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A CRITICAL REVIEW ON KUPIPAKWA RASAYANA

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ABSTRACT

Rasa Shastra and Bhaishajya kalpana are the main part of Ayurvedic pharmaceutics science. Rasa shastra deals with the herbo mineral and metallic preparations with their types, occurrence, physical properties and organoleptic characteristics. Basically there are four types of Rasoushadhis are mentioned in Rasa granthas such as Kupipakwa Rasayana, Parpati Rasayana, Pottali Rasayana and Kharaliya Rasayana. Kupipakwa Rasayana is very difficult to prepare and require long period for preparation. However, it bears a unique place in Rasa Shastra because of its mercurial preparations with faster action and synergistic effects in the body at very low dose. The kupi indicates that the preparation is made in kupi (glass bottle) on mild to severe heat by using an instrument known as Baluka yantra. In this article detail knowledge regarding the definitions, etymology, types, manufacturing procedures, instruments useful in Kupipakva Rasayana are discussed. This study definitely will give an idea about usefulness of Kupi pakwa rasayana.

KEYWORDS: Kupipakwa; Rasayana; Baluka Yantra.

INTRODUCTION

Parada is most important among rasa subastance. But parad is not therapeutically used in its natural form. Rasa formulations are prepared from shuddha parada, samskarit parada, sanskarita parada or hingulottha parada. To add the therapeutic qualities to parada, it is processed with different substance. Based on procedure, processing of parada is of four types. Kharleeya rasayana, parpati formulations, kupipakwa formulation, and bhasma formulation. Among these four procedures, the kupipakwa procedure is the basic one. Kupipakwa rasayan is composed of four words kupi, pakwa, rasa and ayana. A rasayana product from parada, gandhaka etc is prepared in a glass bottle by applying mild, moderate and intense heat. Based on preparation method it is classified into antardhooma and bahirdhoom. The colour of finished product depends on the ingredients used.[1]

Kupipakwa rasayana kalpana is also known as sindhoora kalpana.[2]

स्यंद प्रस्त्रवण धातौ सिन्धूर शब्द मन्यत्वात|

रक्त वर्ण विषेशेंण प्रयोगों वर्तते अस्य हि ||

The root word "syanda prasrvane" which means releasing properties also indicate red colour of the compound.

कुप्याम अग्निनां पक्वं यद् रसायनं तत कूपिपक्व रसायनम|| (र.प्र.सु.)

Kupipakwa rasayana kalpana is having importance among other kalpana because of having following properties.[3]

- Potency of these drugs remains as it is for longer period.
- It requires minimum dose.
- Easy for administration and preservation.
- When mixed with other drugs it reduce the dose of other drugs.
- Due to its augmenting effects, due to quicker action chemical bonding present in kajjali, parpati and kupipakva rasayana is stronger and stronger respectively.

History of Kupipakwa rasayana[4]

- 9th century A.D.- Gandhak jarana for the first time mentioned in rasa hridaya tantra, further developed as kupipakwa rasayana.
- 13th century A.D – Information of rasa sindhoor kalpana, a kupipakwa rasayana is for the 1st time available in Rasa Prakash sudhakar by shri yashodhara bhatta. He used kupi and valuka yantra in preparation.
- 15th century A.D – Shri anant dev suri mentions the same rasaparthiva rasa in rasa chintamani done.

Aim of procedure
To insert properties of Somala, Hartala, Manahshila, Vanga etc into parada and to convert final new compound having special properties.

Ghatakavayava[5]
Kupipakwa kalpana mainly includes three factors which are:
1. Adhara
2. Adheya
3. Sadhaka

Adhara – Absorption of pure but free form of parade does not occur in body, due to this reasons rasa bandhas were invented. Out of all these rasa bandhas parada kalpas formulated by gndhaka bandha were found to be more potent and efficacious and for same reason, parada is considered as adhara and gandhaka as sadhaka in sindhoora kalpana.

Adheya – Many drugs like hartala, manahshila, somala etc. are considerd as adheya dravyas having desired properties are taken and these properties are inserted into adhara dravyas (Parada) by the medium of sadhaka dravyas.

