



INTERNATIONAL JOURNAL OF PHARMACY AND ANALYTICAL RESEARCH

ISSN:2320-2831

IJPAP |Vol.8 | Issue 4 | Oct - Dec - 2019
Journal Home page: www.ijpar.com

Research article

Open Access

Preparation and standardisation of ramban ras (W.S.R. bhaishajya ratnavali)

Dr.MaheshChandra¹, Dr.Sourmi², Dr.G.K.Saxena³, Dr.Neelam Sahu⁴, Dr.Pankaj Thakur⁵, Dr.Anjali Tamori⁶

¹Asst. Professor, Department of Rasa Shastra and Bhaishajya Kalpna, Main Campus, UAU, Dehradun, Uttarakhand, India.

²Medical Officer, Rishikul Ayurvedic P.G. College Campus, Uttarakhand Ayurved University, Haridwar, Uttarakhand India.

³Retired Head of Department of Rasa Shastra and Bhaishajya Kalpana, Rishikul Ayurvedic PG College Campus, Uttarakhand Ayurveda University.

⁴M.S.(Ay.) Final year P.G. Scholar, Department of Shalya Tantra, Rishikul Ayurvedic PG College Campus, Uttarakhand Ayurveda University.

⁵M.S.(Ay.) Final year P.G. Scholar, Department of Shalya Tantra, Rishikul Ayurvedic PG College Campus, Uttarakhand Ayurveda University.

⁶M.S.(Ay.) Second year P.G. Scholar, Department of Shalya Tantra, Rishikul Ayurvedic PG College Campus, Uttarakhand Ayurveda University.

***Corresponding Author: Dr.MaheshChandra**

ABSTRACT

Ramban Rasa is described in the various texts in Ayurveda. Here the study is carried out on the Ramban Rasa mentioned in Bhaishajya Ratnavali (10/90-92). Ramban Rasa is used to cure the diseases like, Grahni, Amvata, and Agnimandhya. In the present work – 3 samples of Ramban Rasa A, B & C is prepared by the method given in the Bhaishajya Ratnavali (10/90-92). The ingredient of Ramban Rasa is Parad, Gandhak, Vatsanabh, Lavang, Marich, Jayphal and bhavna dravya is imli swarasa. After the preparation of 3 samples of Ramban Rasa A, B & C, their physiochemical analysis was done and compared. The parameters are taken for physiochemical analysis / standardization are:-

1. Physical Analysis according to Ayurveda- Shabda, Sparsha, Roop, Rasa & Gandha pariksha. 2. Chemical Analysis of Ramban Rasa like pH value, Moisture content, Ash content, Acid Insoluble ash, Water soluble extractives, Alcohol soluble extractives, A.A.S for heavy metals like chromium, cadmium, copper, lead, nickel, manganese, cobalt, arsenic & mercury. These samples of Ramban Rasa contain heavy metals less than one ppm.

Keywords: Ramban Rasa, Physio-chemical analysis, Standardization, Ayurvedic drugs.

INTRODUCTION

The word Rasashastra means “Science of Mercury”. Rasashastra is the branch of Ayurveda which deals with the Herbo –mineral preparation. The medicines are made by shudh parad (mercury) is known as “Rasaushadhi”. The main three characteristics of rasaushadhi’s are- required in very small doses, instant effectiveness and extensive therapeutic utility. There are 3 types of Rasaushadhi based on the method of preparation- 1. Kharaliya Rasayan 2.Parpati Rasayan 3.Kupipakva Rasayan. In the present study Rambana Rasa is taken from the text Bhaishjya Ratnavali. Ramban Rasa is a kharaliya rasayan and is beneficial in the management of agnimandhya, grahni & amvata. Agnimandhya is the root cause of all diseases- “Roga Sarveapimandeagno”. (Vagbhatta).

Many physical and chemical changes occur in the nature of crude drug during manufacturing processes of Ramban Rasa. For standardization three samples of Ramban Rasa A, B & C is prepared by same method and their physiochemical analysis is done. By this it helps to ensure safety limits and accuracy of Ramban Rasa.

Material and Methods

Preparation of Ramban Rasa

- 1- Shodhan of Parad
- 2- Shodhan of Gandhak
- 3- Shodhan of Vatsanabh
- 4- Preparation of fine powder of all ingredients.
- 5- Preparation of kajjali and then mixing it with other ingredients.
6. Addition of imli swaras and bhawna was given till it dried completely.

