



PHARMACEUTICO-ANALYTICAL STUDY OF BRAHMA RASA

Dr. Pavitra G.*¹ and Dr. Praveen Simpi²

¹Assistant Professor, Dept. of Rasashastra and Bhaishajya Kalpana, BVVS Ayurved Medical College and Hospital, Bagalkot, Karnataka, India.

²Associate Professor, Dept. of Rasashastra and Bhaishajya Kalpana, N.K. Jabshetty Ayurvedic Medical College and P.G. Center, Bidar, Karnataka, India.

***Corresponding Author: Dr. Pavitra G.**

Assistant Professor, Dept. of Rasashastra and Bhaishajya Kalpana, BVVS Ayurved Medical College and Hospital, Bagalkot, Karnataka, India.

Article Received on 22/11/2023

Article Revised on 12/12/2023

Article Accepted on 02/01/2024

ABSTRACT

Brahma Rasa as indicated in Mandala Kushta is compared to Psoriasis can be caused by Streptococcal Infections. Brahma Rasa is one among the Khalviya Rasayana which is explained in Rasendra Chintamani, is indicated in Mandala Kushta is compared to Psoriasis can be caused by Streptococcal Infections. There are many formulations mentioned in classical for Kushta this is one among them. There is a lack of data regarding the pharmaceutical process and analytical profile of Brahma Rasa. **Aim:** To prepare Brahma Rasa and analyse it using various parameters. **Materials and Methods:** Brahma Rasa was prepared as per the classics in the form of vati. Other methods adopted were Hingulotha Parada, Shodhana of Gandhaka, Preparation of Kajjali and Rasasindhura. The pharmaceutical and Analytical parameters were compiled and data was recorded.

KEYWORDS: Brahma Rasa, Khalviya Rasayana, Mandala Kushta, Psoriasis, Rasendra Chintamani.

INTRODUCTION

Now a day the Antimicrobial resistance (AMR) has emerged as a major global threat, the inappropriate use of Antibiotics has resulted in more and more bacterial strains developing resistance over the last few decades with fatal consequences. According to World Health Organization (WHO) estimates, around 25,000 people die each year from AMR infections in Europe alone.^[1] hence there is a need for establishment of new antimicrobial compound with lesser resistance. In Ayurveda Kushta is considered one among the Mahagadas.^[2-3] Krimi, Kushta of Ayurveda are correlated with micro-organisms, infection is a result of interaction between micro-organisms and the natural defense mechanisms of the body.

There are huge numbers of formulations in Ayurvedic Classics which act as a Antimicrobial but they are yet to explore to replace the active compounds of Allied Sciences.

Among four major Rasayana Kalpanas, Khalviya Rasayana is the one among them and is the Primary and essential Pharmaceutical Technique as these are used as an ingredient of other three Rasayanas.

Brahma Rasa,^[4] is one among the Khalviya Rasayana which is explained in Rasendra Chintamani, which

consists of Rasa Sindoor, Shodhita Gandhaka, Chitrakamula Churna, Bakuchi Churna, Palashabeeja Churna, Guda and Madhu. It will act as a Kaphavatahamaka, Kushtaghna and Jantughna. Indicated in Mandala and Prasupta Kushta. Shuddha.

Hence, an effort has been made to prepare Brahma Rasa as per Rasendra Chintamani and doing an analysis of the prepared medicine as a part of research protocol to study its composition and give in for the betterment of society.

MATERIALS AND METHODS**Materials****Collection of Raw Materials**

Raw Drugs which are having similar Grahya Lakshanas as mentioned in the Rasa Classics were collected from the Market.

Major Drugs

Hingula, Gandhaka, Chitraka mula, Bakuchi and Palasha beeja were collected from market.

Associated Drugs

- i. Nimbu – collected from local market, Bidar.
- ii. Milk - Fresh cow milk was collected for Gandhaka Shodhana from milk Dairy, Bidar.
- iii. Ghrita - Collected from milk Dairy, Bidar.

iv. Guda and Madhu were collected from local market, Bidar.

Method

The whole method of Preparation includes

- i. Shodhana of Raw Materials.
- ii. Extraction of Parada from Hingula.
- iii. Preparation of Kajjali.
- iv. Preparation of Rasa Sindoor.
- v. Preparation of Chitraka mula churna.
- vi. Preparation of Bakuchi churna.
- vii. Preparation of Palasha beeja churna.
- viii. Preparation of Brahma Rasa.

