

A Review on Formulations of Tamra Bhasma

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ABSTRACT

In Ayurveda so many dosage forms are available to treat all kinds of diseases. From the list of available dosage forms, bhasmas are one of the most unique dosage forms which are made by incinerating preferably metal and mineral origin of drugs. *Tamra Bhasma* (TB) is one of the preferred metallic formulations that is used to treat a variety of ailments such as peptic ulcers, jaundice, autoimmune diseases, dyspnea etc. Present study is an effort to compile the various dosage forms of tamra bhasma. This initiative would aid Ayurvedic doctors, drug makers, and researchers in understanding the various aspects of Tamra bhasma (T,B)

Keywords: Formulations, Tamar, Tamar Bhasma.

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INTRODUCTION

Science is an incremental process, not a one-time discovery. As a science, Rasashastra (Indian-alchemy) is not an exception. The importance of Rasashastra derives from the fact that it recognized the role of metals and minerals in therapeutics long before Allopathic medicine did. In the Indian medical culture, this contribution has achieved prominence (ISM). Metallic elements, which play a key role in the anatomy and physiology of the body, were widely used in Bhasmas, during the medieval period, the Golden age of Rasashastra. Still, in the modern world, we continue to be fascinated by the depths of Indian alchemy, which transforms toxic metals into human-absorbable forms while still recognizing the importance of these elements in the body. Metallic preparations became very common among Ayurvedic physicians in a brief period due to their high efficacy in limited doses and long shelf life.^[1]

Unfortunately, herbometallo-mineral formulas are often collapsing these days, and they are attempting to repair their tarnished image. Concerns regarding the safety and efficacy of these formulations have arisen in the last decade, contributing to the woes of Indian alchemy.^[2,3]

Furthermore, the number of practitioners of this science is steadily declining. Scientific science fascinates those who are just starting out in the field. Those who are prescribing these formulations, on the other hand, lack proper knowledge of the preparation process, Matra (dose), adequate Anupana (adjuvant), basic and other signs of the formulation, and so on. With small variations in preparation processes, products, and so on, their effectiveness and indications change.^[4] To get out of this humiliating scenario, systematic and conceptual analysis around these formulations' applications is critical now.

Metals and minerals are an integral part of Ayurvedic therapeutics, and Tamra (copper) is one of these metals that, when properly purified and detoxified, can help with a variety of ailments, can help with a variety of ailments.^[5] However, if not correctly processed, it can be fatal.^[6] In Ayurvedic texts, its toxic nature in a poorly filtered or incinerated state is represented as Ashtamahadoshas (eight blemishes).^[7] Tamra must go through a series of traditional medicinal procedures such as Shodhana (purification), Marana (incineration), and Amritikarana in order to be suitable for clinical use. Udara (ascitis), Pandu (anaemia),

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Shvasa (bronchial asthma), and Amlapitta (hyperacidity), and other ailments, may be treated with TB.^[8]

Tamra (copper) is one of these metals that has been used in many ways of therapeutics for decades. TB has been used to treat a variety of diseases in ISM, including Parinamashula Hemorrhoids, autoimmune disorders, dyspnoea, peptic ulcer, jaundice, stomach problems, and others.^[9] Many herbomineral formulations contain it, such as Arogyavardhini Vati, Hridayarnava Rasa, Panchamrita Parpati, and others.

The research aims to compile all the formulations that include TB as an ingredient. This exercise will outline the various clinical applications of TB and the doses and adjuvants that should be used and demonstrate TB's wide usefulness in a variety of diseases.

► According to Bhaishajya Ratnavali

- Bhaishajya Ratnavali is a 19th century classic text penned by Acharya Govindadas Sen.^[10] Acharya has not only collected the various formulations, but has also organized them into categories based on the methods of preparation. As a result, it is known as the first Ayurvedic formulary. Because of its significance, it was chosen to investigate the therapeutic properties of TB.

► Samhita Period

- Tamra is a metal that has been used by Rasavaidyas in therapeutics since the Samhita period, according to the Shuddha Dhatu Varga.^[11] It was used in powder form because no medicinal manufacturing of Bhasma preparation was possible in Samhitas.

