Rasayana* or formulation prepared using *Kupi* and *Valuka Yantra* [2].

History of *Kupipakva rasayana*

- 9th century A.D. - *Gandhak jarana* for the first time mentioned in *Rasa Hridaya Tantra*, further developed as *Kupipakva rasayana*.
- 13th century A.D. - Information of *Rasa Sindoor Kalpana*, a *Kupipakva rasayana*, is for the first time available as *Udayabhaskara Rasa*, in *Rasa Prakash Sudhakar* (R.P.S. 3/10-14) by *Shri Yashodara Bhatta*. He used *Kupi* and *Valuka Yantra* in the preparation.
- 15th century A.D. - *Shri Anantadev Soori* mentions the same as *Rasaparthiva Rasa* in *Rasa Chintamani*.

- 16th and 17th century A.D. - *Rasakaumudi evam Rasakalpayoga* and *Ayurveda Prakash* respectively mention *Sindoorname Rasa* (*Sindoor* like *Rasa*).
- 19th century A.D. - *Rasatarangini* mentions range of *Kupipakva rasayana* like *Rasasindoor*, *Rasapushpa*, *Rasakarpura*, *Makardhwaja* and *Swarnavanga*, etc. along with modification like use of sulphuric acid in preparation of *Rasa karpura*.
- 20th century A.D. - In the Department of Rasashastra, Banaras Hindu University, Varanasivertical type muffle furnace was developed and standardization of the heating pattern has been done.

Types of *Kupipakva rasayana*

Basically three types are seen based on the inclusion of *Gandhak* in the ingredients, time of corking the mouth of *kupi* and the site of obtaining the final product:

Ingredients

- *Sagandha*:
 - ✓ *Parad* + *Gandhak*, e.g. *Rasasindoor* [3].
 - ✓ *Parad* + *Gandhak* + *Metal*, e.g. *Tamrasindoor*, *Rajatasindoor*
 - ✓ *Parad* + *Gandhak* + *Mineral*, e.g. *Talasinindoor*, *Shilasinindoor*
- *Nirgandha*: Prepared without *Gandhak*, e.g. *Rasakarpura*, *Rasa Pushpa*.
- Time of corking:
 - ✓ *Antardhoom*: Corking of the bottle is done from the beginning, thus preventing vapors from escaping e.g. *Rasasindoor*.

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- ✓ *Bahirdhoom*: Corking is done after sulphur fumes subside. e.g. *Hinguliya Manikya Rasa, Shilasindoor*.
- ✓ Site of finished product:
- ✓ *Kanthastha*: The finished product is deposited at the neck of Kupi e.g. *Rasasindoor, Rasa Karpoor*.
- ✓ *Talastha*: The product is obtained from the bottom of the Kupi. E.g. *Sameera pannaga Rasa, Swarna vanga*.
- ✓ *Ubhayastha*: Final product obtained from both the sites of Kupi. e.g. *Purnachandrodaya, HinguliyaManikya Rasa* [4].

Materials and methods

Materials: Equipment's

- ✓ *Kupi*
- ✓ *Valuka Yantra*
- ✓ Burner/furnace
- ✓ *Khalva Yantra* (mortar and pestle)
- ✓ *Shalaka* (Iron Rod)
- ✓ Copper coin or plate
- ✓ Cork or sealing material

Drug

- ✓ *Parad* (Mercury)
- ✓ *Gandhak* (Sulphur)
- ✓ Metal
- ✓ Mineral
- ✓ *Bhavanadravya*-liquid for levigation

Methodology

Procedure

Procedure is mainly divided into three phases: *Poorva, Pradhan,* and *Paschat Karma*.

❖ *Purva Karma (Pre heating phase)*: This includes

- Collection of equipment.
- Shodhana of ingredient according to the specified classical methods.
- Preparation of *Kajjali*.
- Preparation of *kupi*.
- Filling of *Kajjali* in the *kupi*.
- Fixing of *kupi* in the *Valuka Yantra* [5].

❖ *Pradhan karma (Heating phase)*: Heat is given in three stages, gradually.

- *Mrudu Agni*: - This is the stage where *Kajjali* and sulphur fumes are emitted. This is tested with the help of a *Shita Shalaka* (cold rod). *Gandhak* starts melting at this stage. The temperature at this stage ranges between 150°C -250°C.
- *Madhyam Agni*: - This starts from melting of *Gandhak* followed by profuse fuming. At this stage, clearing of the mouth of

glass bottle by *Tapta Shalaka* (hot rod) is done. The temperature ranges between 350°C-450°C [6].

- *Tivra Agni*: -Fumes stop from *Kupi* and flame is seen at the mouth of the bottle. This stage is ideal to do *Mudrana* (Corking) for *Bahirdhoom Kupipakva rasayana*. At this stage temperature of *Kupi* ranged between 450°C-650°C.

❖ *Paschat karma (Post heating phase)*

- ✓ Removal of bottle- After self-cooling of bottle, it is gently removed.
- ✓ Breaking of bottle- Mud smeared cloth is scrapped off carefully with a knife. A strip of cotton cloth or a thick thread is soaked in spirit/kerosene. This is strapped around the center of the bottle. It is ignited to burn out. A wet cloth is then wrapped around the hot surface, which facilitates breaking of the bottle.
- ✓ Collection of product - After breaking the bottle, the product is removed from the *Kupi* carefully and stored in an air tight glass container [7].

