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Vatsanabha (*Aconitum ferox* Wall. ex Seringe): A known *Visha* but potent medicine W.S.R. *Rasa Ratna Samuchchaya*

Review Article

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Abstract

Ayurveda is an ancient science dominantly focuses on healthy living and mindful life in contrary to other medical sciences. *Ayurveda* specifically uses herbs and herbo-mineral combinations for the treatment. The herbs described in the classics also include some *Vishadravya* (poisonous plants) as potent medicine. Anything that results in "*Vishannatva*" (stress) or "*Vishada*" (sadness) in the body is "*Visha*" (poisonous material). Depending on the intensity of toxicity, *Ayurvedic* classics have classified all poisons into two categories: *Mahavisha* and *Upavisha* (less potent toxin). *Vatsanabha* (*Aconitum ferox* Wall. ex Seringe) is classified under the *Sthavara Visha* (poison of plant origin) and *Mahavisha*. It is the only *Mahavisha* that is still recognised and available. All *Vishadravya* should be used after some specific *Shodhana* (purification). While administering *Vatsanabha* in the form of *Ayurvedic* medicines, *Shodhana* (purification) is an effective technique for minimising its hazardous effects. Although it is *Vishadravya,* the compounds containing *Vatsanabha* (*Aconitum ferox* Wall. ex Seringe) are listed in 'Essential *Ayurveda* Medication for *Ayurvedic* dispensaries, operated under centrally supported programmes of the Government of India. This enlistment affirms its significance in other ways. Nearly 17 percentage of the formulations mentioned in *RRS* have *Vatsanabha* as their constituent. Modern research has already proven the analgesic, antipyretic, antioxidant, antimicrobial and many other activities of *Vatsanabha*. Thus, the present review is designed to extensively discuss and understand the safety profile of *Vatsanabha* and utility in various diseases, along with its probable mode of action.

Keywords: *Aconitum ferox* Wall. ex Seringe, *Mahavisha*, *Rasa Ratna Samuchchaya, Vatsanabha, Vishadravya*.

Introduction

Anything that results in "*Vishannatva*" (stress) or "*Vishada*" (sadness) in the body is "*Visha*" (poisonous material) (1). Notwithstanding their documented negative effects, *Visha dravya* (poisonous medications) are employed in many *Ayurvedic* formulations because of their fast effectiveness and generally minor dosage. *Acharya Charaka* quotes that, if used correctly, even an acute poison can turn into a great medication. On the other hand, even a medicine can quickly turn poisonous if it is not used as directed. (2) Among all the *Mahavisha*, *Vatsanabha* has its own importance. It is the only *Mahavisha* that is still recognised and available. Compounds containing *Vatsanabha* are enlisted as essential medications for *Ayurveda* dispensaries operated under centrally supported programmes of the government of India (3). *Vatsanabha* is a member of the Ranunculaceae family, having the latin name *Aconitum ferox* Wall. ex Seringe. It is a biennial herb with a tuberous root. It has acquired its own place in Ayurvedic treatises for centuries. It is a plant with strong therapeutic potential. Several traditional Ayurvedic treatises heavily rely on its roots. As the plant is listed among the poisonous plants, many early Ayurvedic pharmacopoeias therefore outlined a purification procedure for aconite root that claimed to minimise the harmful effects without jeopardising its therapeutic benefits. So, if all the phases in the *Shodhana* process are correctly followed, aconite roots get completely detoxified. The aconite concentration in the fresh plant ranges from 0.3% to 2.0% in the tubers of *Aconitum ferox* Wall. ex Seringe and from 0.2% to 1.2% in the leaves. The tuber of this plant contains 0.4-0.8% diterpene alkaloids (4). There are a number of significant alkaloids present in it, notably aconitine, pseudaconitine, bikhaconitine, diacetyl pseudaconitine, aconine, picroaconine, veratryl pseudaconitine, chamaconitine, and veratryl gama aconine (5).