► Charak Samhita

- It is mentioned in the Charaka Samhita in Churna to treatment of poison, hiccough, dyspnoea, and other ailments.^[12] The method for converting raw Tamra into a therapeutically functional shape is defined in Lauhadi Rasayana,^[13] which later evolved into Ayaskriti during Sushruta’s time.^[14]
- However, it was systematically identified in various Rasashastra texts after the 10th century A.D. (post Nagarjuna period) in its forms, Grahyagrahytva, Shodhana, Marana techniques, pharmacological acts, medicinal uses, and so on. Since then, it has been used successfully in the form of Bhasma to cure several diseases, either alone or in conjunction with other herbo-mineral medicines.^[37]

Profile of Tamra

- Synonyms (Table 1)

Verities of Tamra

- **Nepalak**^[16]
 - Red in colour
 - Found in Nepal
 - It is said to be superior
 - It is heavy, and free from effects
- **Miechana**^[16]
 - Obtained from other mines

Sodhan of Tamra

- Tamra sheets are pasted with saindhava lavana by using either Snuhi kshir or Arka kshir as liquid medium.^[15]
- Then done heating & quenching process for 3 times by using Nirgundi Swarasa or Kwath.^[15]

Marana of Tamra

- Tamra patra 1 part, Parad 2 part, Gandhak 2 part^[15]
- Make Amalgam by using Nimbu rasa, Prepare Kajjali, make chakrika^[15]
- Give Ardhagaja Puta (10–12 times)^[15]

Amrutikarna of Tamra

- Take Tamra bhasma + Panchamrita^[15]
- Make chakrika
- Give Ardhagaja Puta^[15]

Table 1: Various synonyms of Tamra^[15]

Sanskrit	Tamra, Shulva
Hindi	Tamba
English	Copper
Punjabi	Neeltusey, Tamba
Gujrati	Trambu, Tambu
Bengali	Tama, Tam, Tamba
Tamil	Tampra, Chembu, Shembu
Canra	Tamra, Tambda
Telgu	Ragi, Samba, Tamramu
Sindh	Tamb
Maratha	Tambe
Malyalam	Chempu

TB is only used singly in this analysis, and it is often used in compound formulations with other herbo-mineral compounds. The below are the different types of formulations. Different formulations are mationed in Figure 1:^[38,44,45]

Ratio of TB used in different Formulations

- TB is used in various formulations in various ratios, according to the analysis. The number of people with tuberculosis ranges from 0.09 percent [Chitrakadi Lauha (Pleeha-Yakridroga Chikitsa)] to 85.56 percent [Sarveshwari Rasa (Gulma Chikitsa)].^[29]
- Rasa dose and Anupana are not specified in Sarveshwari. As a result, it must be used with caution and in the proper dosage. Swacchandabhairava Rasa, Suryavarta Rasa, Sarvangakampari Rasa, Mahataaleshwara Rasa, Shoolagajakesari Rasa, and Chitravibhandaka Rasa [total=06] are the formulations which have about 50% TB.^[30]
- Chandeshwar Ras, Arkeshwar Ras, Sheetapitta prabhanjan Ras, Takra vati, Vasukibhushan Ras, Vadavagni Lauh and Ras, Mahagulmakalana Ras [total = 8] are the formulations that contain about 25% TB.^[31]
- Jwarankusha Rasa, Sheetari Rasa, Sheetabhanji Rasa, Pittakasantaka Rasa, Hridayarnava Rasa, and Trivikrama Rasa [total = 06] are the for mulations that produce about 33.3 percent TB. Kumudeshwara Rasa, Jwarankusha Rasa (Ravisundarakhya) [total=02] are the formulations that contain about 66.6 percent of TB in entire formulations.^[34]
- TB can be administered in various dosage types, making it a perfect drug (Bahukalpam). This fact clarifies the purpose of Acharyas in formulating various dosage forms for the care of patients with various Prakriti, Vaya, Bala, and other conditions.^[36]
- TB is never issued as a single drug in Bhaishajya Ratnavali (Table 2). The special method of TB is defined first in Bhagandara Chikitsa (51/25-27), and there is also TB, which employs mercury and sulphur as Marana newspapers, and Nimbu Swarasa, which employs Puta. Anupana is then given



Figure 1: Different types of formulations

Table 2: Some essential TB formulations in Bhaishajya Ratnavali that are also listed in AFI have been compiled by disease^[39-43]

