

Pharmaceutical Study Of Rasamanikya By Different Methods

Riyazuddin Siddiqui

(Associate Professor)

Dept. of Rasashastra and B.K.
S.S.V.P. Ayuverdic College, Hatta,
Tq. Basmath, Dist- Hingoli,(MS)

Abstract :

In Indian treatises of Rasa Shastra many Rasaushadhis are mentioned and all of such yogas have contributed in treating various numbers of diseases. Among such Rasaushadhis, Rasa Manikya is a special Rasa drug, prepared with Haratala (Orpiment) which is practice widely in Ayurvedic formulations in spite of its toxic nature. The drug Rasa Manikya as mentioned in classics is very effective in different ailments viz Vata-rakta (~Gout), Kustha (~Skin disorders), Shwasa (~Bronchial Asthma) etc. There are so many preparatory methods of Rasa Manikya are in practice which are prepared both classically and as an adopted methods as well with different ways of preparatory techniques. The purpose of this study is to pen down all the classical and adopted methods available now-a-days and to explore different pharmaceutical methods in detail.

Key Words: Adopted methods, Classical methods, Rasa Manikya, Rasa Shastra

Introduction

Ayurveda is an age-old science of Indian system that is based on its own fundamentals. Rasa Shastra is not an exemption to it. Moreover, Rasa Shastra is having a unique background which represents complete knowledge proving its certainty. Critical reviews of history from the primitive age to the present era assist one to plan the path way for the future. Rasa Shastra is studied under various headings as Rasa- Maharasa- Uparasa- Sadharana rasa- Visha- Upavisha, Ratna- Upratna etc, in which the drugs are being placed depending upon their characters, nature of occurrence and usefulness for specialized process of mercury.

Haratala is one such drug which is categorized under Uparasa varga dravya and is considered as toxic as it is an arsenic compound. [1] In Rasa Shastra treatises, majority of Rasa Acharyas place it in Uparasa group. The arsenical compounds have a long and remarkable history of pharmacological utilities and traditional practices. [2] As a matter of fact it is rightly mentioned in Ayurveda, any drug or formulation, even if it is Visha (toxic) and intense, they can act as very effective and potent medicament, where even a simple drug or preparation can be lethal if not used properly. [3] Haratala is used in the field of Rasa Shastra especially in the treatment since the beginning of pre-historic period. There are not many controversies regarding the identification of 'Haratala' as it is equated with the 'Orpiment' from the aspect of modern mineralogy. Haratala is widely used in various forms (Shodhita, Bhasma and Rasamanikya). There are many preparations in Rasa

Shastra prepared just by changing the nature of a compound, yields different and better results than the original drug. One among them is Rasa Manikya which is a light micro fine powder, prepared by processing Patra Haratala. [4] so, nowadays in the present era it has become very important to understand this preparation and its various pharmaceutical methods in order to evaluate and justify different preparatory methods.

Aims & Objectives

Aim: Preparation of Rasa Manikya by different classical and adopted pharmaceutical procedures.

Objectives of the study:

1. To do comprehensive literary review of Rasa Manikya.
2. To evaluate and justify different pharmaceutical methods.

Materials and Methods: Material:

Rasa Manikya prepared out of Shuddha Patra Haratala

Methods: 1. Classical methods:- Many methods have been explained in our texts for the preparation of Rasa Manikya in different ways explained in the tabular form in Table 1

Table 1 Classical methods of Rasa Manikya preparation:

Reference	Method of Rasa Manikya Preparation
Rasendra Chintamani (Ra. Chin) 9/128-133	Sharava Samputa
Rasendra Sara Sangraha (Ras.Sa.San) 1/182	Sharava Samputa
Rasa Tarangini (Ra.Ta) 11/83-89	Keeping Abhrakapatra in Valukayantra
Rasa Tarangini (Ra.Ta) 11/90-93	Keeping in between Abhrakapatra

2. Adopted methods:

Later during the course of time many Acharyas of Rasa Shastra depending on their experience developed some other methods of preparation of Rasa Manikya prepared out of Shodhita Patra Haratala which are easy and better to prepare in terms of resemblance to classically prepared one. These can be classified as shown in Table 2.