Rules

• *Kajjali*:

- ✓ Trituration should be done without using any liquid, until it becomes lusterless, if *bhavana* is mentioned; it is to be done after *Kajjali* becomes lusterless.
- ✓ When metals like *Suvarna* (Gold) and *Roupya* (Silver) are to be added then, thin flakes of the metal are made and triturated to dissolve in *Parad*.
- ✓ When metals like *Naga* (Lead), *Vanga* (Tin) are to be added, they are melted and mixed with *Parad* to form amalgam and then *Gandhak* is added to prepare *Kajjali*.

• *Kupi*:

- ✓ The *Kupi* is wrapped with 7 layers of *Multani* clay.
- ✓ Each layer is done only after drying of the previous one.
- ✓ The bottle should be filled to 1/3rd of its capacity [8].

• *Valuka Yantra*:

- ✓ *Valuka Yantra* is filled with sand up to approximately 3 inches.
- ✓ *Kupi* is fixed exactly in the centre of *Valuka Yantra*.
- ✓ Sand is then filled around the *Kupi* up to the neck [9].

• *Shalaka Sanchalan*: Iron rod with a wooden handle is kept heating in the furnace.

- ✓ *Shita Shalaka*: This is done to check the stage of *Kajjali*; at the beginning to see when *Kajjali* starts melting and at the end to confirm total evaporation of sulphur before corking.

- ✓ *Tapta Shalaka*: This is done to clear the mouth of the *Kupi* blocked by *Gandhak* particles during fuming.

• *Copper coin test*: This is done before corking to check the presence of *Parad* in *Bahirdhoom* method.

• *Corking*:

- ✓ Fumes should stop completely in *Antardhoom* method.

- ✓ Flames should stop completely in *Bahirdhoom* method.
- ✓ Bottom of the bottle appears red.
- ✓ Particles do not stick even to *Shita Shalaka*.
- ✓ After corking, 2-3" of sand surrounding the neck of the bottle is moved aside. Heating is then stopped.
- **Observation of fumes and flames**
- ✓ **Fumes**
 - Colour, odour, time of the fumes are noted.
 - May be mild, moderate or profuse.
 - Colour may vary from yellow, orange to white.
 - Odour may be sulphuric or arsenical according to the ingredients.
- ✓ **Flame**
 - Time of appearance of flame, its height, colour, odour and duration should be noted.
 - Flame does not appear in *Nirgandha* preparations [10].
- **Shalaka sanchalana**
- ✓ *Shita Shalaka*: Particles of ingredients are seen on the rod at the stage of melting of *Kajjali*.
- *Tapta Shalaka*: Material present at the mouth of the Kupi burns with a blue flame on insertion [11].
- **Copper coin test**
- ✓ Copper coin placed on the mouth of the bottle exhibits white spots in the presence of *Parad*.

Importance of *Kupipakva rasayana*

Heat given is of very high degree, which makes the formulations *laghu*, thereby enabling the drug to penetrate faster and deeper into the tissues. Thus, they enhance the *Dhatwagni* and *Jatharagni*, which form the basis of treatment in *Ayurveda*. In *Kupipakva* method, Mercury with or without Sulphur is converted in to a suitable compound, even without being reduced to ashes [12-14]. Through this process, the potency and efficacy of mercury, increases in proportion to the amount of Sulphur burnt in the *Jarana* process. The properties like small drug dose, rapid action, desired result, long shelf life, palatability made *Kupipakva rasayana* to occupy superior position in Ayurvedic therapeutics. *Kupipakva rasayana* is very much effective in all *Vata-Kapha* predominant diseases.

Discussion

Kupipakva rasayana preparation method is much exhaustive and complicated, but has its own significance because of specific pharmaceutical process and excellent clinical results with minimum therapeutic dosage. The idea of using *Valuka Yantra* is to apply

uniform and controlled heat supply to the *Kupi*. Wrapping mud smeared cloth strips on the glass bottles increase heat susceptibility and pressure resistance of the bottles. The bottle should be filled to 1/3rd of its capacity with the ingredients [15]. The remaining space facilitates melting and boiling of *Kajjali*. It also helps in sublimation of the compound to get condensed and deposit at the neck of the bottle. Gradual heating facilitates binding of ingredients from the beginning of heating up to *Swangasheet* (self-cooling) of the *Valuka Yantra*. *Shalaka* is used to insert in the mouth of the bottle to prevent deposition of Sulphur, which may otherwise block the mouth of the bottle, ultimately breaking it. *Sheet Shalaka Test* (cold iron test): absence of sulphur like smell when the iron rod is inserted into bottle and smelled immediately is suggestive of proper preparation of medicine. Copper coin test with white spots means the presence of *Parad*, indicating requirement of more heat. Hence corking should do only after such spots are not seen. With the help of vertical type muffle furnace, it has been possible to reduce the total heating period of *Kupipakva rasayana* preparation up to 1/3rd duration. During opening, wet cloth wrapped around the hot surface of the bottle, facilitates breaking. Sudden cooling breaks the bottle at the desired level without contaminating the contents.

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