Sadhaka - In kupipakwa preparations following three factors are called as sadhaka.
(a) Gandhaka: Gandhaka has the capacity to check the motility of parada by binding it. Hence it has given first preference among all the sadhaka factors. The process of pachana of adheya dravyas and insertion of their properties into the parada occurs by the medium of gandhaka dravyas. In this process of sindhoora formation only the amount of gandhaka remains atleast which is essential for the rasa bandhna.
(b) Agni karma (Heating pattern): the plan of specific types of heating pattern depends upon the temperature required for heating of valuka yantra and constituents of the kajjali. The specific types of heating is known as kramagni in the preparation of medicine having desired qualities. Kramagni process has an extra ordinary importance.
(c) Agni kala (Duration of temperature): In kramagni pattern heating should be of specific temperature according to the specific time. In this specific type and time of heating pattern is maintained well it results in the formation of medicines which will be quantitatively and qualitatively supreme.

Types: Major three types[6]
1- Ingredients – a) Sagandha (Prepared with the use of gandhaka) b) Nirgandha

2- Manufacturing
a) Antardhooma – Cork is applied in the beginning and the vapours are not allowed to escape ex. Rasa sindoor
b) Bahirdhooma – Cork is applied after burning of sulpher. Ex. Hinguliya manikya rasa shila sindhoor

3- Place of finished product-
1. **Kanthastha –** The finished product deposited at the neck Ex. Hinguliya manikya ras, Rasa sindhoor
2. **Talastha –** The product is obtaineded from the bottom of kupi Ex. Sameerpannaga Rasa, Swarna vanga
3. **Ubhayastha –** Final product obtained from both the sides Ex. Makaradhwaja.

Procedure[7]
The whole procedure can be divided under the three headings
a) Poorva karma
b) Pradhana Karma
c) Pashchat Karma

a) Poorva Karma: During poorva karma following points should be considered
- Appropriate equipment – Kupi , kapad mitti, Valuka yantra, Brashtri, Fuel, Different shalaka, Copper coin, Torch, Thermameter, Electric blowers
- Purification of ingredients
- Preparation of kajjali
- Bhavana
- Kupibharana

b) Pradhana karma: The following points included
- Temperature measurement
- Heating pattern
- Shalaka sanchalana
- Observation of furnace, fumes and flames
- Mukha murdana
- Swanga sheetakarana

c) Paschat karma: Following measures comes under this karma
- Kupi uddharana – Removal of kupi
- Kupi bhedana – Breaking of kupi
- Pramanya – Evidence of genuiness

1) Poorva Karma
There are differents instruments (Yantra) are involve in the preparation of Kupipakwa Rasayana which are as follows:

Baluka yantra in which preparation are performed consist of sand (Balu) as a material and with an earthen pot. Shalaka used to elimination of any obstruction in the kupi during the preparation of Kupi pakwa rasayana.

Kapadmitti used to seal the kupi as well as used in the aatishi shishi nirman.

Koshthi for giving of required amount of heat at various temperature.

Kupi used to keep the ingredients initially then prepared medicine also.

Mudra for sealing of kupi mukha (mouth of glass bottle)

Thermometer used to assess the temperature range.

Copper coin used for copper coin test.

Purification of ingredients – The methods adoted in purification of metals etc is calleds shodhana. Many process are included under shodhana like washing, trituration etc. by shodhana . the impurities of the drugs is removed and the drug becomes rich with therapeutics qualities.

Preparation of kajjali - In this section parada is triturated with dhatus or with gandhaka, without adding any liquid to obtain a black coloured powder called as kajjali. But now a days only parada and gandhaka are triturated, without adding any liquid to obtain kajjali, because, without adding gandhaka, getting black coloured end product is not possible. Kajjali is used in preparing a variety of mercurial preparation and in marana of dhatus.

Bhavana – The metals etc. are triturated with liquids (Juice, decoction, water etc.) till the added liquids gets dried up. Such a process is called bhavana.

Kupibharana - The Kupi should be filled up the l/3rd part by Kajjali. So that there will be enough space inside the Kupi for melting and boiling of Kajjali. Such Kupi should be kept exactly at the centre of Valuka yantra.