Rasa Ratna Samuchchaya (RRS), a 13th-century C.E. treatise authored by *Rasavagbhata*, is a constructive compendium mentioning the preparation and properties of drugs of mineral and metallic origin in its initial chapters. Later, this text throws light on the treatment of numerous diseases by using herbal and mineral preparations. It comprises thirty chapters, among which, from the twelfth to the twenty-seventh chapter, treatment of diseases, including pathology, classifications, and symptoms in brief, as well as descriptions of several practical formulations in depth, are discussed, in which *Vatsanabha* is indicated in multiple formulations (approximately 17%).

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The twenty-ninth chapter is especially noteworthy because it is totally dedicated to the use of *Vatsanabha Kalpa* (preparations made from *Aconitum ferox* Wall. ex Seringe) to treat a variety of ailments. Despite being a poison, *Vatsanabha* is an ingredient in many commonly used herbo-mineral formulations, like *Mrityunjaya Rasa, Pratapalankeshwara Rasa, Anandabhairava Rasa*, etc. Total 180 pharmaceutical formulations mentioned in RRS contain *Vatsanabha* as one of their ingredients. It is used in the treatment of different ailments, including *Jwara* (fever), *Kasa* (cough), *Shwasa* (dyspnoea), *Kshaya* (life-deteriorating disease), *Arsha* (haemorrhoids), *Ajeerna* (indigestion), *Kushtha* (Multiple dermatological diseases), *Jalodara* (ascites), and many others. The aim of the present study is to enumerate all the formulations from RRS that contain *Vatsanabha* as an ingredient with the goal of identifying all possible therapeutic effects in a wide array of diseases, along with the safety profile of *Aconitum ferox Wall.* ex Seringe. This exercise will also provide information about recent experimental and clinical studies that prove the classical claims about the use of *Vatsanabha.*

Aims and Objectives

- To enlist formulations of *Vatsanabha* indicated for various disorders from RRS.
- To screen the formulations in order to assess the probable mode of action of *Vatsanabha* in them.
- To scrutinise changes in the phytochemical composition of *Aconitum ferox* ex Seringe before and after *Shodhana* (purification) and conclude its safety profile.
- To compare the activity of *Vatsanabha* mentioned in traditional treatises with modern scientific studies accomplished in vivo and in vitro.

Materials and Methods

Various classics of *Ayurveda* were reviewed to analyse the therapeutic aspects of *Vatsanabha*. Material related to it was collected from RRS as main literature. Being a comprehensive compendium of various formulations, it is screened disease-wise for different formulations that contain *Vatsanabha*. RRS was scrutinised along with its commentaries for the conceptual study. Other ayurvedic treatises like *Bhavaprakasha Nighantu* and *Dravyaguna Vigyana*, *Ayurveda Prakasha, Rasatarangini, Yogaratnakara, Charaka samhita, Sushruta samhita, Ashtanga samgraha, Madhavanidana* and books of modern toxicology were also examined for their basic information. Additionally Google Scholar, PubMed, Research Gate and Scopus, like online search engines were accessed for recent research and additional information. The discussion was made on the basis of the conceptual study and the conclusion was established after taking the results and discussion into account.

Safety profile of *Vatsanabha*

Vatsanabha is poisonous in its crude form, while *Shodhita* Vatsanabha (purified) is non-poisonous. *Rasavagbhata* describes the negative repercussions of using crude within the same treatise. Throughout the Ayurvedic literature, *Vatsanabha* is warned before being consumed internally. It has been reported that aconite-based Ayurvedic medicines can cause adverse drug reactions (ADR) such as hypotension and bradycardia (6, 7). The ancient *Acharya* masterfully developed the *Shodhana* technique to offer excellent therapeutic efficacy. These processes prove their effectiveness over crude drugs. *Shodhana* is a potential strategy for reducing the negative effects of aconite while using it in the form of Ayurvedic medications. Research has shown that traditional purifying techniques (*Shodhana*) are safer than contemporary chemical purification techniques. (7) Table No. 1 focuses on the *Shodhana* procedures (purification methods) of *Vatsanabha* that have been studied so far, with details of the *Shodhana* procedure and phytochemical changes after *Shodhana.*

Table 1: *Shodhana* (purification) methods with their safety profiles and phytochemical changes after *Shodhana*

