Review Article

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A REVIEW ON VATAVIDHVAMSANA RASA, AN AYURVEDIC HERBO-MINERAL PREPARATION

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ABSTRACT

Rasaushadhis or rasa yogas are a potent group of herbo-mineral formulations well documented in Ayurvedic classical treatises. Vatavidhvamsana Rasa is a well-known herbo-mineral Ayurvedic formulation mentioned in Yogaratnakara which is also quoted in Ayurvedic Formulary of India (AFI). Vatavidhvamsana Rasa is a widely used herbo-mineral preparation in India for various vata vyadhi diseases. There are no published research works regarding this formulation, so a comprehensive review of all available literature is needed. A thorough review was carried out by screening various Ayurvedic classical textbooks, Ayurveda Formulary of India and various research works. There is very little information regarding Vatavidhvamsana rasa in electronic and printed databases. Various references of Vatavidhvamsana Rasa from different books were compiled along with their variations of ingredients and quantity. While we consider the different formulations of Vatavidhvamsana rasa according to different textbooks, it is having broad-spectrum actions and is mainly used in vata vyadhis (diseases occurred due to vitiated vata). By analyzing the indications of various references, Vatavidhvamsana Rasa is having good analgesic property and can be used in pain management. Toxicity studies on Vatavidhvamsana rasa have not been published yet, but a thorough review of research papers on the toxicity of single ingredients showed that all of them were safe.

Keywords: Vatavidhvamsana Rasa, Herbo mineral, Ayurveda, Analgesic, pain management

INTRODUCTION

Rasaushadhis or rasa yogas are a potent group of herbo-mineral formulations well documented in Ayurvedic classical treatises. Toxic effect of various metals and minerals like mercury, copper, gold, iron, lead etc. were known to ancient scholars, so to resolve this issue they used different detoxification procedures to convert into therapeutically effective and safe dosage forms. It is observed that herbo-mineral complexes are more stable and have a longer shelf life. It is claimed in the Ayurvedic treatises that herbomineral formulations are more interactive compared to plain herbs because they produce faster therapeutic action.

Vatavidhvamsana Rasa[1] (VVR), is a well-known herbo-mineral Ayurvedic formulation mentioned in Yogaratnakara, written in the 18th century AD which is also quoted in Ayurvedic Formulary of India[2] (AFI). It contains metals and minerals like Mercury, Sulphur, Lead, Tin, Copper, Iron, Mica and *Aconitum chasmanthum* Staff. Ex. Holmes. It is indicated for Shoola (pain), Vata kapha diseases, Grahani (Irritable bowel syndrome), Sootikarogas (Post-partum pain syndromes) and Apasamara (epilepsy). The dose of the formulation is 250 mg daily internally with honey as Anupana (vehicle)[2]. There is no published research works to show the activity of this formulation, so a comprehensive reviewof all available literature also endeavours.

The literature review was carried out by screening various Ayurvedic classical textbooks, Ayurveda Formulary of India, research works published in Pub Med; Scopus indexed journals till august 2019. The keywords in our study were Ayurveda, herbomineral, iron, mercurial; bhasma, kajjali, loha, naga, tamra, abhraka, vatsanabha, soola, animal models and pain were used. Research papers on toxicity studies, analgesic effect and the anti-inflammatory effect of ingredients of Vatavidhvamsana rasa were also included.

Vatavidhvamsana rasa in various Ayurvedic textbooks

The first reference of Vatavidhvamsana Rasa is seen in Rasaratna samucchaya and the yoga is different from AFI. Vatavidhvamsana Rasa is a generic herbomineral formulation documented in Ayurveda Formulary of India (AFI). Most of the pharmacies prepare Vatavidhvamsana rasa as per the reference of AFI and is available in the form of fine powder and tablets. It is advised to be taken with honey in the dose of 250 mg daily. All the available references of Vatavidhvamsana Rasa and its details were explained in Table 1 in chronological order.