2) Pradhana Karma[8]

Temperature measurement

a) Ancient parameters: Traditionally following tests were in practice:

Cotton – Dried grass test: When cotton pieces or dried grass are kept on Valuka yantra and if it catches fire and then it was considered to be teevragni.

Rice – Paddy test: When kept on Valuka yantra it blown up.

b) Modern Parameters: Now a days pyrometer, thermocouples, thermometers are used for measuring the temperature.

Heating pattern: In this process of pachana heat is needed for gandhaka jarana, guna parivartana and also for utthapanadi chemical changes to occur. This is the specially of kupipakva rasayanas. In classics acharyas every time stresses for maintaining kramagni. Kramagni means gradual increase in heating whatever heating may be used, this rule must be followed. Kramagni categories under:

1. **Deepagni:** Temperature required for heating of valuka
2. **Mrudu agni:** Temperature required for melting of kajjali (Temp. up to 150º C to 200ºC)
3. **Madhyamagni:** Temperature required for Boiling of kajjali and change of properties. (Temp. up to 250º C to 300ºC)
4. **Teevragni:** Temperature required for sublimation. (Temp. up to 350º C to 500ºC)
5. **Swangasheeta:** Temperature required for complete formation of sindhoora.

Basically this kramagni types of heating pattern can be analysed under three phase as follows:

Initial stage: Acharya babu niranjan Prasad the author of vaidya yoga ratnavali has mentioned in his text the type agni in this stage as deepagni which is nothing but the initial stage of mrudu agni, because of this agni valuka yantra becomes hot. Will mrudu agni play rol in the melting of kajjali. Sheeta shalaka test show blackish powder coating on the shalaka. Gandhaka also starts to expelled out in form of yellowish fumes.

Middle stage: In this stage from the complete melting of gandhaka and lasts till starting of sindhoora compound. According to vaidya yoga ratnavali in this stage "Kamalagni" should be given which is nothing but madhyamagni, during this sulphur fumes comes out pungently hence care should be taken that heating should not be strong otherwise boiling kajjali may come out from the mouth of kupi and may catch fire which may leads to breaking of kupi unfortunately if such types of mistakes happens then. Mouth of kupi should be covered quickly by a cork so that there will be lack of oxygen supply and fire gets off. At the time precaution should be taken so that temperature in the brashtri will be reduced. After that heat should be maintained for gandhaka jarana process which is necessary for the initiation of sindhoora formation.

End stage: This stage commence from the formation of sindhoora compound and lasts upto the completion of jarana of gandhaka. The process of formation of sindhoora occurs as in the middle stage. It mean when kajjali is in boiling stage, chemical changes occurs and as a result formation of new compound takes place that is called as sindhoora kalpa. Afterwards as heating persist this newly formed compound sublimates and gets condensed at the neck and mouth of kupi.

Shalaka sanchalana (Application of rods) – During the procedure cold and hot shalaka are being used. Cold shalaka is used especially to know the state of kajjali, whether it is in powder form, melted state, in boiling state or in sublimating compound stage. Hot shalaka is used for burning the extra sulphur deposited at the neck region.

Observation of furnace, fumes and flames: All the characteristic of fumes like colour, odour etc. must be observed will differ according to the ingredients used. Colour may be yellow, orange, quantity may be same as the observations.

Flames: This is also an important factor. While preparing kupi pakva rasayana, timing of starting of flame, its height, colour and its duration are the

important factor depends on the ingredients and quantity of gandhaka used.

Mukhamudrana: To decide the proper timing of corking is very important and difficult task.

Aim: a) To avoid entrance of foreign material
b) To obtain kantastha rasayana
c) To avoid loss of finished product

The corking of kupi should be done after complete jarana of gandhaka and formation of sindhoora compound, but before this few test must have to be done and those are:

- After complete gandhaka jarana and well formation of sindhoora compound the base of kupi becomes clear and red hot.
- If a copper coin kept on kupi mouth, it is covered by a white layer or as per the nature of final compound, but if the presence of mercury is found on it the considering this as critical situation, corking of kupi should be done quickly otherwise loss of mercury may occur completely.
- If a sheeta shalaka is inserted into the kupi it is adhered with white fumes suggests that gandhaka jarana is over. Also the sheeta shalaka is having different coloured powder form coating according to the different compound. Blackish coating in rasa sindhoora, white coating in rasa pushpa, rasa karpoora and so on. This is called as positive sheeta shalaka test which is a confirmatory test for corking.