No.	*Shodhana* (Purification) method	Type of study	Changes after *Shodhana*
1	Small pea-sized root pieces of *Aconitum ferox* Wall. ex Seringe were kept in cow urine for 7 days in an earthen pot. Cow urine was changed every day and the pot was kept in sunlight. After washing it in cold water, the top layer was removed and washed with warm water. As soon as possible, the drug fragments were dried by placing them in the sun. The dried pieces were ground into powder. (7)	In-vitro	According to TLC research, traditional Ayurvedic *Shodhana* is the unique method by which pseudoaconitine and aconitine are transformed into the much less poisonous compounds veratroyl pseudoaconine and benzoylaconine, respectively (7).
2	*Aconitum ferox* Wall. ex Seringe root was washed and dipped into a pot filled with *Gomutra* (cow urine) for 3 days; cow urine was changed every day. Then *Vatsanabha* root was washed with hot water, and its external layer was removed with the help of a knife and cut into chips. The chips were then dried in the sun and ground into a fine powder. (8)	In-vitro	The total alkaloid content in *Ashuddha* (crude) *Vatsanabha* was 0.45% w/w, and after *Shodhana*, it was decreased to 0.08% w/w, which was 512 times less than *Ashuddha* (unpurified) *Vatsanabha*. (8)
3	*Aconitum ferox* Wall. ex Seringe, root, was boiled for two days for seven hours each in a row in two parts of cow urine. The root was then properly rinsed with water and again boiled for seven hours per day for two days with two parts cow milk. It was then rinsed with lukewarm water. The processed root was then chopped into pieces, dried, and crushed. (9)	In-vivo	Purified (*Shodhita) Vatsanabha* was found to be non-toxic. Mice had normal muscle tone, power, coordination, and balance; none of them died even at a dose of 20.8 mg/mouse. (9)

Observations and Results

Rasavagbhata authored the classic text *RRS* between 1300 and 1400 AD. It encompasses 30 chapters. This review mainly focuses on *Chikitsasthana* and *Kalpasthana*. Here, the whole book was screened thoroughly to find formulations containing *Vatsanabha.* A total of 180 formulations have been found that contain *Vatsanabha*. Out of them, the maximum number of formulations, i.e. 28 is found in '*Visarpashwitrakushthadi Roga Chikitsa'*, and following it, 17 formulations are found in '*Udavarta Roganidana Chikitsa'*. In RRS, a distinct chapter titled "*Vishakalpa*" is described, which is entirely devoted to formulations with *Vatsanabha*. The chapter implies that even poison, when used in the appropriate dosage, operates as great medication, while an excessive dose of even medicine will act as a poison. Within just this one chapter, approximately 75 different *Vatsanabha* formulations are discussed. The given chapter provides an explanation of how various ailments can be treated using various physical forms of *Vatsanabha* formulations.

In RRS, there are around 1050 formulations in total and 180 of those contain *Vatsanabha,* which suggests that about 17% of the formulations indicated in RRS contain *Vatsanabha.* Formulations that have *Vatsanabha* in them, their therapeutic indication (*Rogadhikara*), along with dosage, are discussed below in Table No. 2.

Table 2: Details of formulations containing *Vatsanabha* mentioned in RRS (10) (arranged in alphabetical order)