Methods adopted

1. Shodhana of Hingula as per Rasa Ratna Samucchaya.^[5]
2. Parada nishkasana from Hingula as per Rasatarangini.^[6]
3. Shodhana of Gandhaka as per Ayurveda Prakasha.^[7]
4. Preparation of Kajjali as per Rasa Ratna Samucchaya.^[8]
5. Preparation of Rasasindhura as per Rasa Tarangini.^[9]
6. Preparation of Brahma Rasa by adding all the ingredients as per Rasendra Chintamani.

Preparation of Brahma Rasa

Ingredients

1. Rasa Sindoor – 150 gm.
2. Shuddha Gandhaka – 150 gm.

OBSERVATION AND RESULTS

1. Organoleptic Characters

Table 1: Organoleptic Characters of Brahma Rasa.

Parameters	Brahma Rasa
Colour	Brownish
Taste	Sweetish
Odour	Characteristic
Touch	Smooth

Table 2: Showing Result of pH value, Loss on Drying, Total Ash Value, Acid Insoluble Ash, Water Soluble Ash of Brahma Rasa.

Parameters	Brahma Rasa
pH value	7.91
Loss on Drying	3.98%
Total Ash Value	7.5%
Acid Insoluble Ash	0.85%
Water Soluble Ash	2.5%

Table 3: Showing Results of Hardness, Friability, Disintegration, Weight uniformity Test of Brahma Rasa.

Parameters	Brahma Rasa
Hardness	2.0 kg/cm
Friability	0.009%
Disintegration	17 min
Weight Uniformity	1.003 gm

3. Chitraka mula Churna – 150 gm.
4. Bakuchi Churna – 150 gm.
5. Palasha beeja churna – 150 gm.
6. Guda – 375 gm.
7. Madhu – 150 gm.

Apparatus: Khalva Yantra, Air tight container.

Procedure

- Rasa Sindoor was taken in Khalva Yantra and Shuddha Gandhaka churna, Chitraka mula churna, Bakuchi churna and Palasha beeja churna was added and trituration was done.
- Trituration was done to get a homogenous mixture.
- To the homogenous mixture Guda and Madhu was added and triturated well.
- Later vati were prepared out of the homogenous mixture.
- After it was collected and stored in a clean air tight container.

Observations

- Initially the colour was light brown, as trituration done then it changed to brown colour.
- Stickiness was felt while doing trituration after adding of Guda and Madhu.

Precautions

While triturating all the churna's done carefully so that there should not be any spillage.

XRD of Rasasindhura

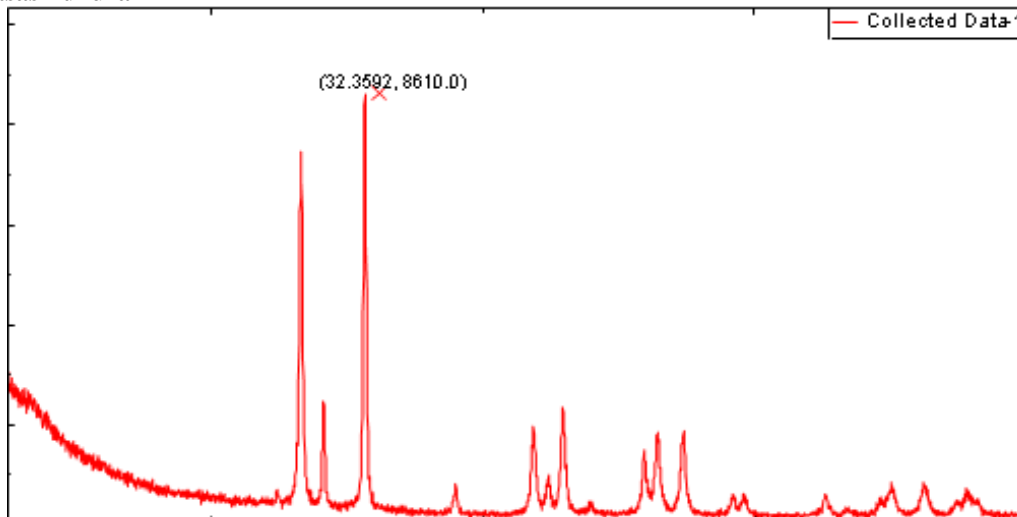


Table 4: Result of NPST of Brahma Rasa.