Mukhamudrana vidhi (Method of corking): Cork made from stone or wood should kept in the mouth of kupi, then it should be covered with the cloth smeared by clay (multani mitti) for this purpose khatika (chalk powder), guda, madhu etc may be used. During corking two three inch of sand layer should be removed from the neck of kupi.

Swangasheetekarana (self cooling): As the heating is over after corking and brashtri left for self cooling. During period forming sindhoora compound starts to condensed in the neck portion of kupi. Whatever is the temperature obtaining in this period is necessary for enhancement of qualities of sindhoora by its complete paachana paka process.

3) Paschat Karma[9]

Following measures comes under this section

1. **Kupi uddharana –** First remove the sand from valuka yantra then carefully remove the kupi, then by scraping remove the layer of kapad mitti and kupi, should be cleaned with wet cloth, then note the level of rasayana finished product inside the kupi.
2. **Kupi bhedhana –** A thread soaked in kerosene should be tied around the middle of kupi just below the level of the compound collected and the thread should be kept horizontal and rotated so that the whole thread catch the fire and when burnt of completely the kupi should be wrapped in a wet cloth thus the kupi break at the desired level and then rasayana is of kantastha or talastha type should be collected.
3. **Pramanya –** The judgment about the colour and shape of the crystals of sindhoora can be made by ingredients of the kajjali also, similarly smell and colour of flame are base for determination of sindhoora compound going to be formed. At last chemical analysis, crystallographic studies and clinical studies are confirmatory evidence of the sindhoora.[10]

DISCUSSION

In Rasa shastra, lots of Rasaushadhi are mentioned to control and cure the various disease. Kupipakwa Rasayana is more effective medicine for the treatment of various complicated diseases. Due to long lasting effects, ease of palatability, rapid onset of action and desired result shows greater efficacy of this preparation. When procedure, ingredients, bhawana drugs, types of heating pattern are change then name and indication of preparation will be change like Rasa Sindura, Malla sindura, Makardhwaja, Tala sindura, Rasa pushpa, Rasa karpoor, etc. When mercury is processed with metals it forms an amalgam which is responsible for formation of an intermediate product. Mercury (Parada) reacts with sulphar (Gandhaka) and forms mercuric sulphide (HgS). The preparations of Kupipakwa Rasayana bear a unique importance in Rasa Shastra when it is compared with other formulations, due to its quicker action on minimum dose. Heating pattern and preparation of Kajjali are very important to achieve maximal yield and increase the effectiveness of preparation without any side effects. The *Kramagni* are the better heating pattern for the kupi pakwa preparation which is clearly mentioned in Rasa granthas. Heating pattern should be always in increasing order like *Mridu Agni 150-200* °C for 6 hrs, *Madhyama Agni* at 250-300°C for 6 hrs and *Tivra Agni* 350-500°C for 6 hrs, but heating should be intermediate during the preparations.

CONCLUSION

A types of metallic preparations which is commonly prescribed by ayurvedic vaidyas known as Kupipakwa Rasayana. It has disease curing and rasayana properties due to parada murchana. Sometimes numerous chemical reactions are involved to give synergistic effect in the body. By this different minerals and metals are transformed into effective medicines. The actions of Kupipakwa rasayana remain for longer period of time which indicates its greater efficacy and potency. Heat given is very high degree, which make the formulations laghu, thereby enabling the drug to penetrate faster and deeper into the tissue. Thus, they increase the dhatwagni and jatharagni, which form the basis of treatment in Ayurveda. In kupipakwa rasayan methods the potency and efficacy of parada, enhance in proportion to the amount of sulphur burnt in the jarana process. It is very effective even at minimum dose (alpamatrop) with ease

of administration. When kupipakwa rasayana medicines are mixed with other drugs, it minimizes the dose of other medicines. When it is compared with other Rasaushadhi like Parpati, Kajjali, Pottali its chemical bonding are very stronger among these three. It is more dominant than any of other herbal preparations. Hence, the method of manufacturing Kupipakwa rasayana was described in this article.

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