



An Overview On Tamrakalpa - A Herbo Mineral Formulation

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ABSTRACT

Tamrakalpa is one of the Herbo-mineral Kharaliya Rasayana with Tamra Bhasma as its chief ingredient, mainly stated under Yakrit-Pleeha & Udara vikaras, also indicated in other Vyadhis like Amlapitta, Sangrahani, Shotha, Jwara, Agramamsa, & acts as Sarvarogahara. It is mentioned in various Rasagranthas under same rogadhikara, wherein ingredients are same but the variation is seen in its matra and proportion of the drugs used in the preparation. So here an attempt is made to compile all the available literature regarding Tamrakalpa- its ingredients, method of preparation, therapeutic applications, dosage and further scope of studies has also been highlighted.

KEYWORDS- Tamrakalpa, Kharaliya Rasayana, Yakrit- Pleeha vikaras, Udara vikaras

INTRODUCTION

Ayurveda is considered as oldest healing science and a system of indigenous medicine. It has made a landmark in the history of medicine by its judicious use of Herbo-Mineral preparations.

The specialized procedures like Shodhana, Marana, Amrutikarana etc, were developed, resulting in formulating ultimate yogas like Bhasmas, Karaliya, Kupipakwa, Parpati & Pottali Rasayana's. All these come under one roof called Rasaushadis. Due to their quicker action¹ in smaller doses on dreadful diseases, Rasaushadis occupied a superior status among the Ayurvedic formulations.

In present scenario, due to poor /sedentary lifestyle, food and adverse effects of drugs, there is rise in GI, Liver and Splenic disorders. In spite of tremendous scientific advancement in the field of medicine during recent years and restricted treatment in modern science, there is need for therapeutic approach in this field. So an attempt has been made to understand regarding one of the formulation called Tamrakalpa, which is mainly indicated in Yakrit-pleeha & Udara vikaras having ingredients such as Tamra Bhasma, Shuddha Parada, Shuddha Gandhaka, Bibhitaki churna and Bhavana dravyas viz. Jambira Swarasa, Suryavarta Swarasa, Pippali Kwatha and Mocharasa Kwatha. Hence the article aims to review the formulation from different Rasagranthas.

MATERIALS AND METHODS

References of Tamrakalpa quoted in different Rasashastra texts.

Rasendra Chintamani (R. Chi)²- Udararogadhikara

Bharata Bhaishajya Ratnakara (B.B.R)³- Rasa Prakarna

Rasendra Sara Sangraha(R.S.S)⁴- Pleehaarogadhikara

Brihat Rasaraja Sundara(B.R.R.S)⁵- Pleeharogadhikara

Table 1:- Showing the Ingredients, their chemical/botanical name of Tamra Kalpa

DRAVYA	CHEMICAL/BOTANICAL NAME
Tamra Bhasma	Incinerated copper
Shuddha Parada	Purified Mercury
Shuddha Gandhaka	Purified Sulphur
Bibhitaki churna	Terminalia Billerica

Table 2: Showing the list of Bhavana dravya ,their botanical name, family and part used.

Bhavana dravya	BOTANICAL NAME	FAMILY	PARTS USED
Nimbuka ⁶	Citrus medica	Rutaceae.	Phala
Suryavarta ⁷	Gynandropis pentapylla	Capparidaceae	Patra
Pippali ⁸	Piper longum	Piperaceae	Phala
Mocharasa ⁹	Salmalia malabarica.	Bombocaceae	Niryasa

Table 3: Showing properties of ingredients

DRAVYA	RASA	GUNA	VIRYA	VIPAKA	KARMA
TAMRA BHASMA ¹⁰	Tikta, Kashaya, Madhura, Amla	Snigdha	Ushna	Katu	Lekhana, Pittasaraka, Kaphapittahara
PARADA ¹¹	Shadrasa	Snigdha, Sara.	Ushna	Madhura	Yogavahi, Rasayana, Ativrishya, Balya, Vajikara, Drushtibalaprada, Loha siddhikara, Vranaropana, Agnivardhaka,

					Ropana, Krimighna.
GANDHAKA ¹²	Katu,Tikta	Laghu, sara	Ushna	Katu	Pachana, Krimighna, Kushtaghna, Garavishanashaka, Rasayana.
BIBHITAKI CHURNA ¹³	Kashaya	Ruksha, Laghu.	Ushna.	Madhura.	Bhedana, Kasaghna, Krimighna, Madakaraka, Vataghna, Vedana Sthapana, Shotahara, Deepana, Pachana, Anulomana.