S. no.	Formulation name	Rogadhikar	Dose	Anupana	%Tamra
1	Jwararybham	Jwar	2 Ratti	As per Dosha	8.33
2	Ratangiri Rasa	Jwar	1 Ratti	With churna of Pippali and Dhaniya	17.39
3	Sarjwarhar Lauh	Jwar	1-2 Ratti	With Pippali Churna 3 ratti and guda 6 masha	8.33
4	Shri Jaymangla Rasa	Jwar	2 Ratti	With churna of jeera and honey	8.33
5	Sarvtobhadar Rasa	Grahni	2 Ratti	As per Disease	0.55
6	Karavyada Rasa	Agnimandhya	2 Masha	With Saindhavayukta Tarka	2.27
7	Laxmivilas Rasa	Rajykhama	-	-	5.55
8	Pittantak Lauh	Vatarakta	2 Ratti	With kwath of Patola and Dhanyak	6.25
9	Gulmakalanla Rasa	Gulma	4 Ratti	With Harad	10.0
10	Yakritpalehari Lauh	Pleeha, Yakritroga	Badarasthisammita Vati	-	18.18
11	Vranrakshas Taila	Vranshoth	Q.S	-	-
12	Manikya Rasa	Kushtha	2 Ratti	With Shetal jal and Dugdha	7.27
13	Anritankura Lauh	Kushtha	1 ratti	With Ghrita, Honey, coconut water and milk	1.75
14	Nagarjundyanjan	Netraroga	Anjanarth	-	10.0
15	Muktadi Mahanjnam	Netraroga	Anjanarth	-	3.13
16	Garbhchintamani Ras	Garbharoga	2 Ratti	-	7.14
17	Purancharand Ras	Rasayanam	Chanak matra	Pranakhand	3.69

a 125 mg dose of Bhasma with honey and ghee. Suvarna (gold) and Rajata (silver) Churna, as well as Garbhashaya Shodhana (Yonivyapat Chikitsa 67/36), have been suggested in the second case.^[35]

- Dose isn't listed here, but Anupana is told it's ghee. It is mixed with various herbs and minerals in all other formulations. Copper and its salts are poisonous and to cause gastric intolerance.^[17] As a result, the Acharyas used copper in Bhasma and as a component in compound formulations. Even though it is not included alone in this text; Internal administration of Rasatarangini is recommended in doses ranging from 1/8 Ratti to 12 Ratti (15–60 mg) as per Bala (power), Kala (time), and other Anupana (adjuvants).^[18]
- Honey was used in the most formulations (approximately 50), followed by Ardraka Swarasa,^[19] Ghrita,^[20] Tambula patra,^[21] Pippali Churna,^[21] sugar,^[17] Ushna Jala.^[22] The importance of these adjuvants, especially honey and ghee, is that they increase the potency of the ingredients while also facilitating their journey to their intended destination due to their Yogavahi (carrier) properties.
- The dosage is defined in certain formulations (e.g., one Ratti/Gunja, 1Masha, etc.). However, it is described in some formulations as Tandula, Sarshapa, Rajika, Kalaya, Chanaka, Badarasthi, and other terms that cannot be calculated precisely. The precise dosing of such formulations requires the scientific establishment of these dosages in gravimetric form.^[32]
- Tamra has been used in the preparation of certain dishes in an indirect manner as a vessel formulation such as Malatadya Ghrita (Mukharoga), Lauha Rasayana (Sthaulya), Vidangadi Lauha (Amavata), Samasharkara Lauha (Raktapitta), and others. Pestle made from Tamra is used to triturate the formulation in some formulations such as Achintyashakti Rasa (Jwara), Paniya Vatika (Jwara), and others.^[33]

About Marketed Products of TB

- Arogya-varadhini Ras, Ekangavera Ras, Smritisagar Ras, Sutashekhhar Ras, Tamra Parpaati, Pushpadhanv Ras, Somnithi TB, Kapha kuthar Ras, and other TB formulations are present in the industry, in addition to the Bhaishajya Ratnavali formulations. According to this study, despite their strong usefulness, many TB formulations are not available on the market. It would be extremely promising if pharmaceutical firms were interested in developing these formulations and making them available to Ayurvedic doctors.
- TB has been screened for anti-ulcerogenic, anti-oxidant, and anti-hyperlipidemic properties to date.^[23-26] Toxicity tests have been conducted on it from time to time, and it is stable at medicinal medication dosage levels.^[19,27,28]
- However, only a few TB formulations have been evaluated for effectiveness in various disease conditions. Each ingredient in the formulation serves a distinct purpose in the body. The study should focus on determining the function of TB in a specific formulation in a specific disease situation. This could serve as a starting point for further study into Ayurveda.

CONCLUSION

It can be inferred that TB, when combined with other herbo-mineral compounds and administered with various Anupana, can heal a wide range of ailments such as Jwara (fever), Agnimandhya, and Rajayakshama, Vattavyadhi, Yakrit-Pleeharoga, Udara, Gulama, Kushtha, Hridyoga, Amlapita, Medhoroga, Shiroroga, Netraroga etc. TB can also be suitable for internal use since it is one of the ingredients in hundreds of herbo-mineral preparations. Since many decades, it has been used successfully to treat a variety of diseases.

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