Sr. no.	Formulation name	*Rogadhikara* (Therapeutic indication)	Dose	References
1	*Agnijanani Vati*	*Mandagni* (Subdued digestive fire, metabolic disorder)	-	Chapter.16/153
2	*Agnikumara Rasa*	*Grahaniroga* (Chronic diarrhoea with malabsorption of nutrients)	-	Chapter.16/110-112
3	*Agnikumara Rasa*	*Mandagni* (Subdued digestive fire, metabolic disorder), *Jwara* (Fever), *Vataroga, Kshayaroga*	-	Chapter.18/178-195
4	*Agnikumara Rasa*	*Agnimandya* (Subdued digestive fire, metabolic disorder)	*1 Ratti* (125 mg) (11)	Chapter.18/152-158
5	*Agnikumara Rasa*	*Grahaniroga* (Chronic diarrhoea with malabsorption of nutrients)	*1 Masha* (1 g) (11)	Chapter.16/43-44
6	*Agnimukha Dwiteeya Rasa*	*Gulmashoola* (pain due to lumps or growth)	*8 Gunja* (1 g)	Chapter.18/129-131
7	*Agnimukha Rasa*	*Vatikashoola*	*Chanakamatraka*	Chapter.18/96-101
8	*Ajeerna Kantaka Rasa*	*Ajeerna* (indigestion), *Visuchika* (acute, severe gastroenteritis)	*3 Gunja* (375 mg)	Chapter.16/104-106
9	*Ajeerna Doshamruta Vati*	*Ajeerna* (indigestion), *Kaphavikara, Vatavikara*	-	Chapter.16/146
10	*Anandbhairava Rasa*	*Tridoshaja Atisara* (Diarrhoea)	*½ - 1 Gunja* (62.5 mg -125mg)	Chapter.16/7-9
11	*Apachi Gandamala Nashaka Yoga*	*Apachi, Gandamala*	-	Chapter.24/64-65
12	*Arshoghni Vati*	*Arsha* (haemorrhoids), *Shoola* (pain)	*3 Gunja* (375 mg)	Chapter.15/24-27
13	*Bhairavanathi Panchamruta Parpati*	*Kshaya* (life deteriorating diseases like tuberculosis)	*1 Gunja* (125 mg) (11)	Chapter.24/80-93
14	*Bhutankusha Rasa*	*Vataja Kasa, Pittaja Kasa, Shwasa* (dyspnoea), *Kshaya*	*1 Masha* (1 g)	Chapter.13/33-35
15	*Bolabaddha Rasa*	*Shwasa* (dyspnoea), *Pandu*	-	Chapter.13/36-38
16	*Chandabhairava Rasa*	*Unmada* (Psychosis)	-	Chapter.23/25
17	*Charmakushtha Parpati Rasa*	*Kushtha* (Multiple dermatological diseases)	-	Chapter.20/202
18	*Chintamani Rasa*	*Gulma, Adhmana*	*1 Valla* (375 mg) (12)	Chapter.18/105-109
19	*Dipakagni Kumara Rasa*	*Mandagni* (Subdued digestive fire, metabolic disorder)	*1 Nishka* (4 g) (13)	Chapter.16/142-155
20	*Dhumasaradi Shadanga Prayoga*	*Amavata* (Polyarthitis due to *ama*)	*2 Gunja* (250 mg)	Chapter.21/163
21	*Dwiteeya Svachhandabhairava Rasa*	*Vatavikara*	*2 Gunja* (250 mg)	Chapter.21/117-118
22	*Gagangarbhavati Rasa*	*Kaphaja Vyadhi*	*1 Nishka* (4g)	Chapter.21/125-126