Table 4: Showing the Guna, Karma and Phytochemicals of Bhavana Dravya

BHAVANA DRAVYA	GUNA AND KARMA	PHYTOCHEMICALS
Nimbuka ¹⁴	Laghu, Tiktsna, Vata-Kapha hara, Deepana-Pachaka, Caksusya	Ascorbic acid, abscisin II, auxin, limonin, limonene, poncirin from fruits
Suryavarta ¹⁵	Ruksha, Guru, Deepana, Pachaka, Krimighna, Kaphavata samaka	Alkaloids, Terpenoids, Steroids, Flavonoids, Saponins, and Tannins
Pippali ¹⁶	Laghu, Snigdha, Tiktsna, Vatasleshmahara, Deepana, Vrsya, Rasayana	Essential oil, mono- and caryophyllene (mainly), piperine, pipartine, piperlongumine, sesamin, β - sitosterol: four aristolactams
Mocharasa ¹⁷	Snigdha, Grahi, Vrsya, Kaphapittahara, Dahanut, Atisarahara	L-arbanose, gallic acid, tannic acid, amino acids, proteins, saponins, glycosides, phenolic compounds, steroids, and tannins.

Table 5: Quantity of Ingredients, Dose and Anupana of Tamrakalpa found in different texts.

Reference	Ingredients	Quantity	Dose	Anupana
Rasendra Chintamani ¹⁸	Parada - Gandhaka - Bibhitaki churna Tamra Bhasma- Bhavana dravya- Nimbuswarasa , Suryavarta swarasa, Pippali Kwatha, Mocharasa Kwatha	2 parts 2 parts 2 parts 6 parts Q.S	Starting from 2 ratti (250mg), increasing daily by 1 tab till it reaches 2 masha (2000 mg) then decreasing daily by 1 tab till it reaches 2 ratti	Not mentioned
Rasendra Sara Sangraha ¹⁹	Parada - Gandhaka - Bibhitaki churna Tamra bhasma- Bhavana dravya- Nimbuswarasa , Suryavarta swarasa, Pippali Kwatha, Mocharasa Kwatha,	1 Part 1 Part 1 part 3 parts Q. S	250 mg	Madhu
Brihat Rasaraja Sundara ²⁰	Parada - Gandhaka - Bibhitaki -churna Tamra bhasma- Bhavana dravya- Nimbuswarasa , Suryavarta swarasa, Pippali Kwatha, Mocharasa Kwatha	2 tola 2 tola 2 tola 3 tola Q. S	Starting from 2 ratti (250mg), increasing daily by 2 tabs till it reaches 2 masha (2000 mg) then decreasing daily by 1 tab till it reaches 2 ratti	Not mentioned
Bharata Bhaishajya Ratnakara ²¹	Parada - Gandhaka - Tamra bhasma- Bibhitaki churna	2 tola 2 tola 2 tola 2 tola	Starting from 2 Ratti (250mg), increasing daily by 1 tablet till it reaches 10 tablet	Not mentioned

	Bhavana dravya- Nimbuswarasa, Suryavarta swarasa, Pippali Kwatha, Mocharasa Kwatha	Q.S	(2500mg) & decreasing daily by 1 tablet up to 2 ratti.	
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METHOD OF PREPARATION (According to R.Chi, B.B.R, R.S.S, B.R.R.S)

- Shodhita Parada and Shodhita Gandhaka should be taken in Khalwa yantra and triturated till Kajjali is formed.
- After the Kajjali Siddha lakshanas are observed, Tamra Bhasma is added and mardana is done to form a homogeneous mixture. Later, Bibhitaki phala churna is added to the mixture, followed by the Bhavanas of Nimbu swarasa, Suryavarta swarasa, Pippali kwatha, and Mocharasa kwatha, which are added consecutively and trichurated till it turns into kalka form. Lastly, again Nimbu swarasa mardhana is done and vatis of 250 mg are prepared and dried under shade.

INDICATION (According to R.Chi, B.B.R, R.S.S, B.R.R.S)

Amlapitta, Sangrahani, Vishama jwara, Purana jwara, Plihavikara, Bhayankara Yakrit Vikara, Agramamsa, Shotha, Kamsyakroda(Urastoya) Kacchapa prusthakruti Yakrit Pheela Vriddhi (enlargement of liver and spleen resembles the back of tortoise, seen in conditions like Yakritodara and pleehodara), Bhayankara Udara Shotha, Vrusya, Bala, Dhatu, Varna, Agni Vardhaka & Sarvaroghara.

