

PHARMACEUTICAL AND ANALYTICAL STUDY OF TRIBHUVANKIRTI RASA AND ITS ROLE IN VATASLESHMIK JAVRA

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ABSTRACT

It is an undoubted fact that applied sciences have developed in leap and bounds in the past two centuries rewarding mankind with materialistic advantages, comforts, objects of entertainment more than they could have dreamt of. In spite of these achievements, there remain many dark corners in 'Indian science' awaiting a ray of research or advancement, the screening of which is still under progress. The cut to cut correlation of any branch of Indian medical science to a specific branch of modern medical science is quite impossible owing to the difference in the basic thoughts and as such, so far as *Rasashastra* is concerned, it cannot be corrected with either chemistry or any other single subject in

the present European sense but it may be looked upon as a cumulative form of chemistry, medicine, metallurgy, mineralogy, philosophy etc. In nutshell, *Rasashastra* may be defined as a science tending to facilitate human beings with the aid of systematic use of metal, minerals and herbal drugs to achieve longevity and ultimately 'Salvation' the supreme goal of life. So it's our duty to establish our ancient knowledge of *Rasashastra* in Modern era with help of modern parameters.

KEYWORDS: Vatashleshmik Jwara, Rasa Aushadhi, Khalveeya Rasa, Dhatura.

INTRODUCTION

The great scientist of *Rasashastra*- *Nagarjuna* started his experimentations with an oath to serve the suffering humanity by various achievements in the benevolence of *Rasa* (*Parada*-Mercury).

Slowly, from that day onwards, mercury and its various ores came to be known to the world. Multiple remedial measures comprising of *Khalveya* and *Kupipakva Rasa* to combat a wide range of catastrophes have been listed in the *Rasashastriya* texts. “*Tribhuvana Kirti Rasa*” is one of the celebrated and most popular drug compounds for the management of *Jvara*.

Above mentioned all these tablets contains *Tribhuvana Kirti Rasa* as one of its ingredient are available in the market. But, in general, the *Vatasheshmika Jvarahara* drug compounds utilize *Tribhuvana Kirti Rasa* in combination with other drug like *Godanti Bhasham*, *Sudarshana churna* etc. which too, may have anti -pyretic properties. The effect of drug compound depends of the sum of qualities of all the ingredients and such as the assessment of individual action of *Tribhuvana Kirti Rasa* on *Vatasheshmika Jwara* remained a mystery in the present day situation.

Amongst the herbo-mineral ingredients of *Tribhuvana Kirti Rasa*, *Shudha Hingula* and *Sudha Tankana* are the two which belongs to the *Rasa shstria* group. Efficacy of herbo-mineral compounds, as praised by ancient *Acharyas* depicts that-

- They need to be administered in the least possible dose.
- Their effectiveness is comparatively more and quicker than the other herbal drugs.
- The active principles of such drugs remain effective for a prolonged period so that their effectiveness increases with passage of time.
- *Hingula* (HgS) being an ore of mercury would naturally possess the highly significant anti-bacterial, anti- fungal, anti- protozoal, germicidal properties.
- Mercurial preparation remains stable, effective, and un-decomposed for a longer period whereas the other herbal drug, being organic in nature, would lean towards decomposition after certain period.

All *Rasa Dravyas* are Chemical compounds, metals or minerals and their improper administration may produce severe and serious complication. In the present context, *Hingula* is a drug containing about 80% of Mercury in its composition and mercury itself is a toxic heavy metals therefore its administration needs a special care and attention. Modern medical science, in fact, is strictly against the internal administration of mercury in any form, but the ancient experts have sorted out certain measures to pacify its toxic effect rendering it liable to be administered internally. Such measures also need a proper experimental and clinical backing to prove its efficacy in the contemporary scientific era.

AIM

Pharmaceutical and analytical study of *Tribhuvankirti Rasa* and its role in *Vatasleshmik Javra*.

OBJECTIVES

- 1.To review the literature regarding individual component of the formulation *Tribhuvana Kirti Rasa*.
- 2.To have pharmaceutical study of *Tribhuvana Kirti Rasa*.
- 3.To study the analytical aspect of drug and its effect in *Vatashleshmika Jvara*.