23	*Gajakeshari Rasa*	*Atisara* (Diarrhoea)	*1 Valla* (375 mg)	Chapter.16/68-78
24	*Gandhashmagarbha Rasa*	*Sparshavata*	*1-2 Valla* (375 mg - 750 mg)	Chapter.21/23-27
25	*Gunjadi Lepa*	*Apachi* (cervical and axillary lymphadenitis), *Granthi, Arbuda, Shlipada*	-	Chapter.24/144
26	*Hikkanashana Rasa*	*Hikka* (hiccups), *Kasa* (cough)	-	Chapter.13/66-67
27	*Jeernajwarari Rasa*	*Jeernajwara* (chronic fever)	*2 Gunja* (250 mg)	Chapter.12/145-148
28	*Jeevana Rasa*	*Ajeerna* (indigestion), *Kaphavikara, Vatavikara, Kamala* (jaundice)	-	Chapter.16/149-151
29	*Kachandhya Nashaka Anjana*	*Kacharoga* (eye disorder)	-	Chapter.23/84
30	*Kalavidhvansana Rasa*	*Pandu*	*1 Ratti* (125 mg)	Chapter.19/45-53
31	*Kameshwara Rasa*	*Shotha, Pandu*	*Badarasthi Pramana* (500 mg) (14)	Chapter.19/98-101
32	*Kanakasundara Rasa*	*Mandagni* (Subdued digestive fire, metabolic disorder), *Jwara* (fever), *Atisara* (diarrhoea)	*Chanakamatraka Vataka*	Chapter.1645-47
33	*Kanakasundar Rasa*	*Kaphaja Kushtha* (Multiple dermatological diseases)	*1 Ratti* (125 mg)	Chapter.20/36-38
34	*Kaphakushthahara Rasa*	*Kaphaja Kushtha* (Multiple dermatological diseases)	*1 Gunja* (125 mg)	Chapter.20/11
35	*Kshara Vati*	*Gulma, Shoola* (pain), *Grahaniroga* (Chronic diarrhoea with malabsorption of nutrients), *Mandagni* (Subdued digestive fire, metabolic disorder)	*1 Gunja* (125 mg)	Chapter.18/161-163
36	*Ksharatamra Rasa*	*Vatashoola*	*1 Valla* (375 mg)	Chapter.18/122-124
37	*Kushmandavaleha*	*Amlapitta* (hyperacidity)	-	Chapter.18/211
38	*Kushthakuthara Rasa*	*Sarvakushtha* (Multiple dermatological diseases)	*Chanakapramana*	Chapter.20/46-49
39	*Kushthantaka Parpati Rasa*	*Gajacharma* (Multiple dermatological diseases)	*1 Masha* (1 g)	Chapter.20/132-134
40	*Kuthara Rasa*	*Sannipatikajwara* (fever due to vitiation of *Tridosha*)	*1 Valla* (375 mg)	Chapter.12/123-129
41	*Mahajwarankusha Rasa*	*Vishamajwara* (fever)	*2 Gunja* (250 mg)	Chapter.12/38-41
42	*Mahataleshvara Rasa*	*Sannipatika Vyadhi, Vata Vyadhi*	*1 Ratti – 1 Masha* (125 mg – 1g)	Chapter.20/30-35
43	*Mahaveera Rasa*	*Kshaya, Kasa* (cough), *Grahaniroga* (Chronic diarrhoea with malabsorption of nutrients), *Atisara* (diarrhoea)	-	Chapter.14/69-72
44	*Mahodaya Pratyayasara Rasa*	*Sarva Arsha* (haemorrhoids), *Kshaya, Kushtha, Mandagni* (Subdued digestive fire, metabolic disorder), *Adhmana, Grahaniroga* (Chronic diarrhoea with malabsorption of nutrients)	-	Chapter.15/37-45
45	*Medinisara Rasa*	*Kushtha* (Multiple dermatological diseases), *Shwitra* (skin disease with morbid white patches on skin) , *Gulma, Hikka* (hiccups), *Shoola* (pain), *Udararoga* (Generalized abdominal enlargement due to ascites or other localized reason)	*1 Valla* (375 mg)	Chapter.20/98-104
46	*Meghanadadi Udvartana*	*Gajacharma Kushtha* (Multiple dermatological diseases)	-	Chapter.20/203
47	*Mritasanjeevana Rasa*	*Visharoga* (poisoning)	-	Chapter.25/116
48	*Mritasanjeevana sutikabharana Rasa*	*Sannipatika Jwara* (fever)	-	Chapter.12/70-89
49	*Mrityunjaya Rasa*	*Jwara* (fever)	-	Chapter.12/42
50	*Mrityunjaya Rasa*	*Navajwara* (fever), *Sannipatika Jwara* (fever)	*2 Valla* (750 mg)	Chapter.12/102-103

