Research Article.

International Research Journal of Ayurveda & Yoga

An International Peer Reviewed Journal for Ayurveda & Yoga

Analytical Study Of *Hargouri Ras*: An Ayurvedic Formulation

Dr Rashmi Saini[1] Dr Sharad Porte[2] Dr. Dipak Saini[3]

ICV-70.44- ISRA-1.318
VOLUME 4 ISSUE 5

1. PG Scholar P.G. Dept. of Agad Tantra, National Institute of Ayurveda, Amer Road Jaipur 302002.
2. Associate professor P.G. Dept. of Agad Tantra, National Institute of Ayurveda, Amer Road Jaipur 302002.
3. Assistant Professor Divya jyoti ayurvedic medical college

Corresponding Author:- Dr Rashmi Saini P.G. Dept. of Agad Tantra, National Institute of Ayurveda, Amer Road Jaipur 302002. E-mail: rashmisaini0089@gmail.com Mobile No.:9761026938

Article revised on 9 May 2021 Article Accepted 22 May 2021 Article published 31 May2021

ABSTRACT: -

The aim of this research is to determine Hargouri Ras (A known Ayurvedic formulation used in Cancer). The objective of this study was to determine the authenticity of the medications employed in the formulation. The current study will give referential information for the proper identification and standardisation of the drug, as well as ensuring that only authentic and uniform material is used in the future manufacturing of Hargouri Ras. The test drug *(Hargouri ras)* was prepared in N.I.A pharmacy, under the supervision of experts and then procured for further research. The physical test like moisture content, Ph value, Alcohol Extractive, Aqueous Extractive Value, Petroleum Ether Extractive Value, Total Ash, Acid Insoluble Ash, Water Soluble Ash which is *2.43%*,7.3,1.25,3.59%,0%,78.43%,67.43%,3.02% respectively for the purpose of quality control.

Key word- *Hargouri ras*, Analytical study, Ayurvedic formulation

How to cite this article: Dr Rashmi Saini, Dr Sharad Porte, Dr. Dipak Saini Analytical Study Of *Hargouri Ras*: An Ayurvedic Formulation IRJAY, May: 2021, Vol-4, Issue-5;92-96 ; **DOI: https://doi.org/10.47223/IRJAY.2021.4514**

INTRODUCTION

Ayurveda, an ancient Indian medicinal system, employs natural resources such as herbs, metals, minerals, and formulations in its remedies. *Rasashastra,* a branch of Ayurveda, exclusively deals with various types of metals and minerals, their origins, processing procedures, qualities, therapeutic benefits, the potential for detrimental consequences, and how to control them.[1] Ayurvedic text books mention a variety of preparations for the treatment of cancer. *Hargouri ras* is the *Sidha prayog latika's* reference medication.[2] It is made by mixing equal amounts of *Raskarpura (HgCl2), Hartal (As2S3), and Somal (As2O3)* and is recommended *for Karkatak arbuda* (cancer). The current study presents macroscopic and microscopic analyses in several solvents/reagents to assist in the correct identification of the mineral compound, which detects and prevents any adulteration(s).[3] The problem now is to use established methodologies to certify the plant's therapeutic efficacy and safety.

MATERIAL AND METHODS

Collection of Sample The mineral drug mentioned in *Sidha prayog latika* for preparation of *Hargaouri Ras* were collected from the pharmacy of NIA., Jaipur, for authentication from the department of Pharmacognosy of the Institute.

Content Of Study Drug *(HARGAURI RAS):*

Table no.1 Ingredient of *Hargouri Ras*

No.	Contain	Part
1	*Raskarpura ($HgCl_2$)*	1
2	*Hartal (As_2S_3)*	1
3	*Somal (As_2O_3)*	1

Wrapping Material of Drugs- *Bhoj Patra*

Heating material of Drugs – *Kanshi (Alum)*

Above mentioned three drugs wrap separately in *Bhoj Patra (Buteautilitis)*[4], then again wrap in khadi clothes make as *Potali*, and wrapped these three drugs put in alum (250 gm) emerged pan, then treated with mild heat till water vapour of alum and *Potali* will completely cold. After that, eliminate each drug to *Potali* and proper mixed to each other in *Kharal (Kharaliya Method).*

DETERMINATION OF MOISTURE CONTENT: -

Moisture content was determined by placing weighed sample of 5gm of drug in oven at 105º for 5 hours, and calculate weight of sample for every 30 minutes, until the weight of the sample was constant, no variation of weight is recorded. This sample was allowed to cool at room temperature in a desiccator for 1 hour before weighing.