Method of preparation of Vatavidhvamsana Rasa

Preparation of Kajjali[12] (a combination of mercury and sulphur) is by grinding processed mercury and sulphur using mortar and pestle, till it attains a lusterless black fine powder form. Add one part each of Naga Bhasma, Loha Bhasma, Vanga Bhasma, Tamra Bhasma, Abhraka Bhasma, processed Tankana, Maricha powder and two parts each of Pippali powder, Shunthi powder is added to the Kajjali and triturated well using a Khalvayantra. After that 4 ½ parts of Shodhita Vatsanabha choorna was added and triturated well to form a uniform fine mixture. This is to be triturated three times each in the following ten media (Total trituration of 30

cycles): 1. Decoction of Trikatu, 2. Decoction of Triphala, 3. Decoction of Chitraka, 4. Juice of Bhringaraja, 5. Latex of Arka, 6. Juice of Nirgundi, 7. Juice of Tamalaki, 8. Decoction of Chandrasoora, 9. Decoction of Kushta and 10. Juice of Nimbu. Then the final product was dried in shade and stored in an airtight glass container.[2]

Dose and Anupana

The dose of Vatavidhvamsana Rasa is 250 mg (2 ratti) and the Anupana is honey[2].

Table 1: Comparison showing variation in Ingredients, Dose and Effect of Vatavidhvamsana rasa

Reference		Ingredients	Quantity	Triturating media	Effects	Dose
Rasa Ratna Samucchaya (13th Century AD[3]	1	Shodhita Parada (Processed Mercury)	1 part	7 times triturated in each of the following drugs: 1. Castor oil 2. Juice of *Citrus limon* (Linn.) Burm. f 3. Decoction of Panchakola[4] 4. Decoction of root of *Plumbago zeylanica* Linn. 5. Decoction of Varanaadigana[5] 6. Decoction of Dasamoola[6] 7. Juice of *Zingiber officinale* Roxb.	Jatharasoola (Stomachache), Adhmana (Abdominal Distension), agnimandhya (decreased digestive function), chardhi (Vomiting), grahani (Irritable bowel syndrome), swasa (dyspnea), kasa (Cough), krimiroga (Parasitic infection), sarvangasadana (generalized weakness), atisara (Diarrhea), tridoshaja diseases	1 Kolasthi (20-69 mg)
	2	Shodhita Gandhaka (Processed Sulphur)	6 part			
	3	Kamsya bhasma (Incinerated bronze)	3 part			
	4	Makshika bhasma (Incinerated Chalcopyrite)	5 part			
	5	Abhraka Bhasma (Incinerated Biotite)	2 part			
	6	Shodhita Taila (Processed Orpiment)	7 part			
	7	Tamra Bhasma (Incinerated copper)	4 part			
	8	Shodhita Vatsanabha (Processed *Aconitum Chasmanthum* Staff. Ex. Holmes)	16 part			
Rasendra Sara sangraha (16th Century AD)[7]		Same as RRS				
Basavarajeeyam (16th Century AD) [8]	1	Shodhita Parada	1 Part	3 times triturated in each of the following drugs: 1. Decoction of Trikatu[9] 2. Decoction of Triphala[9] 3. Decoction of *Plumbago zeylanica* Linn. 4. Juice of *Eclipta alba* Hassk. 5. Decoction of *Saussurea lappa* CB. Clarke 6. Juice of *Vitex negundo* Linn. 7. Decoction of *Cannabis indica* Lam. 8. Juice of *Zingiber officinale* Roxb. 9. Juice of *Citrus limon* (Linn.) Burm. f	Vatika Shoola (vatika pain), kaphaja diseases, Grahani (irritable bowel syndrome), Apasamara (epilepsy), agni Mandhya (indigestion), udara (Ascites), kushta (skin diseases), sootikavata roga (Post-partum pain syndrome)	2 Gunja (250 mg)