51	*Mrityunjaya Rasa (Dwiteeya)*	*Sannipatika Jwara* (fever)	-	Chapter.12/123-128
52	*Mustadi Churna*	*Grahaniroga* (Chronic diarrhoea with malabsorption of nutrients)	-	Chapter.16/99
53	*Neelakantha Rasa*	*Sarvaroga* (all diseases)	-	Chapter.13/60
54	*Paittika Kushthahara Rasa*	*Paittika Kushtha* (Multiple dermatological diseases)	*Badarasthi Pramana* (500 mg)	Chapter.20/9-10
55	*Panchamrita Rasa*	*Rajayakshma* (Consumption disorder complex, diminution of structural components)	*2 Gunja* (250 mg)	Chapter.14/27-29
56	*Panchavaktra Rasa*	*Sannipatika Jwara* (fever)	*2 Gunja* (250 mg)	Chapter.12/104-105
57	*Pandupankashoshana Rasa*	*Pandu*	*2 Ratti* (250 mg)	Chapter.19/74
58	*Parahita Rasa*	*Kushtha* (Multiple dermatological diseases)	*1 Valla- 4 Valla* (375 mg -1500 mg)	Chapter.20/64-69
59	*Prameha Udayabhaskara Rasa*	*Prameha* (Lifestyle disorders like diabetes)		Chapter.17/97-106
60	*Pratapalankeshwara Rasa*	*Sannipatika Jwara* (fever, *Gulma, Vatavikara, Grahaniroga* (Chronic diarrhoea with malabsorption of nutrients)	*Tandulakriti Gutika*	Chapter.12/111-114
61	*Rajashekhara Rasa*	*Mandagni* (Subdued digestive fire, metabolic disorder), *Mahajwara* (fever*) Arsha, Pandu, Udararoga* (Generalized abdominal enlargement due to ascites or other localized reason)	-	Chapter.16/139-140
62	*Rasendra Chudama ni Rasa*	*Kamavardhaka*	*2 Masha* (2 g)	Chapter.27/94
63	*Sannipata Gajankusha Rasa*	*Sannipatika Jwara* (fever)	*1 Nishka* (4 g)	Chapter.12/94-96
64	*Sannipata Kushthahara Rasa*	*Sannipataja Kushtha* (Multiple dermatological diseases)	*Badarasthi Pramana* (500 mg)	Chapter.19/12-13
65	*Sarpavishahara Devadarvyadi Rasa*	*Visharoga* (poisoning)	-	Chapter.25/118
66	*Sarvalokashraya Rasa*	*Arsha* (haemorrhoids), *Pandu, Yakshma, Vataja Shoola* (pain)	*2 Gunja* (250 mg)	Chapter.15/11-18
67	*Sarvangasundara Chintamani Rasa*	*Sannipatika Jwara* (fever)	*1 Gunja* (125 mg)	Chapter.12/58-67
68	*Sarvaroga Rasa*	*Grahaniroga* (Chronic diarrhoea with malabsorption of nutrients), *Visuchika* (acute, severe gastroenteritis*), Adhmana, Arsha* (haemorrhoids), *Shwasa* (dyspnoea), *Kasa* (cough)	*Chanakamatra Vataka*	Chapter.16/57-67
69	*Sarvarogantaka Vati*	*Mandagni* (Subdued digestive fire, metabolic disorder)	*Marichapramana Vati* (weighing Approx. equal to one black pepper)	Chapter.16/154-156
70	*Sarvavatari Rasa*	*Vataroga, Ashtagulma, Mandagni* (Subdued digestive fire, metabolic disorder), *Shoola* (pain), *Udararoga* (Generalized abdominal enlargement due to ascites or other localized reason), *Adhmana*	*2 Valla* (750 mg)	Chapter.21/89-95
71	*Sarveshvara Rasa*	*Vidradhi* (abscess), *Kshaya* (life deteriorating diseases like tuberculosis), *Pandu, Gulma*	*2 Ratti* (250 mg)	Chapter.18/2-16
72	*Sarveshvara Rasa*	*Prasupta Kushtha* (Multiple dermatological diseases)	*1 Gunja* (125 mg)	Chapter.20/18-19
73	*Sarveshvara Rasa*	*Kushtha* (Multiple dermatological diseases)	*1 Gunja* (125 mg)	Chapter.20/138-143
74	*Shadanga Rasayana*	*Vriddhavastha*	-	Chapter.26/28
75	*Sheetari Rasa*	*Sheetavata*	*½-1 Valla* (187.5 mg – 375 mg)	Chapter.21/9-11