Weight of the empty Petridis = W1 gm

Weight of the drug sample = X gm

Weight of the Petridis with drug before drying (W3) = (W1 + X)

Weight of Petridis after drying = W2 gm

Loss on drying in % = W3-W2x100/X[5]

Determination Of PH Value: -

The pH value of an aqueous liquid may be defined as the common logarithm of the reciprocal of the hydrogen ion concentration expressed in gram per litre.

- The pH of a given solution is measured by using digital pH meter.
- First Standardized the pH meter. Tablets of different pH are taken and one tablet dissolve in 100 ml of distilled water to prepare solutions of different pH 4,7and 9 (buffer solutions).
- The instrument is switched on. Leaved for some time unless or on the board requirement of different pH solution appears.
- Buffer solution is taken in the beaker and the electrode is dipped in it. Same procedure is repeated for the other buffer solutions after washing the electrode thoroughly with distilled water.
- The sample is taken (10% aqueous solution) and dips the electrode in it and note the value of pH.

Determination Of Alcohol Soluble Extractive: -

It was taken Macerate 5 g of the air-dried drug, coarsely powdered, with 100 ml of alcohol the specified strength in a closed flask for twenty-four hours, shaking frequently during six hours and allow to stand for eighteen hours. Filter rapidly, taking precautions against loss of solvent, evaporate 25 ml of the filtrate to dryness in a tarred flat bottomed shallow dish, and dry at 1050, to constant weight and weigh. Calculate the percentage of alcohol-soluble extractive with reference to the air-dried drug.

Determination Of Water-Soluble Extractive: -

Proceed as directed for the determination of alcohol-soluble extractive, using distilled water instead of ethanol.

Determination Of Petroleum Ether Soluble Extractive (Fixed Oil Content):-

Transferred a suitably weighed quantity (depending on the fixed oil content) of the air-dried, crushed drug to an extraction thimble, extract with solvent ether (or petroleum ether, b.p. 40º to 60º) in a continuous extraction apparatus (Soxhlet extractor) for 6 hours. Filtered the extract quantitatively into a tared evaporating dish and evaporate off the solvent on a water bath. Dry the residue at 105º to constant weight. Calculate the percentage of ether-soluble extractive with reference to the air-dried drug.

Calculations[6]: -

Weight of the drug material = X gm

Weight of the empty Petridis= W_1gm

Weight of the Petridis with dried extract = W_2gm

Percentage of extractive value = $\frac{(W_2 - W_1)}{X} X 100$

Determination Of Total ASH: -

The total ash method is design to measure the total amount of material remaining after ignition. This include both physiological ash which derived from the plant tissue itself and non-physiological ash which is the residue of the extraneous matter (e.g., sand and soil) adhering to plant surface. Silica Crucible was cleaned, dried well, labelled with glass pencils and then weighed to constant weight. 5 gm of powdered drug sample put in the Silica crucible. The drug was spread evenly in to a thin layer. This crucible was placed in a muffle furnace and ignited at a temperature of 450°C for about 6 hrs or more until the ash was totally free from Carbon. The crucible containing the ash was allowed to be cooled in desiccators and subsequently weighed to constant weight. The percentage of ash with reference to the air-dried

drug was calculated.

Determination Of Acid Insoluble Ash: -

Acid insoluble Ash value determined as per Pharmacopoeia of India, 1996. Boiled the total ash (Prepared by method 2), with 25 ml of 2M hydrochloric acid for 5 minutes, collected the insoluble matter in a Gooch crucible or on an ashless filter paper, washed with hot water, ignite, cool in a desiccator and weighed. Calculated the percentage of acid - insoluble ash with reference to the air - dried drug.