	2	Shodhita Gandhaka	1 Part			
	3	Vanga Bhasma (Incinerated Tin)	1 Part			
	4	Naga Bhasma (Incinerated Lead)	1 Part			
	5	Tamra Bhasma	1 Part			
	6	Loha Bhasma (Incinerated Iron)	1 Part			
	7	Abhraka Bhasma(Incinerated Biotite)	1 Part			
	8	Shodhita Tankana (Processed borax)	1 Part			
	9	Pippali (*Piper longum* Linn)	2 Parts			
	10	Shunthi (*Zingiber officinale* Roxb.)	2 Parts			
	11	Maricha (*Piper nigrum* Linn)	1 Part			
	12	Shodhita Vatsanabha (*Aconitum Chasmanthum* Staff. Ex. Holmes)	4 ½ Parts			
Brihat Yoga Tarangani (17th century AD)[10]	1	Shodhita Parada	1 Part	3 times triturated in each of the following drugs: 1. Decoction of Trikatu 2. Decoction of Triphala 3. Decoction of *Plumbago zeylanica* Linn. 4. Juice of *Eclipta alba* Hassk. 5. Decoction of *Saussurea lappa* C.B. Clarke 6. Juice of *Vitex negundo* Linn. 7. Latex of *Calotropis procera* (Ait.) R. Br. 8. Juice of *Phyllanthus niruri* Linn. 9. Decoction of *Lepidium sativum* Linn 10. Juice of *Citrus limon* (Linn.) Burm. f.	Same as Basavarajeeyam	
	2	Shodhita Gandhaka	1 Part			
	3	Vanga Bhasma	1 Part			
	4	Naga Bhasma	1 Part			
	5	Tamra Bhasma	1 Part			
	6	Loha Bhasma	1 Part			
	7	Abhraka Bhasma	1 Part			
	8	Shodhita Tankana	1 Part			
	9	Pippali (*Piper longum* Linn)	1 Parts			
	10	Shunthi (*Zingiber officinale* Roxb.)	1 Parts			
	11	Maricha (*Piper nigrum* Linn)	1 Part			
	12	Shodhita Vatsanabha (*Aconitum Chasmanthum* Staff. Ex. Holmes)	4 ½ Parts			
Yogaratnakara (18th century AD)[1] And Ayurveda Formulary of India (AFI)[2]	1	Shodhita Parada	1 Part	3 times triturated in each of the following drugs 1. Decoction of Trikatu 2. Decoction of Triphala 3. Decoction of *Plumbago zeylanic*a Linn. 4. Juice of *Eclipta alba* Hassk. 5. Decoction of *Saussurea lappa* C. B. Clarke 6. Juice of *Vitex negundo* Linn. 7. Latex of *Calotropis procera* (Ait.) R. Br. 8. Juice of *Phyllanthus niruri* Linn. 9. Decoction of *Lepidium sativum* Linn 10. Juice of *Citrus limon* (Linn.) Burm. f	Vatika Shoola (vatika pain), kaphaja diseases, Grahani (irritable bowel syndrome, sootikavata roga (Post-partum pain syndrome)	2 Gunja (250 mg)
	2	Shodhita Gandhaka	1 Part			
	3	Vanga Bhasma	1 Part			
	4	Naga Bhasma	1 Part			
	5	Tamra Bhasma	1 Part			
	6	Loha Bhasma	1 Part			
	7	Abhraka Bhasma	1 Part			
	8	Shodhita Tankana	1 Part			
	9	Pippali (*Piper longum* Linn)	2 Parts			
	10	Shunthi (*Zingiber officinale* Roxb.)	2 Parts			
	11	Maricha (*Piper nigrum* Linn)	1 Part			
	12	Shodhita Vatsanabha (*Aconitum Chasmanthum* Staff. Ex. Holmes)	4 ½ Parts			
Bhaishajya Ratnavali (19th century AD)[11]		Same as Reference of Rasa Ratna Samucchaya				