76	*Shighraprabhava Rasa*	*Grahaniroga* (Chronic diarrhoea with malabsorption of nutrients), *Atisara* (diarrhoea), *Adhmana, Mandagni* (Subdued digestive fire, metabolic disorder)	*½ Nishka (2 g)*	Chapter.16/79-84
77	*Shiladi Lepa*	*Kandu, Vrana, Sphota, Vidradhi*	-	Chapter.20/209
78	*Snuhyadi Tail*	*Khalitya* (hair loss)	-	Chapter.24/91
79	*Sarveshwara Rasa*	*Sparshavata*	*1 Gunja* (125 mg)	Chapter.21/13-16
80	*Suchimukha Rasa*	*Sannipatika roga*	*1 Gunja* (125 mg)	Chapter.12/92-93
81	*Sudhasara Rasa*	*Atisara* (diarrhoea)	-	Chapter.16/10-18
82	*Suptakushthari Rasa*	*Suptakushtha* (Multiple dermatological diseases)	-	Chapter.20/20
83	*Surya Rasa*	*Kasa* (cough)	-	Chapter.13/64
84	*Suryaprabha Gutika*	*Mandagni* (Subdued digestive fire, metabolic disorder)		Chapter.19/30-32
85	*Svachhandabhairava Rasa*	*Vatarakta*	*2 Valla* (750 mg)	Chapter.21/114-116
86	*Trailokyasundara Rasa*	*Vatodara*	*2 Gunja* (250 mg)	Chapter.19/14-18
87	*Trailokyavijaya Churna*	*Sarvakushtha* (Multiple dermatological diseases)	*1 Nishka* (4 g)	Chapter.20/130-131
88	*Tripurantaka Rasa*	*Tridoshaja Kushtha* (Multiple dermatological diseases)	*Badarasthi Pramana* (500 mg)	Chapter.20/40-42
89	*Tvagvataghna Ghritam*	*Tvakvikara* (Multiple dermatological diseases), *Vatavikara*	-	Chapter.21/157-158
90	*Udaraghna Rasa*	*Udararoga* (Generalized abdominal enlargement due to ascites or other localized reason)	-	Chapter.19/3
91	*Umaprasadana Rasa*	*Chaturthika Jwara* (fever), *Triratra Jwara, Sheeta Jwara*		Chapter.12/50-53
92	*Vadavamukhi Guti*	*Kapharoga, Gulma*	*1 Gunja* (125 mg)	Chapter.16/127-128
93	*Vadavanala Gutika*	*Shoola* (pain), *Krimi, Vishamagni, Mandagni, Grahaniroga* (Chronic diarrhoea with malabsorption of nutrients), *Gulma, Arsha* (haemorrhoids), *Udara* (ascites), *Vatakaphavyadhi*	*Marichapramana* (weighing Approx. equal to one black pepper)	Chapter.18/149-151
94	*Vadavanala Rasa*	*Vatakapha Vikara, Daha* (burning)	-	Chapter.21/66-69
95	*Vaishwanara Rasa*	*Jalodara* (ascites)	-	Chapter.19/24-26
96	*Vajradi Vartika*	*Karna Roga* (ear diseases)	*3 Ratti* (375mg)	Chapter.24/2-3
97	*Vajrashekhara Rasa*	*Kushtha* (Multiple dermatological diseases)	*1 Masha* (1 g)	Chapter.20/50-55
98	*Vajratailam*	*Kushtha* (Multiple dermatological diseases)	-	Chapter.20/177-180
99	*Vardhamana Rasa*	*Vandhya Roga* (Infertility)	-	Chapter.22/30-40
100	*Vatagajankusha Rasa*	*Vatavikara*	*2 Gunja* (250 mg)	Chapter.21/127-128
101	*Vatavidhvansaka Rasa*	*Vataroga, Maharoga , Ashtagulma, Jwara, Atisara, Shoola*	*Badarasthi Pramana* (500 mg)	Chapter.21/96-107
102	*Vijaya Rasa*	*Saptakushtha* (Multiple dermatological diseases)	-	Chapter.20/14-17
103	*Vijaya Vatika*	*Shotha, Pandu*	*Badarasthi Pramana* (500 mg)	Chapter.19/87-91
104	*Vishadi Anjana*	*Timira* (eye disorder)	-	Chapter.23/76
105	*Vishadi Lepa*	*Granthi*	-	Chapter.25/11
106	75 formulations(formulation 106-180) are mentioned in *Vishakalpa* chapter			Chapter.29

