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Review article

"Review on Pharmacokinetic and Pharmacodynamic action of Shrisiddhahinguleshwar Rasa"

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ABSTRACT:
In the present era, acute febrile states, gastrointestinal tract Infections, autonomic irregularities & inflammatory condition frequently reflected as disturbance of metabolic co-ordination & circulatory rhythm. Classical Rasashastra texts, describe certain Rasayogas that are claimed to regulate systemic functions beyond symptomatic relief. Shrisiddhahinguleshwara Rasa is one such formulation, praised for its effects in Jwara, Vatashamana, Kaphashamana, Daha, Pipasa , Murchha, Krumi, & for its unique action described in Jwaratisara and Nadigatiniyamaka denoting regulation of pulse rhythm. The present review aims to assess the hypothetical pharmacokinetic & pharmacodynamic action of this formulation with special reference to autonomic nervous system regulation & systemic metabolic homeostasis. This formulation may act multifactorial , including metabolic regulation, fluid balancing stabilization, autonomic modulation & inflammatory regulation, thereby restoring rhythm in systemic disorders. The review concludes that Shrisiddhahinguleshwara Rasa represents a multi-dimensional Rasayoga designed for physiological regulation.

KEY WORDS: Shrisiddhahinguleshwara rasa , Jwaratisara , Nadigatiniyamak , Autonomic Nervous System regulation , Systemic metabolic homeostasis , Pharmacokinetic , Pharmacodynamic.

INTRODUCTION:

In Ayurveda, the functional integrity of the body is governed by 3 principal Doshas Vata, Pitta , Kapha - which collectively regulate physiological and pathological processes [2]. Among them, Vata is regarded as the key regulatory element, as it governs movement, circulation & co-ordination of mechanisms of body [2]. Disturbance of Vata particularly Vyana vayu leads to irregularity in rhythm of circulation, altered Nadigati & physiological instability. As Vyana Vayu moves across the body & the heart is considered as it's principal site of origin[3]. Shrisiddhahinguleshwara rasa is a classical Kharaliya Rasayoga described in Rasatarangini indicated specifically in Jwara, Krumi, Jwaratisara, Daha, Murchha, Pipasa, Nadigatiniyamana, Vatanulomana, Koshthavataprashamana, etc.

The name itself suggests Hingula is the main content and as per the reference mentioned in Rasatarangini Hingula's pramukha rogadhikara is Jwara. Hingula is get siddha (bhavita) by Dhaturamula swaras which is primarily responsible for Autonomic gut regulation. This, Shri Siddha Hinguleshwara Rasa is considered a highly efficacious herbo - mineral formulation in the management of Jwaratisara.

MATERIALS AND METHODS -

Preparation of drug –

विशोधितं हिंगुलश्च धत्तुर मूलजद्रवैः ।
विभावयेत्सप्तवारं ततः संशोषयेद् बुधः ॥ ५७ ॥
तत्तुल्यं टङ्कणं क्षिप्त्वा श्लक्ष्णचूर्णं प्रकल्पयेत् ।
रसज्ञैः कीर्तितो नाम्ना श्रीसिद्धहिगुलेश्वरः ।॥ ५८ ॥
विश्वमोचरसोपेतं पुरुहूतयवान्वितम् ।
गुञ्जार्द्धप्रमितं दद्याद्रसतन्त्रविशारदः ॥ ५६ ॥
ततोऽनुपाययेच्छीघ्रं धान्यशीतकषायकम् ।
दाहमूर्च्छापिपासादीन् नाशयेद्वै ह्युपद्रवान् ॥ ६० ॥
पाचनो दीपनवायं नाडीगतिनियामकः |
ज्वरघ्नः कृमिसंहारी कफघ्नो मृदुधारकः ॥ ६१ ॥
कोष्ठवात प्रशमनो भृशं वातानुलोमनः ।
नैतत्समो रसो लोके ज्वरातीसारनाशनः ॥ ६२ || [1]

Ingredients –

1. Shuddha Hingula
2. Shuddha Tankana
3. Dhatura mula swaras

Procedure –

1) Take shuddha Hingula in a clean khalvayantra.
2) Add sufficient quantity of Dhatura mula swaras in it.
3) Triturate continuously until the liquid is absorbed and allow it to dry completely.
4) Repeat the same procedure for 7 times (sapta bhavana)
5) Take Shuddha Tankana same as that of quantity of Hingula.

6) Triturate thoroughly until a homogeneous fine powder is obtained.
7) This formulation is called as Shrisiddhahinguleshwara Rasa .