Table 2 Adopted methods of Rasa Manikya preparation:

1. Glass Bottle method	Commonly practiced (Rasendra Sara Sangraha)
2. Kupipakwa method	Bhartiya Rasa Shastra
3. Electric Bulb Method	IPGT&RA, Jamnagar

Pharmaceutical Review:

1. Rasa Manikya preparation as mentioned in Rasa Tarangini :-

2 Karsha of Shodhita Patra Haratala Churn is subjected to Bhavana with Kushmanda Swarasa for 3-7 times, followed by 3-7 times Bhavana with Amla Dadhi. Then it is washed with hot water and dried well. After drying Churna is placed in between two wide Abhraka Patras and sealed properly all around. These sealed Abhraka Patras are then placed in Sharava Samputa and Sandhi Bandhan is done with Badara patra kalka. After proper drying this Sharava Samputa is placed in Valuka Yantra and Madhyamagni is given for 3 hours. After Swanga Shita Rasa Manikya is collected in between the Abhraka Patras. [5]

2. Rasa Manikya preparation as mentioned in Rasa Tarangini: -

In this reference Shuddha Patra Haratala Churna is subjected to Bhavana of Kushmanda Swarasa for 3-7 times followed by the same numbers of Bhavanas with Amla Dadhi and then washed with hot water. After complete drying, 2 Mashas of Shodhita Patra Haratala Churna is placed between two Abhraka Patras and placed over Charcoal fire and mild heat is given by blowing the coal with the help of Vankanala. When the colour of Haratala inside Abhraka Patra turns to Manikya varna, Patras are then taken out of the fire and Rasa Manikya is collected between the Abhraka Patras. According to the commentator here the quantity to be used is 2 Mashas for proper paka. [6]

3. Rasa Manikya preparation as mentioned in Rasendra Chintamani: -

For the preparation of Rasa Manikya Shodhita Patra Haratala Churna is taken and is kept in Sharava and Samputikarana is done which is sealed with the help of Badara Patra Kalka. This

Sharava Samputa is kept on fire and heated till the lower Sharava turns Aruna varna (Red hot). After Swanga shita Rasa Manikya is collected from the lower Sharava. [7]

4. Rasa Manikya preparation as mentioned as adopted method in Rasendra Sara Sangraha:

This Glass Bottle method is explained in the text as an Anubhoota vidhi by the Hindi commentator Dr. Satyarth Prakasha. It is commonly practiced preparation. In this method Shuddha Patra Haratala Churna is placed in a glass bulb or small injection vial up to 3/4th part and is placed over Charcoal fire. Its mouth should not be closed allow air to pass in it. After few minutes of heat yellow fumes start to come out, allow these fumes to pass out of the bulb. After sometimes the whole of material inside the bulb melts and dark reddish colour can be appreciated. Then the glass bulb is taken out of fire and is rolled in the cloth dipped in the water as it breaks easily and then Rasa Manikya is collected. [8]

5. Rasa Manikya preparation as mentioned in Rasendra Chintamani: -

The reference is same as mentioned in the text, with the difference of opinion in the interpretation of Shloka in the context of Haratala Shodhana, as here mentioning of word Kshipeta is there which means dipping of Patra Haratala in Kushmanad Swarasa and Amla Dadhi for 3-7 times. The preparation of Rasa Manikya as Bhandha method is explained in the text as Shodhita Patra Haratala Churna is taken in Sharava Samputa and Sandhi bandhana is done with Badara Patra Kalka. This Sharava Samputa is then placed over the fire and heat is given until the lower Sharava becomes red hot. After self-cooling the Rasa Manikya is collected from the Sharava. [9]