Drug review: The *Khalveeya Rasas* are the combinations of herbal, mineral and animal products, so that we can have the effect of all collectively in a single formula. These are administered in smaller doses to get faster relief and combating many ailments by proper *Anupana* and *Sahapana*. It takes less space for manufacturing and storing. The most important aspect is that it preserves the properties of freshly added *Churanas*, *Avrasa* etc. with the help of *Moorchhita* parade e.g. *Kajjali*, *Rasasindura*, *Hingula* etc. because of which *Khalveeya Rasaushadhis* occupies greater portion therapeutics as compared to other *Kalpanas* such as *Vati*, *Taila*, *Ghritha*, *Avaleha*, *Kupipakwa*, *Rasayana* etc. preparations.

Content of Tribhuvan Kirti Rasa

- 1) *Sudha Hingula* - 1 Part
- 2) *Sudha Vatsanabha* - 1 Part
- 3) *Sudha Tankana* - 1 Part
- 4) *Sunthi* - 1 Part
- 5) *Krishna Marich* - 1 Part
- 6) *Pippali* - 1 Part
- 7) *Pippali Mule* - 1 Part

Bhavana Dravya

- 1) *Tulasi Svarasa* - q.s
- 2) *Ardraka Svarasa* - q.s
- 3) *Dhatuara Svarasa* - q.s
- 4) *Nirgundi Svarasa* - q.s

A. Hingula**Composition**

It consists of 13.80% of sulphur and 86.20% of mercury.

Varities of Hingula

No description about varities of *Hingula* is available in ancient *Rasa Granthas* like *Rasendramangala*, *Rasa Hiridayatantra* etc. But *Rasa Granthas* of middle age considered 3 verities of *Hingula* viz.

- *Charmara*
- *ShuKatunda*
- *Hansapada*

Properties of Sudha Hingula: It has a *Tikta*, *Kashaya* and *Katu* in *Rasa*. It is used in *Netraroge*, *Kaphapittadosha*, *Hallas*, *Kusth*, *Jwara*, *Kamla*, *Pliha* and *Garvisha*.

Sodhana of Hingula: Most *Rasa Granthas* have described different purification methods of *Hingula*. Form the available vast literature of *Rasashstra*.

Properties of Sudha Hingula

Rasa - Regarding *Rasa* of *Hingula* various controversies Author of various book.

Madhura, *Tikta* - *Rasarnava*, *DhanvantriNighantu*, *RajNighantu*.

Tikta, *Katu*, *Kashya* - *Bhavaparkash*, *Ayurveda Parkash*, *Brihat Rasa Raj sunder*, *Parade Samhita*.

Guna - *Ushnaguna*.

Virya and *Vipaka* - *Virya and Vipaka is not mentioned anywhere*.

Dosh Prahva - *Hingula has been considered to be Tridoshaghan*.

Karma - *Dipana*, *Rasayana*, *Vajikarana*, *Agnivardhana*.

Vyadhi Prabhava - *Jwaraghana*, *Kusthaghana*, *Hrdroga*, *Amvata*, *Kamlahara*.

Physical Characteristics

Crystal Shape - Rhombohedraltrapezohedral crystal

Chemical formula - mercury sulphide. HgS.

Colour - Brownish Red.

Crystal habit - Rhomboherdral to tabular Granular to massive.

Crystal system	- Hexagonal
Cleavage	- Prismatic, Perfect
Fracture	- Uneven to Sub conchoidal
Mohr- Scal hardness	- 2-2.5
Lusture	- Adamantine to dull
Refractive index	- 2.940 – 3.220
Streak	- Scarlet
Specific Gravity	- 8 – 8.2 g/cm ³
Solubility	- 3 x 10 – 26 gm/100 ml water
Transparency	- Crystals are translucent to transparent

B. Tankana

Definition- *Tankana* is Boax mineral [Na₂B₄O₇·10H₂O]

Physical Properties

Nature	– Crystalline lumps
Colour	– white
Streak	– white
Cleavage	– poor
Fracture	– conchoidal
Lustre	– vitreous
Tenacity	– Brittle
Transparency	– Translucent
Hardness	– 2 to 2.5
Specific Gravity	– 1.65 to 1.7
Taste	– Sweetish alkaline

Chemical Properties

▪ Effect of Heat

✓ Heated on burner flame using blow pipe, *Tankana* bubbles up and fuses to a clear glassy bead.