Calculation[7]: -

Wt. of drug sample - X gm

Wt. of empty Gooch 's Crucible with filter paper - G1 gm

Wt. of the Gooch 's Crucible with residual ash - G2 gm

Percentage of acid insoluble ash - G2-G1/X×100

WATER–SOLUBLE ASH: -

Water – soluble ash value determined as per **Table no: 2.**

Pharmacopoeia of India 1996. Boiled the total ash (Prepared by method 2) for 5 minutes with 25 ml of water; collected the insoluble matter in a Gooch 's Crucible or on an ash less filter paper, washed with hot water and ignite for 15 minutes at a temperature not exceeding 4500 C. It was subtracting the weight of the insoluble matter from the weight of the ash; the difference in weight represented the water – soluble ash. Calculated the percentage of water – soluble ash with reference to the air - dried drug.

Calculation[8,9]:

Wt. of the empty Gooch 's Crucible with filter paper - G1 gm

Wt. of drug sample - X gm

Wt. of the Gooch 's Crucible with water Insoluble Ash - G2 gm

Wt. of total ash A gm Percentage of water-soluble ash – A – [(G2 – G1)/X] x 100

OBSERVATION AND RESULT

S.No.	Tests	Result
1	Moisture content	*2.43%*
2	pH	7.3
3	Alcohol Extractive Value	1.25
4	Aqueous Extractive Value	3.59%
5	Petroleum Ether Extractive Value	0%
6	Total Ash	78.43%
7	Acid Insoluble Ash	67.43%
8	Water Soluble Ash	3.02%

DISCUSSION

Hargauri ras, which is used medicinally, requires extensive research prior to usage because the therapeutic effect is entirely dependent on the mineral quality. The presence of similar features among the mineral compounds received from the NIA Pharmacy in Jaipur. While pH is used to represent acidity and alkalinity, the pH of the mineral compound was alkaline. Loss on drying shows the moisture of the drug which was found to be 2.43% w/w and total Ash value was 78.43 % w/w.

CONCLUSION

The above discussion reveals that the characters of the mineral used in *Hargaouri Ras* are similar as per the references of AFI. Alcohol Extractive Value, Aqueous Extractive Value, Petroleum Ether Extractive Value, Acid Insoluble Ash and, Water Soluble Ash were carried as per the norms of AFI and their absence indicate the genuineness of the drug. This particular study can be considered as a preliminary tool ascertaining the authenticity *Hargaouri Ras.*

Acknowledgement: Nil
Financial Support: Nil
Conflict of Interest: Nil

REFERENCES

1. Galib, Barve M, Mashru M, Jagtap C, Patgiri BJ, Prajapati PK. Therapeutic potentials of metals in ancient India: A review through Charaka Samhita. J Ayurveda Integr Med. 2011 Apr;2(2):55-63.
2. Chauhan A, Semwal DK, Mishra SP, Semwal RB. Ayurvedic research and methodology: Present status and future strategies. Ayu. 2015 Oct-Dec;36(4):364-369.
3. https://www.who.int/medicines/areas/quality_safety/quality_assurance/QualityAssurancePharmVol2.pdf
4. https://www.researchgate.net/publication/249967689_Betula_utilis_A_Potential_Herbal_Medicine
5. https://cropgenebank.sgrp.cgiar.org/images/file/forage_legumes/calculation%20of%20moisture%20content.pdf
6. Mishra, D. Y., Sharma, D. A. K. ., Sharma, D. K. L., & Meena, D. R. R. . (2020). Cancer Prevention Through Diet And Lifestyle: A Scientific Review Of Ayurveda Concepts In Context Of Granthi, Apachi, Arbuda And Vrana: *International Research Journal of Ayurveda & Yoga*, *3*(12), 98-104.
7. Chandel HS, Pathak AK, Tailang M. Standardization of some herbal antidiabetic drugs in polyherbal formulation. Pharmacognosy Res. 2011 Jan;3(1):49-56.
8. https://animalscience.unl.edu/Research/RumNut/RumNutLab/70-acidinsolubleash.pdf
9. https://www.yourarticlelibrary.com/medicine/ayurvedic/determination-of-ash-values/49966