1 st Phase	2 nd Phase	3 rd Phase
<ul style="list-style-type: none"> Central Spot was Brick red colour. Drop was slowly spreading, developed brick red coloured centre spot having white coloured margin, surrounded by brick red coloured intermediate circle. Dull brown peripheral circle was forming around the red ring. 	<ul style="list-style-type: none"> The white ring between central spot and intermediate spot became more prominent. Central spot and intermediate brick red circle gradually faded, peripheral red ring was much prominent, white outer brown periphery was diminished. 	<ul style="list-style-type: none"> Central spot became light brick red colour, intermediate brick red circle was bright near the centre and dull at its periphery, encircled by prominent red ring. Outer brown circle was completely disappeared and replaced by bright white circle.

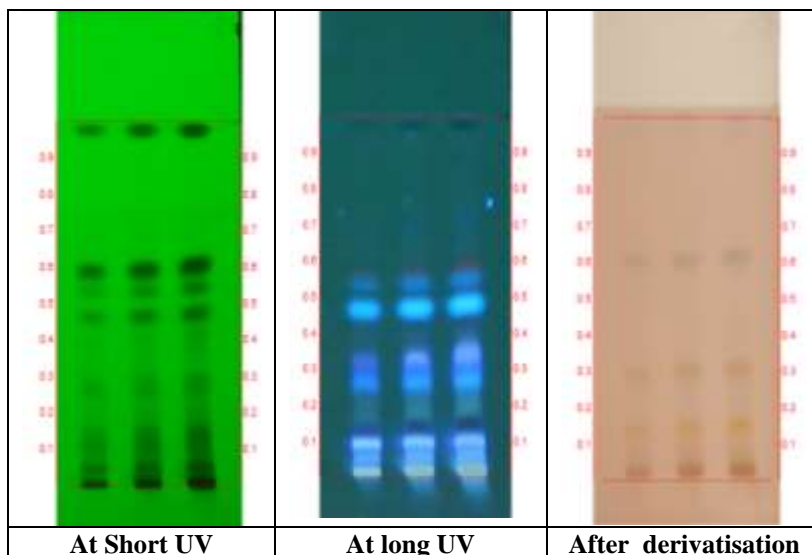


Figure 1: TLC photo documentation of Ethanolic extract of Brahma rasa.

Track 1 – Ethanolic extract of Brahma rasa – 3µl
 Track 2 - Ethanolic extract of Brahma rasa – 6µl
 Track 3 - Ethanolic extract of Brahma rasa – 9µl
 Solvent system - Toluene: Ethyl acetate (9.0: 1.0)

Table 5: R_f values of the sample of ethanolic extract of Brahma rasa.

At Short UV	At long UV	After derivatisation
0.06 (Green)	0.05 (F. blue)	-
0.11 (Green)	0.12 (F. blue)	0.09 (Purple)
-	0.15 (F. blue)	-
-	-	0.18 (Yellow)
-	-	0.26 (Purple)
0.26 (Green)	0.26 (F. blue)	-
0.29 (Green)	-	0.30 (Yellow)
-	0.31 (F. blue)	-
0.38 (Green)	0.39 (F. blue)	-
0.44 (Green)	-	-
0.47 (Green)	0.48 (F. blue)	-
0.54 (Green)	0.55 (F. blue)	-
-	0.58 (F. blue)	-
0.62 (Green)	-	0.61 (Purple)
-	0.71 (F. blue)	-

*F-fluorescent



Fig. 2: Hingula bhavana in Nimbu Swarasa



Fig. 3: Hingula Lepa.



Fig. 4: Urdhwapatana Yantra.



Fig. 5: Parada Collected.



Fig. 6: Shodhita Gandhaka.



Fig. 7: Gandhaka with Parada.



Fig. 8: Kajjali.



Fig. 9: Kantastha Rasa Sindoor.



Fig. 10: Churna of all Ingredients.



Fig. 11: Brahma Rasa.

DISCUSSION

Brahma Rasa is one among the Khalviya Rasayana which is explained in Rasendra Chintamani, which consists of Rasa Sindoor, Shodhita Gandhaka, Chitrakamula Churna, Bakuchi Churna, Palashabeeja Churna, Guda and Madhu. It will act as a Kaphavatashamaka, Kushtaghna and Jantughna. Indicated in Mandala and Prasupta Kushta. Shuddha Gandhaka is having Krimighna Karma and Palasha beeja also act as Krimighna. Brahma Rasa as indicated in Mandala Kushta is compared to Psoriasis can be caused by Streptococcal Infections.

Parada Nishkasana was done in two batches. In both batch A & B, Hingula taken was 205 gm & Agni given for 6 hrs but the Parada extracted from Hingula of both Batch A & B was 98 gm & 96 gm respectively, the variation in quantity may be due to the handling of Parada during the collection. Gandhaka Shodhana was done in two batches. Batch A & B, Gandhaka taken was 300 gm in each batches, collected 282 gm & 280 gm respectively.