✓ It colour the flame yellow due to sodium and when moistened with sulphuric acid and alcohol, gives a green flame due to boron.

▪ **Reaction with acid**

✓ With hydrochloric acid gives yellow colour solution in cold condition and boiling dissolve completely.

✓ With sulphuric acid gives colourless solution in cold condition and on boiling dissolve completely.

▪ **Solubility in water**

✓ *Tankana* is completely soluble in purified water producing an alkaline solution as tested by a red litmus paper turning blue.

▪ **Assay**

✓ *Tankana* should contain not less than 35 percent B₂O₃ [BORON TRI OXIDE] *Tankana* should contain not less than 15 percent sodium [Na].

▪ **Heavy metals and Arsenic**

✓ *Tankana* should not contain more than the stated limit for the following—

✓ Arsenic- 5 ppm and cadmium- 4 ppm.

Properties and Action

Rasa – *Katu*

Guna - *Ruksha, usna, Tikshna, Saraka*

Virya - *Usna*

Vipaka - *Katu*

Karma - *Hridya, Balya, Saraka, Kaphanissaraka, Dipana, Stripuspajana*

According to Modern view

-*Tankana* produces cold feeling and diuresis

-It acts as an antacid, antimicrobial, local depression and anti-inflammatory

-*Tankana* mixed with honey it applied in mouth cures stomatitis

-In vaginal itching *Tankana Dravya* may be used for vaginal washing

-In *Ayurveda* *Tankana* is considered as an antidote for Aconite poison

C. *Vatsanabha* [Root]

Rasa - *Madhura*

Guna - *Usna, Ruksha, Tikshna, Laghu, Vikasi, Vyavayi, Yogavahi*

Virya - *Usna*

Vipaka - Madhura
Karma - Tridosahar, Rasayana, Svedal

D. Sunthi

Rasa - Katu
Guna - Laghu, Snigdha
Virya - Usna
Vipaka - Madhura
Karma - Dipana, Pachana, Anulomana, Amadosahar, Vatakaphahar, Hridya

E. Marica [Fruit]

Rasa - Katu, Tikta
Guna - Laghu, Ruksha, Tikshana
Virya - Usna
Vipaka - Katu
Karma - Slesmahar, Pittakara, Vatahara, Chedana, Dipana, Jantunas ana Medohar, Hridroga, Vtatroga

F. Pippali [Fruit]

Rasa - Katu, Tikta, Madhura
Guna - Snigdha, Laghu
Virya - Anusna
Vipaka - Madhura
Karma - Vatahar, Kaphahar, Dipana, Rucya, Rasayana, Hridya, Vrsya, Tridosahar, Recana

G. Pippalimula

Rasa - Katu
Guna - Laghu, Ruksha
Virya - Usna
Vipaka - Katu
Karma - Vatahar, Kaphahar, Dipana, Pacana, Vatnulomana, Rucya

H. Tulasi [Leaf]

<i>Rasa</i>	- <i>Katu, Tikta, Kasaya</i>
<i>Guna</i>	- <i>Laghu, Ruksha, Tiksna</i>
<i>Virya</i>	- <i>Usna</i>
<i>Vipaka</i>	- <i>Katu</i>
<i>Karma</i>	- <i>Vatahar, Kaphahar, Dipani, Hradya, Krimighana</i>

I. Ardraka [Rhizome]

<i>Rasa</i>	- <i>Katu</i>
<i>Guna</i>	- <i>Ruksha, Tiksna, Guru</i>
<i>Virya</i>	- <i>Usna</i>
<i>Vipaka</i>	- <i>Madhura</i>
<i>Karma</i>	- <i>Vatahar, Kaphahar, Rocana, Dipana, Bhedana, Hradya, Vrsya</i>

