

“AMRUTIKARANA OF TAMRA BHASMA: PHARAMACEUTICAL PREPRATION, AYURVEDIC AND ANALYTICAL EVALUATION”**Dr. Gayatri Timande*¹, Dr. Pallavi Jamnekar², Dr. Sneha Kubde³**¹P.G. Scholar, ²Guide and Professor, ³Professor and HOD

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ABSTRACT

Amrutikarana is a special pharmaceutical procedure described for Bhasmas to eliminate the residual Doshas and thereby enhance their therapeutic safety and efficacy. The present study was undertaken to carry out Amrutikarana of Tamra Bhasma and to evaluate the physicochemical characteristics of the Amritikruta Tamra Bhasma. Amrutikarana of Tamra Bhasma was performed by triturating it with Amla Rasa to obtain a homogeneous mass, followed by preparation of a Golaka. The Golaka was placed inside the tuber of Surana Kanda (*Amorphophallus paeoniifolius*), sealed properly with clay, dried, and subjected to Gajaputa. The obtained Amritikruta Tamra Bhasma was evaluated for relevant Ayurvedic and physicochemical parameters. The study demonstrated observable changes in the physicochemical characteristics of Tamra Bhasma following Amrutikarana. The procedure may

help in reducing the residual Doshas associated with Tamra Bhasma and may contribute to its improved therapeutic safety and efficacy. Thus, Amrutikarana can be considered an important pharmaceutical step in the preparation of Tamra Bhasma for therapeutic use.

KEYWORDS: Amritikarana, Tamra Bhasma, Bhasma, Gajaputa, Physicochemical.**INTRODUCTION**

Ayurveda literally means the "Science of Life" and is founded on the principle of maintaining harmony among the body, mind, and spirit. Unlike systems that focus primarily on the

treatment of disease, Ayurveda emphasizes both preventive and curative healthcare. The word Rasashastra literally means the “Science of Mercury”. However, it is a specialized branch of Ayurveda dealing mainly with materials which are known as “Rasa dravyaas”

अल्पमात्रोपयोगित्वादरूचेरप्रसङ्गतः ।

क्षिप्रमारोग्यदायित्वादौषधेभ्योधिको रसः ॥ र.र.समु 28/1

Rasaaushadhi are used in very small quantity and its shows their effect very fast and makes patient healthy that is why Rasaaushadhi are superior than Kashthaaushadhi. Tamra (Copper) is an important metal described in Rasashastra, Tamra is used medicinally after undergoing proper purification and processing, such as Shodhana (purification), Marana (incineration), and Amritikarana (special post-processing). These procedures are intended to reduce its undesirable properties and make the preparation suitable for therapeutic use.^[9] According to classical Ayurvedic texts, improperly processed Tamra is associated with eight undesirable properties (Ashta Doshas): Bhrama (dizziness), Murchha (fainting), Chardi (vomiting), Sveda (excessive sweating), Klama (fatigue), Daha (burning sensation), Visha (toxic effect), and Vaivarnya (discoloration). Proper pharmaceutical processing is therefore considered essential before its therapeutic administration.^[1]

लोहादीनां मृत्तानां वै शिष्टदोषानुपत्तये ।

क्रियते यस्तु संस्कार अमृतीकरणं मतम् ॥ (र .त.२/ ५८)

After the proper preparation of Tamra Bhasma, the additional pharmaceutical procedures performed for the complete elimination of the residual Tamra Doshas (defects of copper) are known as Amritikarana.^[2] The eight classical defects of Tamra are described as Bhrama, Murchha, Vidaha, Sweda, Kledana, Vamana, Aruchi, and Chitta-Santapa. Any residual traces of these defects that may remain after the Bhasma preparation should be completely eliminated. Repeated exposure to fire during the Marana process may impart excessive Rukshata (dryness), Ugrata (intensity/aggressiveness), and Agneya properties (fire-like characteristics) to Tamra Bhasma. Therefore, Amritikarana is performed to eliminate the remaining Doshas and to impart desirable properties such as Mriduta (softness) and appropriate therapeutic potency. Through this process, the Bhasma is intended to attain “Amritatva” (nectar-like, safe, and therapeutically beneficial properties).^[4]

