



A CRITICAL STUDY ON BHASMA PARIKSHANA FORMULATION IN RASASHASTRA

DR MANOJ KUMAR KAUSHAL

Professor, Department of Rasa Shastra & Bhaishajya Kalpana, Babu Ayurvedic Medical College evam Hospital
Ladanpur Kopaganj Mau. U.P.

Corresponding Author - Dr Manoj Kumar Kaushal, Professor, Department of Rasa Shastra & Bhaishajya
Kalpana, Babu Ayurvedic Medical College evam Hospital Ladanpur Kopaganj Mau.U.P.

ABSTRACT

The production of such medications and their substantial therapeutic potential are described in Rasashastra, which deals with formulations based on minerals and metals. Specialized processing techniques are employed to create these drugs in a safe and efficient manner. Shodhana, which means cleansing, and Marana, which means incineration/calcinations, are the two primary procedures used to create Rasa- Aushadhis. In Ayurveda Samhitas from the Arsha Sampradaya, a preparation known as "Bhasma Kalpana" is referred to as being herbo-metallic. The main steps in creating these herbal, mineral, and metallic compositions (Bhasma) include washing, grinding, mixing, heating, incineration, and size reduction. The advantages of these drugs are their high potency, low dosing frequency, and superior bioavailability. Bhasma is used for therapeutic purposes as well as for promoting general health and having rejuvenating effects. Makshika, Swarna, Abhrak, Lauha, and Tamra bhasmas are examples of commonly used bhasmas. For a number of pathological conditions, including as infections, skin ailments, digestive issues, and anomalies of the sexual organs, the bhasma is advised.

KERWORDS -Bhasma, Marana, Rasashastra, Shodhana, etc.

INTRODUCTION

As natural substances have been used for medical purposes extensively, Ayurveda advised employing herbs, metals, and mineral-based therapies to treat a range of maladies. The Bhasma is one such concoction; it is formed from minerals and mental things after they have been cleansed. Burning metals is the main technique for producing bhasma for use as nanomedicines. During making bhasma, dangerous metals are transformed into forms that are safe for living beings and are not hazardous. Because to their microscopic particle size, which makes it simple for

the active ingredients to be transferred to the desired locations, bhasma has a therapeutic effect and perfect pharmacokinetic properties. Rasa Shastra made reference to a number of Bhasma preparation methods, such as Shodhana, Marana, Amritikarana, Satavapatana, and Samskara. Among other transitional stages, Bhavana, Chakrika nirmana, and Sarava-Samputikarana are essential to the creation of Bhasma. These pre-treatment methods change incompatible metal or mineral forms into those that are hospitable to living organisms, giving Bhasma a high therapeutic value. Bhasma Kalpana provides higher palatability, optimal biological system absorption, stability, and the ability to address long-term health problems. It is also more effective at lower dosages. In Bhasmikaran, some Samskaras are employed to transform potentially harmful or incompatible mineral or metal forms into non-toxic and compatible ones while preserving or boosting their therapeutic potential.

PREPARATION PROCEDURE

The Shodhana (purification) process was used to detoxify harmful substances.

CALCINATION STEP - The main method that Ayurveda refers to as Marana is calcination, sometimes referred to as burning. Also included in this procedure are intermediary steps like Bhavana, Chakrika Nirmana, and Sarava-Samputi Karana. The most important metal among those recognised to have medicinal powers, according to ancient scholars, was parad. They occasionally completely change from their initial states because of its propensity to alter all other metals' features to such a considerable extent. When Mercury is burned with metal, uttam bhasma is created. When metals are incinerated with herbs or kastaushadhis, madhyam bhasma is created. Metals burn when combined with sulphur and other chemicals to form adhama bhasma. When metals are burned, Durguna bhasma and Arilohas are also created.

POST -PROCEDURE - The Lohitkarana and Amritikarana techniques are employed after the Bhasma preparation to improve the quality of the Bhasma preparation.