Total loss of Kajjali observed was 43 gm may be because of dusting of kajjali while triturating. Kajjali was triturated with Vatankura Swarasa for 1 day, there was significant increase in the weight of Kajjali i.e., 15 gms. Rasa Sindoor was prepared classically by using Valuka Yantra in Kramagni paka. The preparation was completed in 21 hours.

The final product Brahma Rasa was prepared in the form of Vati, in which Guda act as important ingredient in

preparing vati where it acts as a binding agent and Madhu acts as a natural preservative.

Organoleptic Characters like Sparsha, Rupa, Rasa, Gandha were analysed. Final product Brahma Rasa has shown properties like Brownish colour, Odour Characteristic, Sweetish Taste and Semisolid & Smooth in Touch. The final product Brahma Rasa is alkaline in nature having pH of 7.91, which suggest it is favourable for growth inhibition of Mico-Organisms. All the other Physico-Analysis were within the normal limits. In XRD Study total of 18 peaks were observed in Brahma Rasa, from 2 theta at 32.3592 to 75.70 d value from 1.54060 – 1.54443. Thus it suggests polycrystallinity of Brahma Rasa. Total height of peaks in Brahma Rasa was 8610.0.

NPST of Brahma Rasa at 3rd phase showed central spot became light Brick Red Colour, intermediate Brick Red circle was bright near the centre and dull at its periphery, encircled by prominent red ring. Outer brown circle was completely disappeared and replaced by bright white circle.

In HPTLC, At 254nm in Densitometric Scan – 9 Constituents seen in Brahma Rasa, At 366nm – 10 Constituents seen in Brahma Rasa, After Derivatisation – 5 Constituents seen in Brahma Rasa. It can be seen that R_f Value 0.26 is common at 254nm and 366nm.

CONCLUSION

Brahma Rasa is explained by Acharya Dundukanath in Rasendra Chintamani which is a herbomineral compound having kaphavatashamaka, Jantughna and kushtaghna property. In the preparation Parada has been extracted

from Hingula because Hingulottha Parada is considered to be equal to the Ashtasamskarita Parada which is more potent and pure. Here Gandhaka Shodhana was conducted by Kurmaputa method, here we get granules of Gandhaka. As all the ingredients in the Brahma Rasa have Katu Rasa, Katu Vipaka, Ushna Virya and Deepaka, Pachaka property helps to correct the Ama condition and Rasa Dhatu dushti which occurs in Kushta Roga. Physico-Chemical Analysis of Brahma Rasa were within the standard limits, hence proving the safety and genuinity.

REFERENCES

1. Patwardhan Bhushan, Journal of Ayurveda and Integrative Medicine, Savitribai Phule Pune University, www.ncbi.nlm.nih.gov., 2018.
2. Sushruta, Sushruta Samhita, Ed. Yadavji Trikamji Acharya, Reprint ed. Chaukhamba Orientalia Academy, Varanasi, 2009; 143.
3. Chakrapani, Chakrapani Bhanumati Teeka of Shri Chakrapanidatta. Ed. Vaidya Yadavji Trikamji Acharya, first edition, Shri Swami Lakshmi Ram Trust, Jaipur, 1939; 309.
4. Acharya Dundukanath, Rasendra Chintamani, Edited by Prof. Siddinandan Mishra, Varanasi, Published by Chaukhamba Orientalia, reprint, 9th chapter, 2011; 359.
5. Shri Vagbhatacharya, Rasaratna Samucchaya, Edited by Kaviraj Shri Ambikadatta Shastri, 10th Edition, Varanasi, Published by Chaukhamba Amarabharati Prakashan; Tritiya Adhyaya, 2015; 88.
6. Sharma S. N., Rasa Tarangini of Shastri K.N., Delhi, Motilal Banarsidas, 2004; 82.
7. Shri Madhava, Ayurveda Prakasha, Edited by Vaidya Yadavji Trikamji Acharya, Bombay, Published by Nirnaya Sagar, Dwitiya Adhyaya, 1913; 69.
8. Shri Vagbhatacharya, Rasaratna Samucchaya, Edited by Kaviraj Shri Ambikadatta Shastri, 8th Edition, Varanasi, Published by Chaukhamba Amarabharati Prakashan, 1988; 209.
9. Shri Sadananda Sharma, Rasa Tarangini, Edited by Pandit Kashinath Shstri, 11th Edition, Varanasi, Published by Motilal Banarasidas, 1979; 135.