6. Rasa Manikya preparation mentioned as adopted method in Bhartiya Rasa Shastra: -

Kacha Kupa method is explained by Dr. Vishwanatha Dwivediji. Here in this method Kacha Kupa is prepared by covering the bottle with mud smeared cloth which is then dried properly. After drying Shodhita Patra Haratala Churna is placed in that bottle. Initially mouth of Kacha Kupa is closed with a cork with the help of a paper plug and then it is placed in the Valuka Yantra. Paper plug is removed and heat is given until the Haratala melts. After sometimes fumes starts coming out of Kupa then a Shalaka is inserted inside the Kupa and if red coloured Tantu is seen it indicates the completion of process, then heat is stopped and again the mouth of Kupa is closed with a paper plug. After Swanga shita the ruby coloured Rasa Manikya is obtained. [10]

7. Rasa Manikya preparation as mentioned in Siddha Bhesaja Manimala: -

The Shloka explained with reference to Shodhana of Patra Haratala and preparation of Rasa Manikya is same as mentioned in the Rasa Tarangini. [11]

8. Rasa Manikya preparation as adopted in I.P.G.T & R.A, Jamnagar

I.P.G.T & R.A, Jamnagar, Gujarat has developed this adopted method. In this method Shodhita Patra Haratala Churna is taken in an Electric bulb, which is heated on the mild fire until the colour of Haratala changes to Manikya varna. After Swanga shita the Bulb is broken and Rasa Manikya is separated carefully from the glass pieces. [12]

Discussion

Preparation of Rasa Manikya by Abhraka Patra method

In classics only 2 Masha of Haratala is to be taken as mentioned in the reference of Rasa Tarangini. Here 2 Masha indicates very small amount of Haratala to be used. The idea behind this may be because of evenly spreading of Haratala Churna in between the Abhraka Patras. Fine powder of Haratala is to be used in the preparation, also the size and dimensions of Shweta Abhraka Patras and the intensity of heat given to the Patras plays an important role for the achievement of proper Paka Lakshanas. The idea behind using fine powder of Haratala is to provide uniform heat on both sides of Patras as during the procedure when one side shows Paka it can be turned on other side, thereby achieving proper Paka Lakshanas and good quality Rasa Manikya can be obtained.

The idea behind use of Shweta Abhraka Patras is that they act as good heat regulators and could sustain the heat up to 6500C maximum. Therefore the patras may provide constant heat to the Haratala as it melts at 3100C. In this method as the patras were sealed totally thereby leaving no air contact this indicates the oxidation process should be taking place in a complete cessation of oxygen. Just after getting that temperature the Haratala kept inside the Abhraka Patras melted and attained the Manikya colour. After cooling of the Patras opened carefully and Rasa Manikya is collected.

Advantages: -

1. It takes a very short time to prepare
2. Characteristic Manikya varna can be appreciated.

Disadvantages: -

1. Only little quantity of Rasa Manikya can be prepared
2. Shweta Abhraka Patras are not easily available.

3. Repeated process is required to achieve large quantity and moreover same Patras cannot be used as they leave their layers and becomes blackish on repeated heating

Preparation of Rasa Manikya by Sharava Samputa method

Here the quantity of Haratala Churna to be used is not mentioned but in this procedure the benefit is that more amount of Haratala Churna can be used. So as per the size of Sharava quantity of fine powder of Haratala can be decided and then it is spread evenly on the surface of Sharava so that it may get the proper and uniform heat from all the sides and will melt properly. As per classics use of Sharava has been told for this preparation, this may be due to the reason as chemically they are inert and will not hamper the quality of the drug prepared. (Here Sharava is the saucer shaped mud plate while Samputa means enclosed chamber). Sandhi bandhana is the procedure to be followed after placing the powdered Haratala in the Sharava and before subjecting it to the heat medium. Here the gap between the 2 Sharavas enclosed so as to heat the drug in closed chamber with limited supply of oxygen, which is to facilitate the gradual oxidation of the drug, loss of sulphur as oxides are less.