MATERIALS AND METHODS

1. Collection of Raw Materials

Rasamarit Tamra Bhasma prepared according to reference Rasaratnasamucchya 5/53^[11] was taken 250 gm was used for the Amritikarana process. Fresh Nimbu Swarasa (Citrus limon) was used as the Bhavana medium. Surana Kanda (*Amorphophallus paeoniifolius*) was collected from local market, used as the vehicle for the Amritikarana procedure. Authentication of the raw material was carried out in the Department of Rasashastra and Bhaishajya Kalpana of the Institute.

2. Instruments and Apparatus

Khalwa Yantra, earthen saucers (Sharava), weighing machine, vessels, cloth, clay-smeared cloth, cow dung cakes, matchsticks, pyrometer, and Multani Mitti.

3. Amrutikarana Procedure

A total of 250 g of Tamra Bhasma was triturated with sufficient quantity of Nimbu Swarasa until a homogeneous mass was obtained. Then Chakrika was prepared and dried. Then chakrika was placed inside the tuber of Surana Kanda (*Amorphophallus paeoniifolius*). The opening of the tuber was sealed uniformly with clay smeared cloth i.e. Sandhibandhana and allowed to dry completely. The dried preparation was subsequently subjected to Gajaputa, a classical high-temperature incineration process. After completion of the heating cycle and self-cooling, the processed material was collected and subjected to further pharmaceutical and analytical evaluation. The procedure was carried out with the aim of reducing residual Doshas associated with Tamra Bhasma and improving its pharmaceutical properties.^{[11][5]}

OBSERVATION AND RESULTS

Observation of changes in weight Before and After the Amrutikarana Process. Table No. 01.

Weight	Tamra Bhasma During Amrutikarana
Before	250 gm
After	245 gm

Ayurvedic Parameters of Tamra Bhasma After Amrutikarana Table No. 02.

Ayurvedic Parameter	Tamra Bhasma After Amrutikarana
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Sparsha	Shlakshna
Rupa	Krushnabh
Rasa	Niswadu
Gandha	Gandhahin

Organoleptic Parameters of Tamra Bhasma After Amrutikarana Table No. 03.

Organoleptic Parameter	Tamra Bhasma After Amrutikarana
Apperance	Solid,Smooth
Colour	Black
Taste	Tasteless
Odour	Odourless

Bhasma Pariksha of Tamra Pariksha After Amrutikarana Table No. 04.

Bhasma Pariksha	Tamra Bhasma After Amrutikarana
Varitar	+
Rekhapurnatva	+
Nishchandra	+
Unam	+
Amla Pariksha	-

Analytical examinations after Amrutikarana of tamra Bhasma Table No. 05.

Analytical Test	Results
pH 10 %	7.40
Total Ash Value	95.7 %
Loss on Drying at 105 °C	0.18





DISCUSSION

- The present study evaluated the changes observed in Tamra Bhasma following the Amrutikarana procedure with respect to weight variation, Ayurvedic parameters, organoleptic characteristics, and classical Bhasma Pariksha. These observations provide a preliminary assessment of the qualitative changes occurring in Tamra Bhasma after Amrutikarana. The initial quantity of Tamra Bhasma was 250 g, which was reduced to 245 g after completion of the Amrutikarana process. Thus, a loss of 5 g, corresponding to approximately 2% of the initial weight, was observed. This minor reduction in weight may be attributed to handling losses during trituration, transfer, drying, and the heat treatment involved in the procedure. The relatively small percentage of weight loss indicates that the bulk of the material was retained during processing.
- After Amrutikarana, the Ayurvedic characteristics of the prepared Tamra Bhasma were observed as Shlakshna (smooth) in Sparsha, Krishnabha (blackish/black) in Rupa, and Gandhahin (odourless) in Gandha. The smoothness indicates a fine and properly processed material, while the black colour is consistent with the characteristic appearance expected of properly prepared Tamra Bhasma. The sample was also reported to be tasteless and odourless, indicating the absence of any perceptible taste or odour in the final product.