J. Dhattura [Whole Plant]

<i>Rasa</i>	- <i>Katu, Tikta, Kasaya, Madhura</i>
<i>Guna</i>	- <i>Tiksna, Guru</i>
<i>Virya</i>	- <i>Usna</i>
<i>Vipaka</i>	- <i>Katu</i>
<i>Karma</i>	- <i>Madkari, Kaphahar, AgniVardaka, Visahara</i>

K. Nirgundi [Leaf]

<i>Rasa</i>	- <i>Tikta, Katu, Kasaya</i>
<i>Guna</i>	- <i>Laghu</i>
<i>Virya</i>	- <i>Usna</i>
<i>Vipaka</i>	- <i>Katu</i>
<i>Karma</i>	- <i>Kapha shamaka, Vatasamaka, Sophahar, Kesya, Visahar</i>

Disease Review**Vatashleshmik Jvara**

According to Acharya Charak; Asatmendriyasamyog, Pragyapradhvas and Adharma when person takes Ahitkar ahar vihar which vitiated Kapha and Vata; it results into Vatasleshmik Jvara.

Nidana

- *Asatmendryasamyog*
- Pragyapradh
- Adharma

Roop

- Body stickiness
- Severe pain in small joint
- Sleepiness
- Heaviness in body and head
- Rhinitis
- Coughing
- Loss of sweating
- Low grade fever

Samprapti Ghatak

Dosha	- Tridosha [Kapha- Vata Pradhan]
Dushaya	- Rasa and Rakta
Strotas	- Prana and Annavaha
Srotodushti	- Sanga
Adhithana	- Lungs
Swabhav	- Acute
Sadhya	-Asadhyata- Yapy

DISCUSSION

Tribhuvan Kirti Rasa which has been selected for the presented study is a Herbo-mineral preparation. The line of Treatment indicated in *Javar* contain four folds in sequence - *Langhan, Pachana, Shamana and Aushsdha*. *Tribhuvan Kirti Rasa* is very useful in treatment of *Javar*. The ingredients of *Tribhuvan kirti Rasa* have *Katu, Tikta, Kashaya Rasa; Laghu, ushana, tikshana Guna; ushana Virya; Katu Vipaka* and *vatakaphahar karma*. Thus *Tribhuvan Kirti Rasa* Acts with helps of its *Karma* which is *Vatakaphahar*.

In the pathogenesis of *Javar* two things are important i.e *Agnimandaya* and *Srotorodha* by displaced *Aam*. These *Rasa, Guna, Virya, Vipaka* have *Lekhana, Deepana, Pachana, Srotosudhikar* and *Javarhar* properties which might have effect on various symptom of

Javar, Svedavarodha, Santap, Nasastrava, Sandhiyon me Pida, Javar, Kash, sharer me Bharipan etc. As *Bhavana* of *Tulasivarasa, Ardarakasvarasa, Dhaturasvarasa, Nirgundisvarasa* has been utilised for the preparations, property of *Bhavanadravya* also contribute their share in total effect.

It may be suspected that, on the administration of drug the drug digest the *Aam* and increase the *Agni* which found extremely devitalised in *Javar* increased *Jatharagni* further digests the *Aam* and *Dosha*. Moreover *Pachana* property of *Tribhuvankirti Rasa* helps *Jatharagni* in this task. Thus *Tribhuvankirti Rasa* breaks the chain of *Samprapti* of *Javar* in the stage. As far as peripheral pathology has concerned; *Ushana* and *Tikshana Guna* of ingredients along with *Vyavayi, Vikasi* and *Ashoo Guna* of *Vatsanabha* and *Dhatu* penetrates the blockage of the *Rasa* and *svedavahasrotas*, thus peripheral vessels dilates and heat loss take place which ultimately decrease the temperature. *Nirgundi svarasa* have *Vatahar* property so it decreases the pain in body.

CONCLUSION

Ayurveda have many unique preparations which used in different kind of *Javar Tribhuvan Kirti Rasa* is one of them. According to above conceptual study *Tribhuvankirti Rasa* has a potential effect on *Vatashelshmika Javar*.

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