This is an Antardhoom Vidhi procedure and during this procedure it is noted that color change in the lower Sharava i.e red hot as said in classics can be appreciated as a criteria for assessment of Paka but the Badara patra kalka was not sticky enough to hold the sealing and fumes were seen coming out of it making the procedure difficult and when the Sharava is opened partial Paka of Haratala is seen giving an idea that the quantity taken could be more in it. So another modification of this method is mentioned in order to get proper Paka of Haratala.

Advantages: -

1. Large quantity of Rasa Manikya can be prepared in a single Sharava.

Disadvantages: -

1. The criteria mentioned in the classics, that heat is to be given till the lower Sharava turns to Aruna Varna was appreciable but the duration taken is long so the method has to be modified as Badara patra kalka is not sticky enough to sustain the heat.
2. After opening of Sharava it is observed that most of the Haratala remained as it is in sides of lower Sharava without any colour change.
3. Less yield of Rasa Manikya and no appreciation of Manikya varna.

Preparation of Rasa Manikya by Modified Sharava Samputa method:

As in the above said procedure the output is less with the desired quantity taken and time duration was more and no proper Rasa Manikya was obtained. So as mentioned in Siddhi Prada commentary by Prof. S.N. Mishra on Rasendra Chintamani the quantity of fine powder of Haratala is reduced and spread evenly on the surface of Sharava for proper and uniform heat. Badara patra kalka was replaced by cloth smeared with Multani Mitti to seal the Sharava Samputa. The upper Sharava is having a hole in the middle so that proper Paka Lakshanas can be assessed, thereby getting proper Rasa Manikya. Here the gap between the 2 Sharavas is enclosed but at the top of one Sharava a hole is done to assess proper Paka of the drug. Here the gap between the 2 Sharavas is enclosed so as to heat the drug in closed chamber with limited supply of oxygen, which is to facilitate the gradual oxidation of the drug, loss of Sulphur as oxides are less. Time duration and yield is modified in this procedure. The reduction in the time duration and more yield in this modified method compared to classical method could be possibly because of the oxygen pressure built up inside due to proper Sandhi Bandhan with the help of Multani Mitti helping in keeping the sealing intact helping in proper Paka of Haratala.

Advantages: -

1. A Shallaka can be inserted in the Sharava through the hole in order to assess the Tantu-paka which was taken the criteria for the completion of the preparation.
2. Compared to the above method the yield is more and time taken is less.

Disadvantages: -

1. Some quantity of Rasa Manikya remains adhered to the Sharava.

Preparation of Rasa Manikya by Glass Bottle and Electric Bulb method:

These procedures are adopted methods mentioned as an Anubhoota vidhi by the Hindi commentator Dr. Satyartha Prakasha in Rasendra Sara Sangrah and I.P.G.T & R.A, Jamnagar, Gujarat. In these procedures a Glass Bottle and a Fuse Electric Bulb are used as the glass bulb and glass bottle are having thin walls therefore it can sustain comparatively more heat.

The main intention of following these procedures is easy method and very cost effective. During preparation the Paka Lakshanas can be appreciated well and amount of heat to be given can be controlled very easily as the process is carried openly, initially yellow fumes were observed which indicates the Sulphur evaporation. Later on heating, the product starts to melt and at the end white fumes

are observed and garlic odour is felt, which indicated release of Arsenic fumes. Here in these methods the oxidation process is taking place in a complete supply of oxygen. i.e there's no closed chamber heating so there is surplus oxygen which is resulting in fast oxidation.

Advantages: -

1. Small quantity of Rasa Manikya can be prepared very easily in the bulb.
2. The appearance is exactly like ruby coloured with the shape of bottom of electric bulb.

Disadvantages: -

1. This method is little tedious while taking out the coil of the fuse bulb.
2. Less yield of Rasa Manikya.
3. Holding the bulb on fire is difficult.

