

Concept of *Kupipakwa Rasayan*- A Review

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Abstract

Rasshastra branch mainly deals with rasaushdhis classified into four varieties such as Kupipakwarasayana, Parpatikalpana, Pottalikalpana and Kharaliyarasayan. Kupipakwarasayana is very difficult to prepare and require longer duration for preparation. However it is placed as unique formulation in rasshasrta because of its mercurial preparation with quicker action and synergistic effects in the body at very low dose. This kalpana includes so many preparations like Rassindur, Makardhwaj-Chandrodayras, Sameerpannagras, Swarnarajwangeshwarras, Mallasindur, Raspushpa, Raskarpur etc. Kupipakwarasayana are prepared in kupi (Glass bottle) by gradually increasing heat from mild-to-intense by using an instrument called as valukayantra (sand bath). Particular chemical process is involved in this preparation which strongly denotes that good chemical knowledge existed in the ancient science Ayurveda. In this article detailed knowledge regarding the definition etymology, history, types, manufacturing procedures, instruments useful in kupipakwarasayana are discussed. This study is a modest attempt to give an idea about importance and utility of this kupipakwarasayanakalpana.

Keywords

Kupipakwa Rasayana, Rassindur, Makardhwaj, Sameerpannagras, Swarnarajwangeshwarras, Mallasindur, rasPushpa, valuka Yantra



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INTRODUCTION

The branch of Rasashastra have specialised concept and varieties of rasaushdhis. Rasaushdhis are very effective in many aspects like long lasting effects, easy in palatability, rapid action, reduced dose and having better efficacy to cure the complex disease¹. *Kupipakwarasayana* are also called as *sindurkalpa*. It is made up of four words i.e. *kupi- kanchkupi* (glass bottle)-as instrument. *Pakwa-paka* (heating inside the bottle)- as method. *Ras- parad* (mercurial preparation) - as content. *Aayan- sthan* (place in which prepared)- as medium. *Kajjali* is the main content in this preparation, which can be prepared by the any combinations of metal, minerals with mercury and sulphur. The role of temperature is another important part to get proper final product in effective and desired form. There are several chemical changes that are seen in the finished product that is *kupipakwarasayan*. *Parad* (Mercury) and *Gandhak* (Sulphur) is converted into *kajjali* by rubbing (*Mardana*) in *khalwayantra*. Again by heating on specific temperature with specialized procedure *kajjali* is converted into *Rassindur*² $Hg + S = HgS$.

AIMS AND OBJECTIVE

The main aim of this present article is to study the detail knowledge regarding

1. Etymology,

2. Classification,

3. Various method of preparation of *kupipakwarasayana*,

4. Varieties of *kupipakwarasayanakalpana*.

LITERARY REVIEW

Kupipakwarasayana was first introduced in *Rasendrachintamanigrantha* written by Acharya Dhhundhuknath in 12th century. They mentioned as *kramagni* like *mrudu*, *madhya*, *tivraagni*. *Sindurkalpana* is mentioned as *Udaybhaskarras* in *Rasprakashsudhakargranth* written by Acharya Yashodharbhatta in 14th century. *Raskarpur* was also firstly mentioned in this *grantha* as *Ghansarras*. Instrument used is *sikatayantra*. *Raskarpur* was also described in *Rastarangini* prepared by using (H_2SO_4) Sulphuric acid with mercury in *valukayantra*. Later on in 15th, 16th and 17th century *kupipakwarasayana* was explained as *sindurkalpa*. *Murchhana* is the procedure adopted in *kupipakwa* preparation. At specific temperature *paradis* heated with *gandhak* called as *gandhakjarana*. *Gandhakjarana* procedure are described in *Rashridaytantra* written by Bhagwatgovindapdacharya in 8th century.³ Acharya Harisharananand mentioned 260 different types of

kupipakwarasayana in Rasgrantha named as KupipakwaRas NirmanVigyaniyam.⁴

Utility and Speciality of Preparation

Specific metallic preparation are widely prescribed and utilized in manufacturing of drug. *Bhasmakalpna* is also included in metallic preparation have specific characteristics. But *kupipakwarasayana* due to its special method of preparation possess special features as more potent and efficient from other *kalpanain* Rasshastra. *Kupupakwarasayana* has specific properties called as '*Murchhana*' means '*vishishtavyadhiharanshakti*'. Sometimes many chemical reactions are involved to give synergistic effect in the body.⁵ Different minerals and metals are transformed into effective medicines by this chemical reaction. The action of *kupipakwarasayana* remains for longer period of time which indicates its greater efficacy and potency. It is very effective even at minimum dose with easy to administration. When *kupipakwa* medicines are mixed with other medicines it minimize the dose of other medicines. When it was compared with other rasaushdhis like *kajjali*, *parpati*, *pottali*, it was found more potent than any other herbo-mineral combination.⁶ Chemically the content in *Kajjali*, *Rasparpati* and *Rassindur* is same that is $Hg+S=HgS$.