PREPARATION OF BHASMA

- Shodana promotes cleansing through the use of plant juices, extracts, and decoctions.
- Bhavana provides moisture since it was used for wet trituration, and chakrika nirmana, which was used for palletization, is essential for proper dose formulation.
- Homogeneous heating is made possible by Chakrika nirmana because proper heat transmission occurs from the Chakrika's edge to its core.
- Aatapa Shoshana facilitates the drying of the pellets.
- Sarava samputikarana seals the casserole. This process makes the atmosphere homogeneous, prevents loss during the heating process, protects against contamination, and prevents volatile material from escaping.

PUTAPAKA BHASMA PROCEDURE

Putra is the amount of heat that Rasadi Dravyas (Mercury/Metal/Mineral) need to properly form their paka. It is not ideal to burn dravyas with less or higher heat. Supakva medications must be administered internally. Bhasmas produced utilizing the three steps of Shodhana, Bhavana, and Marana of the Putapaka process, which entails putting metals or minerals through these three stages. Metals or minerals that have been purified (Shodhana), ground to a coarse powder, heated to a red-hot temperature, and then treated for a predetermined period of time with a particular liquid media. Thereafter, Shodhit material is mixed with certain medications for Marana purposes, and Bhavana is delivered while taking particular medications for a predetermined period of time. Once Bhavana is finished, chakrikas are created and sealed in a crucible using mud-covered garments. Sharava Samputa is heated by putas for a particular period of time. These steps were repeated multiple times to get the final Bhasma formulation of the required quality.

KUPIPAKWA BHASMA PROCEDURE

Low melting point metals like tin, zinc, and lead need for the Jarana intermediate process, which is carried out between the Shodhana and Bhavana procedures. Metals are melted, mixed with a plant component, and crushed into a powder in Jarana. Kupipakwa Bhasma is made using a mix of techniques, including Shodhana, Kajjali Nirmana, Bhavana, and Kupipakwa. Metals are blended with purified sulphur and amalgamated with mercury using the Shodhana process to create Kajjali, a thin, black powder. This Kajjali is triturated in a certain liquid medium for a particular length of time. Bhasma is collected at the bottom of the bottle after being exposed to the Valuka Yantra for a predetermined period of time.

BHASMA QUALITIES AND BHASMA PARIKSHA

BHASMIKARAN

1. To treat different illnesses
2. To facilitate consumption
3. To reduce complications following medication delivery
4. To facilitate absorption

BHASMA EXAMINATION

There are qualities and attributes that must be present in bhasma. Certain traits of Bhasma may be evaluated by specific Pariksha.

- Varitara
- Rekhapurnatwa
- Apunarbhava

- Uttama
- Niruthikarana

VARITARA BHASMA EXAMINATION

The bhasma of loha is known as Varitara if it is so fine that it may float on water.

REKHAPURNA BHASMA EXAMINATION

Rekhapurna bhasma is the name for a metal's bhasma that is applied between the thumb and index finger and penetrates the fine lines of the fingers.

APUNARBHAVA BHASMA EXAMINATION

Apunarbhava Bhasmas, from which the original metal can never be retrieved even after being blown into the fire, are created when a bhasm is combined with Guda, Gunja, Tankan, Madhu, and Ghee. Hence, the final bhasma composition is unable to take on its original metallic shape.

UTTAMA BHASMA EXAMINATION

The bhasma is gently floated over the water, and it is referred to be an Unamabhasa or Uttama bhasma if it floats like a swan rather than sinking even after being covered in grains.

NIRUTTHA BHASMA EXAMINATION

When rourpya and bhasma are joined, they both slam into the flames with great force. Nirutha bhasma is used to describe bhasma when it hardly combines with rourpya. The mentioned bhasma is Apunarbhava as well. Nirutha and apurnarbhava are the two tests to be employed to evaluate the purity of metallic bhasmas, whereas the other three general tests (varitara, rekhapuranatwa, and uttama) are advised.