PATHYA – Tambula sevana with Sudha churna is to be taken after intake of medicine and later on after digestion of medicine, cooked Ghrita and Godugdha sevana is done.

PROBABLE MODE OF ACTION

Tamra bhasma acts as Kaphapittahara. Its Deepaka, Pachaka & Lekhana properties promotes the Bile secretion and acts as Hepatoprotective thereby effective in Yakrit vikaras.

Tamra bhasma also acts as Gastroprotectant thereby protecting the mucosal layer and helps in acid regulation - acts on Udara vikaras like Amlapitta etc.

Antioxidant property of Tamra bhasma supports immunity - acts as Balya and Rasayana.

Kajjali, prepared from Shodhita Parada & Shodhita Gandhaka has a broad range of therapeutic availabilities, acts as Tridosahara, Yogavahi, Jantughna, Rasayana & Sarva rogahara. It immediately spreads in the body when consumed, and clears the obstructed channels at the disease in situ. These properties enhance the efficacy of the drug and act effectively at low doses and increases the bioavailability of drugs used in the formulation.

Bibhitaki possessing the Kashaya rasa, acts as Deepaka, Pachaka & Anulomaka thereby reducing, intestinal secretion and motility, hence effective in different types of Sangrahani, Antioxidants present in Bibhitaki acts as Hepatic and Splenic protectant.

Bhavana dravyas – Nimbuka – possessing Deepana, Pachana properties, boosts digestive enzymes which acts on Udara vikaras, also it is rich in Vit C & phenolics functions as Rakta shodhaka and Pleeha roga nashaka.

Suryavarta –Vatahara property of the drug helps in management of Shula and Shotha, also the antioxidant and lekhana property act as Rasayana, & Arbudha nashaka (anti cancerous property) respectively.

Pippali – Possessing ushna, Tiksha guna stimulates the Gastric secretion. Its Kaphahara action does Pranavaha srota shuddhi and its antioxidant property acts as immune-modulator & Hepatoprotectant.

Mocharasa- Tannins present in acts as Raktastambhaka, its sheeta virya helps in mucosal soothing by reducing burning sensation, also acts as Shukravardhaka, Kimighna and Vrana roopaka.

DISCUSSION

The indication of Tamra Kalpa in most of the rasa classics is in the form of Vardhamana method of administration i.e Kalpa rupa prayoga & hence the yoga is named as Tamrakalpa

Although the referential shloka of Tamrakalpa remains same in all the mentioned classical texts, interpretation of sloka according to different authors vary in, method of preparation, quantity of ingredients & its dosage According to R.S.S, no of bhavanas with each drug, is given for 3 times i.e total 12 bhavanas, whereas, rest of the authors stated to give bhavana only once with each drug.

R.Chi, B.R.R.S, & B.B.R mentioned Vardhamana method of administration, but R.S.S indicated to administer it at a dose of 250mg to treat the disease.

B.B.R mentioned maximum dose of 2500mg to administer, where as R.Chi and B.R.R.S mentioned maximum dose as 2000 mg in Vardhamana prayoga of Tamrakalpa.

R.S.S specified Madhu as Anupana, whereas other classics has not specified any Anupana, So the Anupana may be chosen according to disease specific.

CONCLUSION

Tamrakalpa is a one of the most excellent Kharaliya formulation & effective Rasaaushadhi which has broad range of therapeutic actions mainly in managing Yakrit- Pleeha & Udara vikaras also acts as Rasayana and Sarvarogahara if administered properly. However due to presence of mineral drugs in formulation should be strictly taken under the qualified Ayurvedic practitioner.

SCOPE FOR FURTHER STUDIES

As the formulations has wide range of therapeutic indication, there are several avenues for future research that can deepen understanding and expand the finding these include:

Pharmaceutico-Analytical evaluation of Tamrakalpa its hepatoprotective activity - an experimental study- Ref- of R. Chi was chosen for dissertation work

- 1] **Clinical trials**- By conducting Randomised control trail (RCT) to evaluate the efficacy of Tamrakalpa in conditions like Hepatomegaly, Splenomegaly
- 2] **In Vivo studies** –As Tamrakalpa is indicated in Vishama jwara, Purana jwara and Amlapitta studies on, Antipyretic, Antacid and ulcer protective effect can be undertaken.
- 3] **In Vitro studies**– As Tamrakalpa is indicated in Bayankara Yakrit and Pleeha vikaras, cell- line studies on Hepatic and splenic carcinomas can be carried out.
- 4] **Pharmaceutical standardization**- Developing modern Analytical techniques (eg-HPTLC, ICP-MS, XRD) for the authentication & standardization of ingredients.

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