Kajjali that is $Hg+S=HgS$ (Black sulphide of Mercury). However *Rassindur* is identical with Red Sulphide of Mercury and has same composition as Cinnabar that is HgS . During trituration and when heated to about $50^{\circ}C$, the black mass of Mercuric Sulphide form and when heated it slowly becomes red and crystalline and sublimated in *kanchkupi* (Glass Bottle). The Black sulphide of Mercury (*kajjali*) becomes red on sublimation and converted into stable red form on heating. $Hg+S=HgS$. (Red sulphide of mercury)⁷.

MATERIALS AND METHODS

Importance and Pattern of Temperature in *KupipakwaKalpana*

Mercury itself is being in liquid state readily reacts with sulphur to form HgS . (Black sulphide of mercury). When mercury amalgamated with metals it gets converted into semisolid mass and easily reacts with Sulphur.⁸ to form *kajjali* and when *kajjali* subjected to high temperature in *kanchkupi* it converts into *Sindurkalpa*. In the preparation of *kupipakwarasayana* three kinds of *agni* are used that is *mruduagni*, *madhyamagni* and *tivraagni*. The temperature of *mruduagni* (mild heat) ranges between $120-250^{\circ}C$. On this temperature *kajjali* starts melting and later on when heat increases, *madhyamagni* (moderate heat) ranges between $250-$

450⁰C, On this temperature *kajjali* starts boiling. After 12hrs of *mrudu* and *madhyamagni* yellow fumes of *gandhak* disappeared. During this process an iron rod (*shalaka*) is inserted in the mouth of *kupi* to avoid any obstruction in the mouth.⁹ Again heating increases gradually at *tivragni* (intense heat). Temperature ranges more than 450-630⁰C for 6hrs duration in that phase. On this temperature the preparation is getting accumulated on the neck of the *kupi* (Glass bottle). This is called *galasthakupipakwarasayan* e.g. *Rassindur*. If final product get accumulated in the bottom of the *kupi* (Glass bottle) ,it is called *talastha* preparation e.g. *Sammeerpannagras*. It depends upon the type of preparation. After doing copper coin test for preparation and ensure that the test is positive.¹⁰ Stop heating and *kupi* removed from the *valukayantra* after self-cooling (*Swang sheet*). After self-cooling dip a thread in kerosene oil and tied below 2cm on that position where preparation are found as accumulation. Burn the thread, when it is burning a wet cloth allowed to cover the bottle, due to this the neck or the bottom of the *kupi* break and collect the preparation very carefully from the neck or bottom of the *kupi* (glass bottle).

There are various instruments (*yantra*) are used in the preparation of *kupipakwarasayana* which as follows.

1. *Valukayantra*- In which preparations are performed, consists of sand as material within earthen pot.
2. *Shalaka*-Used to removal of any obstruction in the *kupi* during the preparation.
3. *Kapadmitti*- Used to preparation of *aatishishishi* (*kanchkupi*) with rounding and layering of *mitti* in cloth (*kapad*) on the glass bottle.
4. *Koshthi*- Used to giving required amount of heat at different temperature.
5. *Kupi*- Used to keep the contents initially then preparing drug by heating it in *valukayantra*.
6. *Mudra*- Used for sealing the *kupimukh* (mouth) opening of the glass bottle.
7. Pyrometer- Used to assess the temperature range by inserting it in the *valukayantra* consistently.
8. Copper coin- Used for performing test means *gandhakjaran* in the *kupi*, called as copper coin test.

Presently electric muffle furnace is used instead of “*Valukayantra*” for the preparation of *kupipakwarasayan*. With the easy techniques of regulation of temperature also lack of need of fuel consumption and allergy towards smoke and dust etc. Still there are some

disadvantages with the use of muffle furnace like high cost of electricity consumption charges and difficulty in bulk production. Temperature pattern in muffle furnace for *kupipakwarasayankaplana* also

being standardized. It ranges between Mild temperature (*Mruduagni*) 150-200°C, Moderate temperature (*Madhyamagni*) 200-400°C, High temperature (*Tivragni*) 400-600°C¹¹

KupipakwaRasayana Classification

Table 1 Classification according to *Murchhana*.

Sagandha

Preparation method-*Gandhak* is used

1. *Makardhwaj*
2. *Rassindur*

Nirghandha

Preparation method-*Gandhak* is not used

1. *Rasmanikya*
2. *Raskarpur*¹²

Antardhum

Preparation method- Fumes of content i.e. *gandhak* fumes appears in the beginning.