Table 1: Ingredients of Ramban Rasa and their quantities

S.N.	DRUG NAME	QUANTITY
1.	Shudh Parad	150gm
2.	Shudh Gandhak	150gm
3.	Shudh Vatsanabh	150gm
4.	Lavang	150gm
5.	Marich	300gm
6.	Jatiphala	75gm
7.	Imli Swaras	Q.S.

PROCEDURE

Shudh Parad and Shudh Gandhak is taken in a clean kharal and mardan is done till the mixture completely changes into lusterless black powder (Kajjali). After Preparation of fine powder of other ingredients shudh vatshanabh, lavang, marich and jatiphal is mixed with kajjali and mardan is done. When it changes into homogenous mixture add imli swaras and do bhawna till it completely dries. By this process three samples of Ramban Rasa A, B & C are prepared.

Observation

1. After trituration of shudh Parad & shudh Gandhak till 24 hours, mixture converted into a black lusterless powder known as Kajjali.

2. Shudh Vatsanabh powder, Lavang powder, Marich powder and Jatiphal powder mixed with Kajjali and mardan started after 30 minutes, mixture converted into blackish brown colour.
3. Add Imli swarasa and mardan started till the mixture dried up. The colour of Ramban Rasa changed to greyish black.

Physiochemical analysis/ standardization of ramban rasa: This was done at IIT Kanpur

Organoleptic tests

1. Consistency: Solid
2. Shape: Rounded
3. Colour: Black
4. Touch: Heavy & Smooth
5. Smell: Gomutra like
6. Taste: Katu (kali mirch like)

Estimated parameter, values of the ramban rasa samples a, b & c

S No.	Parameters	Sample ID		
		A	B	C
1.	pH	5.3	5.2	5.2
2.	Moisture Content, %	5.5	5.5	5.7
3.	Ash Content, %	5.9	5.9	6.0
4.	Acid soluble Ash, %	2.4	2.2	2.3
5.	Water Soluble Extractive, %	3.4	3.6	3.7
6.	Alcohol Soluble Extractive, %	1.6	1.7	1.5
7.	Chromium, mg/g	<0.021	<0.021	<0.021
8.	Cadmium, mg/g	<0.005	<0.005	<0.005
9.	Copper, mg/g	0.042	0.041	0.042
10.	Lead, mg/g	<0.042	<0.042	<0.042
11.	Nickel, mg/g	<0.017	<0.017	<0.017
12.	Manganese, mg/g	0.101	0.107	0.104
13.	Cobalt, mg/g	<0.021	<0.021	<0.021
14.	Arsenic, mg/g	0.0010	0.0006	0.0010

DISCUSSION AND CONCLUSION

Many physical and chemical changes occur in the nature of crude drug during manufacturing processes of Ramban Rasa. The various steps

which has been applied concerning to preliminary parameters of drug standardization of Ramban Rasa are being discussed here in details.

Results of their purification are given in the following tables**Table No.1 (Parad Shodhan)**

Experiment No.	Impure Parad	Gain Pure(Shudh) Parad	Loss In Purification Process	% Loss	Total Gain Pure Parad
4(A)	250gm	240gm	10gm	4%	96%
4(B)	300gm	292gm	8gm	2.6%	97.3%
4(C)	200gm	190gm	10gm	5%	95%

Average gain pure (Shudh) parad = $(96+97.3+95)/3 = 96.1\%$

Table no.2 (Gandhak Shodhan)

Experiment No.	Impure Gandhak	Gain Pure (Shudh) Gandhak	Loss In Purification Process	% Loss	Total Gain Pure Gandhak
5(A)	500gm	490gm	10gm	2%	98%
5(B)	400gm	385gm	15gm	3.7%	96.25%
5(C)	400gm	390gm	10gm	2.5%	97.5%

Average gain pure Gandhak = $(98+96.25+97.5)/3 = 97.25\%$

Table no. 3 (Vatsnabh Shodhan)

Experiment No.	Impure Vatsnabh mool	Gain Pure Vatsnabh powder	Loss In Purification Process	% Loss	Total Gain Pure Vatsnabh powder
6(A)	500gm	400gm	100gm	20%	80%
6(B)	600gm	500gm	100gm	16.6%	83.3%
6(C)	500gm	420gm	80gm	16.7%	84%