Change in the colour of a Bhasma, which should have a specific colour, indicates that the Bhasma wasn't generated correctly. After a proper cremation, when the shine of metal disappears, Bhasma should own Nischandratvam's property. Nischandra must be present for Bhasma to have the proper quality and potency when it is seen in direct sunlight. Bhasma must experience slakshnatvam, a sensation brought on by brief touch with the fingertip. Susukshma, which has properties of fineness and lightness and enables absorption, is an essential component of bhasma. Another characteristic of a bhasma is known as gatarasatvam, and under this definition, a certain type of bhasma must have a unique flavour.

MRTALOHA

Mrtaloha is mentioned in Rasamitra and Rasataragini, and this alludes to the definition of Mrtaloha that describes its fineness in detail. It is not indicated how to heat and prepare the bhasma. The bhasma, ash, burned metal, or

mineral should be rubbed between the index finger and thumb to fill in the lines on the fingertips that represent the particle size. Hence, Mrtloha stood in for the dead metal, or its bhasma. A metal's bhasma was formerly thought to be entirely empty of the primary metal. The metloha definition indicates how small the particle size is. To kill (marana) or prepare the bhasma from a metal, intense heating is necessary. Modern chemistry states that heating transforms certain metals into oxides or specific compounds. Metals may be incorporated into the human body via warmth and some manipulation during the marana kriya, also known as the process of forming a bhasma. The resulting product is called mrtloha.

DISCUSSION

As per the puta system of Ayurveda, which has been practised on the Indian subcontinent since the seventh century A.D. and is renowned for treating a wide range of disease conditions, bhasma is an ayurvedic metallic or mineral preparation that is treated with herbal juices or decoction and exposed to heat for a specific period of time. It is said that bhasma, which is given along with a number of other Ayurveda medicines, are naturally generated nanoparticles. In the case of bhasma, which incorporates metals, minerals, and animal products as raw materials, the production method has a special influence on the end product's raw material composition. These might be crucial chemical markers of Bhasma generated in a certain manner. At several phases of processing procedures like shodhana (which involves roasting, the addition of herbal fluids, and continual stirring), and marana [which involves bhavana (wet trituration), and puta system of heating], the particle size is considerably decreased. This could facilitate the drug's assimilation and systemic absorption. When it comes to Bhasma Pariksha, the finished product might be said to satisfy all the customary requirements.

CONCLUSION

A key component of the Bhasma nanotechnology idea is the reduction of drug particle size to a nano or micronized form for quick and easy assimilation inside the body. Important processes in the production of bhasma are the procedures of shodhana and marana, which change metallic formulation into a form that is non-toxic, absorbable, simple to digest, and biologically compatible with the proper medicinal efficacy. Bhasma has the following advantages: Rasayana, Yogavahi, Immuno-Modulatory, Anti-Aging, and Rejuvenating. Nischandratvam, Varitara, Rekhapurnatva, Susukshma, Gatarasatvam, and Apunarbhavata are just a few of the traits that are frequently seen in Bhasma. Bhasma is used therapeutically and to help the body go back to its normal physiological functioning. Bhasma must be prepared with care since it is made using a complex process that calls for a considerable degree of skill.

