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 owning 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, form 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 shstriya 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 if 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, Ghrita, 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) Dhatura 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 Rasashtra.

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, Kustaghana, 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/cm3
Solubility - 3 x 10 – 26 gm/100 ml water
Transparency - Crystals are translucent to transport

B. Tankana

Definition- Tankana is Boax mineral [Na2B4O7.10H2O]

Physical Properties
Nature – Crystalline lumps
Colour – white
Streak – white
Cleavage – poor
Fracture – conchodial
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 and 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, Tiksha, Saraka

**Virya** - Usna

**Vipaka** - Katu

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

**According to Modern view**

- Tankana produces cold feeling and diuresis
- It act as 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 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, Viatroga

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]
Rasa - Katu, Tikta, Kasaya
Guna - Laghu, Ruksha, Tiksna
Virya - Usna
Vipaka - Katu
Karma - Vatahar, Kaphahar, Dipani, Hrdya, Krimighana

I. Ardraka [Rhizome]
Rasa - Katu
Guna - Ruksha, Tiksna, Guru
Virya - Usna
Vipaka - Madhura
Karma - Vatahar, Kaphahar, Rocana, Dipana, Bhedana, Hrdya, Vrsya

J. Dhattura [Whole Plant]
Rasa - Katu, Tikta, Kasaya, Madhura
Guna - Tiksna, Guru
Virya - Usna
Vipaka - Katu
Karma - Madkari, Kaphahar, AgniVardaka, Visahara

K. Nirgundi [Leaf]
Rasa - Tikta, Katu, Kasaya
Guna - Laghu
Virya - Usna
Vipaka - Katu
Karma - Kapha shamaka, Vatasamaka, Sophahar, Kesya, Visahar

Disease Review
Vatashleshmik Jvara
According to Acharya Carak; Asatmendriyasamyg, Pragyapradhvas and Adharma when person takes Ahitkar ahar vihar which vitiated Kapha and Vata; it results into Vatasleshmik Jvara.
Nidana
- Asatmendryasanyog
- 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
- Adhisthana: Lungs
- Swabhav: Acute
- Sadhya: Asadhyata- Yapa

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, Srotosudhkikar 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 Tulasisvarasa, Ardarakasvarasa, Dhaturasvarasa, Nirgundisvarasa has been utilised for the preparations, property of Bhavanadravya also contribute their shair 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 Dhatura 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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