1. *Talsindur*
2. *Shilasindur*
3. *Rasmanikya*

Bahirdhum

Preparation method- Fumes appears when the contents i.e. *gandhak* get totally burn.

1. *Rassindur*
2. *Makardhwaj*.

Table 2 Classification according to preparation found in *Kupi*.

Galastha

Preparation method- Accumulation of final product in the neck of *kupi*.

1. *Rassindur*
2. *Chandroday ras*
3. *Raskarpur*

Talastha

Preparation method- Accumulation of final product in the bottom of *kupi*.

1. *Swarnawanga*
2. *Sameerpannag ras*

Ubhaystha

Preparation method- Accumulation of final product in both neck and bottom of the *kupi*.

1. *Sameerpannag ras*
2. *Manikya ras*
3. *Swarnarajwangeswar ras*

Properties of *kupipakwarasayana*

Table 3. Examples and properties of *kupipakwarasayana*.

S.No	Name	Content	Indication	Dose	Highest temp.
1.	<i>Rassindur</i>	1.S.Parad 2.S.Gandhak Equal proportion	<i>Kaphahar, Agnimandya, Vrana, Kushtha, Rasayana, Vajikarana.</i>	125-250mg	600°C For 8hrs.
2.	<i>Sameerpannagrass</i>	1.S.Parad 2.S.Gandhak 3.S.Hartal 4.S.Manashila 5.S.Somal Equal proportion	<i>Shwaskashar, Kaphajvikar, Kshay, Pranwahstrotasvikar.</i>	30-60mg	600°C For 8hrs
3.	<i>Makardhwaj</i>	1.S.Parad-8part 2.S.Swarna-1part 3.S.Gandhak-16part	<i>Rsayana, Vajikarana, Kantikar, Bruhana, Medya, Vishnashak.</i>	60-250mg	600°C For 8hrs.
4.	<i>Swarnawang</i>	1.S.Parad-3part 2.S.Vanga-6part 3.S.Gandhak-4part 4. S.Navasagar-3part.	<i>Mutravardhak, Kruminashak, Pramehanashak, mursha, Rsayana, Vajikarana.</i>	60-120mg	450°C For 12hrs.
5.	<i>Raspushpa</i>	1. S. Parad. 2.S.Kasis 3.Saindhaw Lawan Equal proportion	<i>Visuchika, Vishnashak, Pittanashak.</i>	125-300mg	400°C For 9hrs.
6.	<i>Raskarpura</i>	1.S.Parad 2.S.Sphatika 3.S.Kasis 4.S.Gairika 5.Saindhaw lawan	<i>Vranaropan, Grahi, Kushtha, Phiranga, Atisara¹³</i>	2-4mg	300°C For 9hrs.

S*- *Shudhha*

DISCUSSION

In raschikitsa lots of rasaushadhis are mentioned to control and cure the disease. Among all of these *kupipakwarasayana* is more potent and effective for the treatment of various complicated and chronic disease. When mercury is processed with metals it forms an amalgam which is responsible for formation of an intermediate product. The main promoter of chemical reaction are *gandhak* and *parad* in which *gandhak* is responsible for formation of sulphide. Mercury reacts with sulphur and forms mercuric sulphide (HgS). The preparation

of *kupipakwarasayana* has unique importance in rashastra. When it is compared with other formulations due to its quicker action in minimum dose. Heating pattern and preparation of *kajjali* are most important to achieve maximum product and increase effectiveness of preparation without any side effects. The *kramagni* (Gradual heating system) is the best heating pattern for the *kupipakwa* preparation which is early mentioned in classical texts. Heating pattern should be always in increasing order like *Mruduagni* 120-250°C for 6 hrs, *Madhyamagni* at 250-450°C for 6hrs and *Tivragni* 450-630°C for

6hrs. But heating should be intermediate during preparations. Sublimation is the chemical process involved in most of the *kupipakwarasayan* preparation. It is the unique process converting a solid directly into vapour and condensing the vapour into solid state, having the same composition¹⁴ Duration of heating and grade of heating (Mild, Moderate and High) depends on the amount of free sulphur exists in the *kajjali*. Almost all kinds of *kupipakwarasayan* preparation like *Makardhwaj*, *Rassindur*, *Talasindur*, *Shilasindur*, *Mallasindur*, *Swarnavanga* requires same pattern of gradual heating.

CONCLUSION

It may conclude that *kupipakwawalapana* is complex preparation prepared at specific temperature pattern through chemical reaction. Hence widely used in ayurvedic treatment as it have more potency, efficacy, smaller dose, easy to administer and easily consumed. Utilised in manufacturing other herbo-mineral preparation for reduced dose and rapid action of medicine in acute and chronic state of disease. Also confirms the skill achieved by and great knowledge of chemical process by Rasacharya in ancient Anceint India through this *kupipakwawalapana*.

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