CONFLICTS OF INTEREST- NIL

SOURCE OF SUPPORT- NONE

REFERENCES

1. Mishra LC, Adra T, Batchu SV, Bhatt HA. LLC Boca Raton, Florida: CRC Press; 2004. Scientific basis for ayurvedic therapies; pp. 84–99.
2. Kaviratna AC, Sharma P. Vol. 5. Delhi, India: Sri Satguru Publications, A Division of Indian Books Centre; 1997. tr., The Charaka Samhita. Indian Medical Science Series. 81-7030-471-7.
3. Chopra A, Doiphode VV. Ayurvedic medicine: Core concept, therapeutic principles, and relevance. *Med Clin North Am.* 2002;86:75–89. vii.
4. Verma D, Tiwari SS, Srivastava S, Rawat A. Pharmacognostical evaluation and phytochemical standardization of *Abrus precatorius* L. seeds. *Natural Product Sciences.* 2011;17:51–7.
5. Sarkar PK, Chaudhary AK. Ayurvedic Bhasma: The most ancient application of nanomedicine. *J Sci Ind Res.* 2010;69:901–5.
6. Kumar CS, Moorthi C, Prabu PC, Jonson DB, Venkatnarayan R. Standardization of anti-arthritic herbo-mineral preparation. *Res J Pharma, Biol and Chem Sci.* 2011;2:679. [Google Scholar]
7. Bhowmick TK, Suresh AK, Kane SG, Joshi AC, Bellare JR. Physicochemical characterization of an Indian traditional medicine, Jasada Bhasma: Detection of nanoparticles containing non-stoichiometric zinc oxide. *J Nanopart Res.* 2009;11:655–64.
8. Sharm DC. India raises standards for traditional drugs. *Lancet.* 2000;356:231.
9. Frawley D, Lad V. Delhi, India: Motilal Banarsidass Publishers Pvt. Ltd; 1994. The Yoga of Herbs; p. 560.
10. 4th ed. Mosby-Year Book Inc; 1994. Mosby's Medical, Nursing and Allied Health Dictionary; p. 243.
11. Wadekar MP, Rode CV, Bendale YN, Patil KR, Gaikwad AB, Prabhune AA. Effect of calcination cycles on the preparation of tin oxide based traditional drug: Studies on its formation and characterization. *J Pharm Biomed Anal.* 2006;41:1473–8.
12. Lagad CE, Sawant RS, Yelambkar P. An approach towards standardization of Swarna Makshik Bhasma (An ayurvedic preparation) *Int J Res Ayu Pharm.* 2011;2:723–9.
13. Balasubramanian SK, Jittiwat J, Manikandan J, Ong CN, Yu LE, Ong WY. Biodistribution of gold nanoparticles and gene expression changes in the liver and spleen after intravenous administration in rats. *Biomaterials.* 2010;31:2034–42.
14. Paul W, Sharma CP. Blood compatibility studies of Swarna Bhasma (Gold Bhasma), an Ayurvedic drug. *Int J Ayurveda Res.* 2011;2:14–22.
15. Kean WF, Hart L, Buchanan WW. Auranofin. *Br J Rheumatol.* 1997;36:560–72.
16. Mohaptra S, Jha CB. Physicochemical characterization of ayurvedic Bhasma (Swarna makshika Bhasma): An approach to standardization. *Int J Ayurveda Res.* 2010;1:82–6.
17. Chauhan O, Godhwani JL, Khanna NK, Pendse VK. Antiinflammatory activity of Muktaashukti Bhasma. *Indian J Exp Biol.* 1998;36:985–9.

18. Balmain J, Hannoyer B, Lopez E. Fourier transform infrared spectroscopy (FTIR) and X-ray diffraction analyses of mineral and organic matrix during heating of mother of pearl (nacre) from the shell of the mollusc *Pinctada maxima*. *J Biomed Mater Res*. 1999;48:749–54.
19. Bowen CE, Tang H. Conchiolin-Protein in Aragonite Shells of Mollusks. *Comparative Biochemistry and Physiology A*. 1996;115:269–76.
20. Brown CL, Bushell G, Whitehouse MW, Agrawal DS, Tupe SG, Paknikar KM, et al. Nano gold pharmaceuticals. *Gold Bulletin*. 2007;40:245–50.
21. Edward CS. Vol. 1. London: Trübner and Co; 1888. Alberuni's India, Transl. Ludgate Hill.
22. Second Revised English ed. New Delhi, India: Ministry of Health and Family Welfare; 2003. The ayurvedic formulary of India part-1.
23. Devarshi P, Kanase A, Kanase R, Mane S, Patil S, Varute AT. Effect of mandur Bhasma on lipolytic activities of liver, kidney and adipose tissue of albino rat during CCl₄ induced hepatic injury. *J Biosci*. 1986;10:227–34.
24. Kanase A, Patil S, Thorat B. Curative effects of mandur bhasma on liver and kidney of albino rats after induction of acute hepatitis by CCl₄ *Indian J Exp Biol*. 1997;35:754–64.