Preparation of Rasa Manikya by Kupi method:

The Kacha Kupi (beer bottle) is used in this procedure. While heating initially yellow fumes are seen this indicates the Sulphur evaporation. On further heating the product, it started to melt and starts producing Tantu Paka which is considered as a sign of completion of the procedure.

Advantages: -

1. A Shallaka can be passed into the glass bottle to assess Tantu Paka.
2. More quantity of Rasa Manikya can be prepared

Disadvantages: -

1. There is chance of mixing of glass pieces with Rasa Manikya during collection.
2. Require Purva Karma and Paschata Karma with laborious procedure, time and fuel.

Conclusion

The categorization of the drug Haratala has been declined from that of Maharasa, to Uparasa in chronological order. Haratala is one among the three arsenic compounds with least toxicity described in the texts of Rasa Shastra. Rasa Manikya is such yoga which is derived out from only one single drug Haratala rather it can be said as a modified form of Haratala obtained from the Shuddha Patra Haratala. The different methods mentioned both classically and adopted for preparation of Rasa Manikya may be due to their utilization in different indications. The assessment criteria for proper preparation Rasa Manikya with reference to Manikya Varna Utpatti, Intensity of Heat and other Paka Lakshanas is different in Classics and Adopted methods. In Some methods the finished product will be lesser in quantity and it has to be repeated for number of times. Therefore in recent times so many other methods have came up and became popular considering the time and yield factor. Moreover, the preparation requires proper care, critical understanding and computed technology to get the desired character of Rasa Manikya.

References :-

1. Kaviraj Ambikadatta Shastry, editor. Vagbhatacharya Rasa Ratna Samuchchaya. 8th ed. Chapter 3, Verse 1. Varanasi Chaukhamba Amarabharati Prakashana; 1994. pp 235.
2. Vij K. Textbook of Forensic Medicine and Toxicology Principles, 2nd ed. B I Churchill Livingstone: New Delhi; 2008. pp 817.
3. Acharya YT, editor. Charak Samhita of Agnivesha. 5th ed. Ayurveda Deepika Commentary of Chakrapani Datta; Chapter 30, Verse 7-8. Varanasi: Chaukhamba Sanskrita Samsthana, 2001; 167-168.
4. Mishra SN, editor. Rasendra Chintamani of Dhundhuknath. 1st ed. Siddhiprada Teeka. Varanasi: Chaukhamba Orientalia, 2000; pp 395.
5. Sharma S, editor. Rasa Tarangini. Haridatta Shastri commentary. 11th ed. Chapter 11, Verse 83-88. New Delhi: Motilal Banarasidas publication, 2004; pp 772.
6. Sharma S, editor. Rasa Tarangini. Haridatta Shastri commentary. 11th ed. Chapter 11, Verse 89-93. New Delhi: Motilal Banarasidas publication, 2004; pp 772.
7. Mishra SN, editor. Rasendra Chintamani of Dhundhuknath. 1st ed. Siddhiprada Teeka. Varanasi: Chaukhamba Orientalia, 2000; pp 395.
8. Prakash S, editor. Rasendra Sara Sangraha of Krishna Gopal. 1st ed. Varanasi: Krishnadas Academy, 1994; pp 742; 258.
9. Mishra SN, editor. Rasendra Chintamani of Dhundhuknath. 1st ed. Siddhiprada Teeka. Varanasi: Chaukhamba Orientalia, 2000; pp 395.
10. Dwivedi V, editor. Bhartiya Rasa Shastra. 2nd ed. Nagpur: Sri Sharma Ayurveda Mandira, 1987; pp 592; 299.
11. Bhatt RK, editor. Siddha Bhesaja Manimala of Krishna Ram Bhatt. 2nd ed. Chapter 4, Verse 66. Varanasi: Krishnadas Academy, 1999; pp 408; 159.
12. Pandey D. Role of Rasaushadi in the management of Asadhya vyadhis. Ayu journal. Mar-Apr 2000;1:25-26