Sahapana – Indrayava , Mocharasa, Shunthi

Matra – ½ gunja

Anupana – Dhanyakasheeta kashaya

Uses – Nadigatiniyamak , Jwaraghna , Krumighna , Koshthavataprashamana, Vatanulomana, Jwaratisaranashak

We used textbooks , Samhitas and Rasagrantha's to collect references.

AIM -

To study Shrisiddhahinguleshwara Rasa and it's mode of action.

OBJECTIVES -

To study Pharmacokinetics of Shrisiddhahinguleshwara Rasa.

To study Pharmacodynamics of Shrisiddhahinguleshwar Rasa.

Table No. 1: Rasa, Guna, Viry and Vipaka of Shrisiddhahinguleshwara

Content	Rasa, Virya, Vipaka	Doshaghnata	Properties
Shuddha Hingula [4-5-6]	Tikta , kashaya, katu [4]	Kaphapittahara [4] Tridoshaghna [5]	Sarvarogaghna, Rasayana , Agnidipana [5], Jwaraghna , Dehakanti- bala- buddhivardhaka [6]
Shuddha Tankana [7]	Katu	Kaphavishleshaka, Vatamayanishudan, Pittahara	Ruksha, Ushna , Tikshna, Sarak , Balya , Hridya , Agnidipaka , Aadhmannashaka, Mudhagarbhapravartaka, Stripushpajanana [6].
Dhatura [8]	Kashaya , Madhura, Tikta , Ushna	Kaphaghna , Vatakara	Kandughna, Kushthaghna, Krumighna , Guru, Vishaghna , Jwaranashak .

Review & study of a Pharmacodynamic action of Shri siddha Hinguleshwara Rasa -

Nadigatiniyamak -

The Nadigatiniyamak action of the formulation can be understood through both Ayurvedic & Modern perspectives. In Ayurveda, disturbance in Nadi is primarily assigned to vitiation of Vyana vayu[3], often associated with pitta (Tachycardia) aggrevation or due to kapha avarana (Bradycardia) . Dhatura[8] owing to its ushna virya & kaphashamaka properties, regulates Vyana vayu, thereby stabilizing pulse rhythm. Hingula[5] acts as a Uttama rasayana, sarvarogaghna & sarvadoshaghna, potentiating action of other drugs at sukshma strotas level. Tankana [7] being ruksha, ushna, tikshna performs strotashodhana & removes kapha obstruction, facilitating proper conduction of Vyana vayu. Shunthi[9] with it's pachana & agniguna adhikya properties, eliminates Ama, Agnimandya & improves circulation. Mocharara[10] & Indrayava[11], due to their kashaya & sheeta guna, pacify pitta thereby preventing tachycardia. From a modern point of view, Dhatura exerts anticholinergic activity through muscarinic receptor (specifically M2) blockade leading to modulation of autonomic tone [12].Tankana may influence cellular excitability through electrolyte modulation. Hingula primarily enhances the overall bioactivity of the formulation. Thus, collectively the combination acts as an autonomic regulator achieving Nadigatiniyaman effect.

Jwara and Jwaratisara –

Jwaratisara is a condition where atisara occurs during jwara or jwara occurs during atisara due to agnimandya, ama formation, pitta (drava guna vruddhi) and vata prakopa[13] .The formulation acts through multiple pharmacodynamic mechanisms from both Ayurvedic and Modern perspectives. Shunthi [9] and Tankana[7] perform pachana, strotovishodhana correcting agnimandya while Dhatura reduces gastric secretions along with reduction in excessive intestinal motility[12]. Mocharasa[10] and Indrayava [11] due to their Kashaya and Grahi properties, decreases intestinal secretions and control fluid loss by pittashamana (drava guna reduced). Hingula [6] is specially indicated in Jwara as it causes agnivardhana by doing aampachan also enhances the efficacy of other drugs . From a modern perspective, Dhatura exhibits anticholinergic, antispasmodic actions[12]. Indrayava shows antimicrobial effects[14]. Mocharasa reduces excessive secretions. Tankana offers electrolyte modulation. Thus, the combination corrects Agni, regulates bowel motility, reduces secretions and effectively manages Jwara and Jwaratisara.