Average gain pure Vatsnabh powder = $(80+83.3+84)/3 = 82.4\%$

Table No.4 (Preparation of Kajjali)

Experiment No.	Total wt. of Shudh parad + Shudh Gandhak	Gain Kajjali	Loss In Manufacturing Process	% Loss	Total Gain Pure Kajjali
7(A)	488gm	475gm	13gm	2.6%	97.3%
7(B)	500gm	485gm	15gm	3%	97%
7(C)	290gm	280gm	10gm	3.4%	96.5%

Average gain Kajjali = $(97.3+97+96.5)/3 = 96.9\%$

In the preparation of Ramban Rasa change in the quantities after mardan in Imli swarasa

Table No. 5

Experiment No.	Quantity of the medicine before mardan	Quantity of the medicine after mardan	Increase in quantity of medicine	% Increase
8(A)	975gm	1055gm	80gm	8.2%
8(B)	975gm	1035gm	60gm	6.1%
8(C)	975gm	1045gm	70gm	7.1%

Average increase in quantity of medicine after mardan in Imli swarasa = $(8.2+6.1+7.1)/3 = 7.1\%$

After formation of Ramban Rasa, physical and chemical analysis is done and subsequent results are obtained.

Physical analysis or organoleptic tests

- (a) Consistency : Solid
 (b) Shape : Rounded
 (c) Colour : Black
 (d) Touch : Snigdha & Heavy

(e) Smell : Gomutra like

(f) Taste : Katu (Kalimirsch like)

Chemical standard

1. Average pH of Ramban Rasa is =5.22
2. Average Moisture Content=5.58
3. Average Ash content =5.93
4. Average Acid Insoluble Ash=2.29
5. Average Water Soluble Extractive =3.59
6. Average Alcohol Soluble Extractive=1.59
7. A.A.S. for:-

TOTAL ELEMENTS							
Sample ID (Metals)	Blank (mg/L)	A (mg/L)	B (mg/L)	C (mg/L)	A (mg/g)	B (mg/g)	C (mg/g)
Cr	<0.63	<0.63	<0.63	<0.63			
Cd	<0.15	<0.15	<0.15	<0.15			
Cu	<0.38	1.248	1.23	1.266	0.0416	0.041	0.0422
Pb	<1.25	<1.25	<1.25	<1.25			
Ni	<0.50	<0.50	<0.50	<0.50			
Mn	<0.25	3.02	3.209	3.119	0.101	0.107	0.104
Co	<0.63	<0.63	<0.63	<0.63			
As	<0.0025	0.0304	0.0194	0.0301	0.001	0.001	0.001

AAS analysis of three samples of Ramban Rasa reveals that, Chromium, Cadmium, Lead, Nickel, and Cobalt are not present in the Ramban Rasa and Copper, Magnese, & Arsenic are present in very low concentration.

Thus can be concluded that all the analytical values of Ramban Rasa found almost in normal

limits as per physio-chemical analysis report and the procedure adopted for the preparation of Ramban Rasa can be supposed to be a standard one and will help the practitioners in curing the disease properly.

In present research work, the result is divided into three categories

- a. Result of formation Study.
- b. Result of Physical analysis.
- c. Result of Chemical analysis

Result of Formation Study-The main contents of Ramban Rasa are follows

1. Parad (Mercury)

2. Gandhak(Sulphur)
3. Vatsnabh(Aconitum ferox)
4. Lavang(Syzygium aromaticum)
5. Marich(Piper nigrum)
6. Jatiphal(Myristica fragrans) and Bhavna dravya is Imli swarasa (Extract of Tamarindus indica).

Conflict of Interest: None Declared.

REFERENCES

- [1]. Bhaishajya Ratnavali.
- [2]. Rasa Tarangini.
- [3]. Madhava Nidan
- [4]. Bhavprakash
- [5]. Rasaratna Samuchaya
- [6]. Charak Samhita
- [7]. Sharangdhar Samhita
- [8]. Sushrut Samhita
- [9]. The Ayurvedi Formulary of India
- [10]. Pharmacopoeial Standards for Ayurvedic Formulation.