Table 2: Toxicity studies conducted on ingredients of Vatavidhvamsana rasa

Basic information	Test drug	Name of study	Duration of study	Dose and route of administration	Results
Snehasis biswas *et al* (2018)[16]	Kajjali	Neuro toxicity on Zebra fish model	5 days	Orally	No adverse effect on zebra fish model
Namrata joshi *et al* (2016)[17]	Loha Bhasma	Acute, Sub-acute toxicity	14 days	2000 mg/kg, 4.16 mg /kg Orally	Safe at TED and TED x 5 dose
C.Y. Jagtap *et al* (2013)[18]	Tamra Bhasma	Acute	14 days	2000 mg/kg	No mortality detected
Swapnil Y *et al* (2016)[19]	Tamra Bhasma	Sub chronic	28 days,	5.5 mg/kg	Safe at Therapeutic dose level
Pankaj Rai *et al* (2015)[20]	Abhraka bhasma	Acute toxicity	14 days	2000 mg/kg Orally	No mortality detected
S.L. Deore *et al* (2013)[21]	Vatsanabha	Acute toxicity	14 days	300 mg/kg processed vatsanabha Orally	No mortality detected

Safety aspects of Vatavidhvamsana rasa and its ingredients

Published safety profile works of Vatavidhvamsana Rasa is not available till now. So, we can analyze the toxicity profiles of various ingredients of Vatavidhvamsana Rasa with available published data. Charaka Samhita has mentioned different types of drugs based on nature, source, and formulations with their possible pharmacological action[13]. The main metals used in Ayurvedic formulations are mercury, gold, silver, lead, tin, zinc, iron and copper. Ayurvedic treatises explained the toxic symptoms of improperly prepared metallic preparations and their management with antidotes[14]. The various pharmaceutical process like purification (shodhana) and incineration (marana) reduce the toxicity and increase potency. These Bhasmas are tested according to their respective quality tests before being administered for treatment. Herbo mineral or organometallic formulations have potent therapeutic efficacy, and no toxicity issues are owing to their unique and repeated purification procedures employed during preparation[15]. However, lack of proper pharmacovigilance and widespread self-medication (as OTC products) has resulted in certain untoward effects to patients (Table 2).

DISCUSSION

Although toxicity studies on Vatavidhvamsana rasa have not been published yet, a thorough review of research papers on the toxicity of single ingredients of Vatavidhvamsana rasa showed that all of them were safe. So it may be appropriate to assume that the combination will also be safe.

Vatavidhvamsana rasa as described in Yogaratnakara/AFI is widely marketed and used. When analyzing the ingredients of the combination, most of the drugs are katu (pungent taste), tikta rasa (bitter), ushna virya (hot potency) and vata kapha shamana (decreases vitiated vata and kapha). The main ingredient vatsanabha[22] is having Shoola hara (analgesic) and yogvahi (catalyst) property. Vatsanabha is also indicated in different conditions like Gridhrasi (sciatica), Katishoola (low backache), Sira Shoola (Headache) etc. Yuanbin Zhang *et al* (2015)[23] and Santhosh verma *et al* (2010)[24] has documented the anti-inflammatory effect of aconitum in animal models. So Vatavidhvamsana rasa is a potent analgesic drug which can be used in different types of pains and also in sootikavata roga (Post-partum pain syndrome). Tankana (Borax) is the antidote of vatsanabha which is included in the combination to have a balancing effect. Piyush S Bafna *et al* (2018)[25] has also documented the anti-inflammatory effect of tamra bhasma *in vivo*. Most of the drugs also can increase agni (digestive fire) thereby it is effective in grahani. The bhavana drugs used are deepana and pachana in nature. Certain drugs like chitraka[26], kushta[27], chandrsoora[28], nirgundi[29] and trikatu[30] are known to be having soolahara (analgesic) property. Altogether while we analyze the combination it is a very good analgesic drug. Honey which is having yogvahi property is used as the vehicle.

In Rasaratna Samucchaya reference, vatsanabha[31], haritala[32] and gandhaka[33] are the main ingredients which are having katu rasa (pungent taste) and are also deepana (increase digestive fire) in nature. Makshika bhasma and kamsya bhasma are vatakaphahara and deepana in nature. Among the bhavanadravyas, eranda taila and dasamoola[6] are vatanulomana. Panchakola[4], chitraka[26] and varanadi gana[5] are deepana and vatakapha shamana in nature. Most of the diseases indicated by Rasaratna samucchaya are having agnimandya as a background like in adhmanam, anaham, udaram, gulma, swasa, kasa etc. and which also require anulomana. This combination, owing to its ingredients, is capable of increasing agni as well as produce anulomana to vata dosha. The combination explained in Basavarajeeyam is indicated for Apsmara (epileptic disorders) also. It may be due to the presence of bhang (*Cannabis sativum* Linn.)[34] used as bhavanadravya, a proven antiepileptic drug.

CONCLUSION

There is very little information regarding Vatavidhvamsana rasa in electronic and printed databases. While we consider the different formulations of Vatavidhvamsana rasa according to different textbooks, it is having broad-spectrum actions and is mainly used in vata vyadhis (diseases occurred due to vitiated vata). The combination by Yogaratnakara is used widely nowadays, which is having an analgesic effect as mentioned above. The indications described point out to the fact that this combination of Vatavidhvamsana rasa is effective in musculoskeletal, post-traumatic/surgical and visceral pain.

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