Krumisamhari –

Frequent intake of Madhura - Amla rasatmaka aahar, Ajirnashana, Viruddhashana, Drava guna adhikya aahar collectively results in Agnimandya which leads to Ama formation along with Kapha and Kledavardhana which creates a favourable environment for the development of krumi [15]. The formulation exerts krumighna action through both Ayurvedic & Modern mechanisms. Indrayava [11] acts as the principal krumighna drug by destroying intestinal parasites & reducing kapha- pitta dosha while Shunthi [9] & Tankana[7] perform amapachana, correcting the underlying agnimandya & creating an unfavourable environment for growth of krumi. Dhatura [8] due to its ushna, tikshna properties, aims at parasitic destruction & relieves associated colicky pain by regulating Vata dosha (Apana vayu). Mocharasa[10] being kashaya rasatmaka & grahi in nature, reduces excessive secretions, thereby reducing survival of parasites. Hingula being Rasayana enhancing the efficacy & bioavailability of formulation while strengthening host resistance (Rasayana)[5]. From a modern perspective, Indrayava shows antimicrobial activity[14]. Shunthi & Tankana exhibit digestive stimulant

effects. Dhatura provides antispasmodic effect[12] & Mocharasa offers astringent mucosal protection. Thus the combination achieves effective krumighna action by direct antimicrobial action through correction of agni & restoration of gastrointestinal physiology.

Koshthavataprashamana and Vatanulomana –

This aims at restoring the normal downward movement of Apana vayu & pacifying aggrevated Vata localized in koshtha. The formulation acts through integrated pharmacodynamic mechanism. Shunthi[9], by its ushna & pachana properties corrects agnimandya & promotes proper anulomana of vata. Dhatura[8], owing to it's ushna & tikshna nature, alleviates spasmodic pain & regulates excessive intestinal movement, thereby pacifying Koshthagata Vata. Tankana[7] works as a strotoshodhaka & removes Kapha avarana, results in balanced vata functioning. Indrayava[11] & Mocharasa[10] stabilizes the intestinal mucosa, reduce irritation & control excessive secretions. Hingula[5] being Rasayana, enhancing the potency & systemic action of formulation. From a modern perspective, Shunthi exhibits carminative prokinetic activity. Dhatura provides anticholinergic spasmolytic effects[12]. Tankana alters intestinal environment. Indrayava and Mocharasa exert anti-inflammatory & astringent actions[14]. Collectively, the formulation modulates gut motility, relieves spasm & restores co-ordinated bowel functions, thereby achieving effective Vatanulomana & Koshthavataprashamana.

DISCUSSION:

In the context of Nadigatiniyamana, the muscarinic M2 receptor is the principal cardiac muscarinic receptor, primarily located in the SA node, AV node, and atrial myocardium. When activated by vagal acetylcholine, decreases heart rate, slows AV conduction, and slightly reduces atrial contractility, thereby mediating parasympathetic (vagal) effects on the heart. Blockade of M2 receptors by antimuscarinic drugs like atropine present in Dhatura results in tachycardia. Thus, M2 receptors are central to autonomic regulation of cardiac rhythm[16]. Dhatura corrects bradycardia and Hingula being Rasayana supports rhythmic stability. So Hingula doesn't counter act the action of Atropine. Pertaining to Jwara and Jwaratisara, in Ayurvedic pathophysiology, Jwara is primarily described as a Amashayottha vyadhi and Atisara is considered a Pakvashayottha vyadhi. In the clinical entity Jwaratisara, Atisara manifests as an upadrava of Jwara. Pathogenetically, the disease process initially localizes in the Amashaya, where impaired Agni leads to the formation of Ama and vitiation of doshas. If not adequately managed, the morbid process progresses deeper into the gastrointestinal tract, extending from Amashaya to Pakvashaya . This downward progression results in involvement of the lower gastrointestinal tract, results in Atisara. Hence, early intervention is necessary to arrest the downward spread of pathalogy and prevent further complications. In this context, Shrisiddhahinguleshwara Rasa appears to exert a comprehensive action by targeting both the primary febrile pathology and it's gastrointestinal complication, thereby interrupting disease progression at multiple levels. In the therapeutic approach of Krumisamhari, co- administration of the formulation with appropriate sahapana assumes significant importance when the primary objective is to achieve a potent krumighna effect. The sahapana components act synergistically to enhance the antimicrobial efficacy of the main formulation and to support correction of underlying pathological environment. Among them, the Indrayava hold the principal role in exerting direct Krumighna action. Therefore, when targeting microbial infestations specifically, administration of the kalpa along with sahapana is therapeutically justified to ensure comprehensive and effective antimicrobial activity rather than prescribing the formulation alone. In correspondence with Koshthavataprashamana and Vatanulomana, the formulation demonstrates a comprehensive therapeutic action by correcting Agnimandya, promoting Amapachan, alleviating Kapha avarana and facilitating proper regulation and downward movement of Apana vayu. Though these mechanisms, it effectively contributes to Koshthavataprashamana and ensures physiological vatanulomana.

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