- The organoleptic examination showed the final product to be solid and smooth in appearance, black in colour, tasteless, and odourless. These observations support the uniformity and physical consistency of the product obtained after Amrutikarana.
- Classical Bhasma Pariksha showed positive results for Varitaratva, Rekhapurnatva, Nischandratva, and Unama, whereas Amla Pariksha was negative. The positive Varitaratva test indicates the ability of the Bhasma to float on the surface of still water, which is traditionally associated with the attainment of appropriate fineness and lightness. Rekhapurnatva was positive, indicating that the particles were sufficiently fine to enter the creases of the fingers. Nischandratva indicates the absence of visible metallic lustre, which is an important classical criterion suggesting proper conversion of the metallic material during Bhasma preparation. The positive Unama test further supports the attainment of classical Bhasma characteristics. The negative result in Amla Pariksha indicates that no observable characteristic reaction was noted when the Bhasma was subjected to the classical acid examination. This finding, together with the positive Bhasma Pariksha results, suggests satisfactory completion of the classical processing characteristics of the prepared Tamra Bhasma.^[3]
- Overall, the observations indicate that Amrutikarana resulted in a small reduction in weight and attainment of the desired classical Bhasma characteristics, including smoothness, black colour, absence of lustre, fineness, and positive classical Bhasma tests. These findings suggest satisfactory pharmaceutical processing of Tamra Bhasma through Amrutikarana.
- The analytical examination of the Amrutikarita Tamra Bhasma showed a pH of 7.40 in 10% aqueous suspension. This value indicates that the sample was nearly neutral, with a slight alkaline tendency. A near-neutral pH is considered desirable from the pharmaceutical point of view, as it suggests that the prepared Bhasma does not possess excessive acidic or alkaline properties. The pH observed after Amrutikarana may also indicate that the processing helped in reducing undesirable acidic or alkaline residues. The Total Ash value was found to be 95.7%. The high ash value indicates that the preparation mainly consists of inorganic/mineral material, which is expected for a metallic Bhasma. It also suggests that very little organic or combustible matter remained in the final product. The high ash content may therefore reflect the effective conversion and processing of Tamra during Marana and subsequent Amrutikarana. The Loss on Drying at 105°C was found to be 0.18%, which is a very low value. This indicates that the final Bhasma contained only a small amount of moisture or other volatile matter. Low moisture content

is desirable for maintaining the stability and quality of a Bhasma during storage. It also suggests that the drying and heating involved in the Amritikarana procedure were adequate. These physicochemical findings provide useful information regarding the quality of the prepared Bhasma. The near-neutral pH, high total ash value and very low loss on drying indicate that the final product was predominantly inorganic, had low moisture content and did not show excessive acidic or alkaline characteristics.^[10]

- Thus, the observed analytical results support the proper completion of the pharmaceutical processing of Tamra Bhasma through Amritikarana. Overall, the findings suggest that Amritikarana acts as an additional pharmaceutical processing step that may help in improving the quality and acceptability of Tamra Bhasma by reducing residual undesirable components and moisture.

CONCLUSIONS

The present study successfully demonstrated the pharmaceutical preparation of Amritikaran of Tamra Bhasma following the classical Amritikarana procedure, in which Tamra Bhasma was triturated with Amla Rasa, made into a Golaka, placed inside Surana Kanda, sealed and subjected to Gajaputa. An average yield of 245 g was obtained after processing. The prepared Bhasma showed satisfactory organoleptic characteristics and fulfilled the prescribed Ayurvedic Bhasma Pariksha, indicating proper completion of Bhasma preparation. Overall, the observations suggest that Amritikarana was successfully carried out and produced a properly processed Tamra Bhasma with satisfactory organoleptic, Ayurvedic and physicochemical characteristics.

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