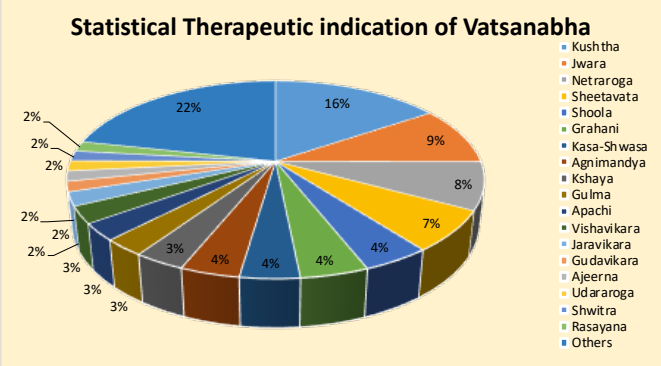
Table No. 2 contains a total of 105 formulations containing *Vatsanabha* as a constituent. While remaining 75 formulations are described in the *Vishakalpa* chapter alone, which is purely dedicated to formulations of *Vatsanabha*. In the above table, one *Ratti* or *Gunja*, one *Masha*, one *Valla*, and other specific doses are mentioned in various formulations. Nonetheless, in some formulations, dosage is mentioned

in approximate units like Maricha (weighing approx. equal to one black pepper), Chanaka (weighing Approx. equal to one chickpea), etc. For the precise dosing of such compositions, the scientific establishment of these dosages in gravimetric form is critically required. Routes of administration of formulations are indicated according to the necessity of diseases: *Nasya* is indicated in *Shirashoola* (headache), *Palitya* (greying of hair), and other *Urdhvajatrugata Vikara*; *Anjana* (collyrium) is indicated in *Netraroga* (eye disorders); *Lepa* is advised in *Kushtha* (Multiple dermatological diseases); and internal usage is suggested in other diseases like *Jwara*. These particular routes of administration are crucial as they improve the effectiveness of formulation and facilitate constituents reaching their intended site in the body. Table No. 3 and Figure No.1 show the disease-wise therapeutic dominance of *Vatsanabha* and its percentage, respectively.

Table 3: Disease-wise Therapeutic Dominance of Vatsanabha

Sr.no.	Name of disease	Total formulations having *Vatsanabha*	Approximate Percentage of formulation
1	*Kushtha* (Multiple dermatological diseases)	28	15.55%
2	*Jwara* (fever)	17	9.44%
3	*Netraroga* (diseases of eye)	14	7.77%
4	*Sheetavata*	12	6.66%
5	*Grahaniroga* (Chronic diarrhoea with malabsorption of nutrients)	8	4.44%
6	*Shoola* (pain)	8	4.44%
7	*Shwasa* (dyspnoea), *Kasa* (cough), *Hikka* (hiccups)	7	3.88%
8	*Agnimandya* (loss of appetite)	7	3.88%
9	*Kshaya, Rajayakshma*	6	3.33%
10	*Gulma* (Lumps or growths that are stable or transitory in abdomen)	5	2.77%
11	*Apachi (*Cervical and axillary lymphadenitis)	5	2.77%
12	*Vishavikara* (diseases due to poisoning)	5	2.77%
13	*Jaravikara* (geriatric diseases)	4	2.22%
14	*Gudaja Roga* (anal diseases)	3	1.66%
15	*Ajeerna* (indgestion)	3	1.66%
16	*Udararoga* (generalized abdominal enlargement due to ascites or other localized reason)	3	1.66%
17	*Shwitra* (skin disease with morbid white patches on skin)	3	1.66%
18	As a *Rasayana* (rejuvenative therapy)	3	1.66%
19	*Atisara* (diarrhoea)	2	21.66%
20	*Sarvaroga* (All diseases)	2	
21	*Pandu*	2	
22	*Shotha* (oedema)	2	
23	*Vandhyavikara* (infertility)	2	
24	*Khalitya* (loss of hair)	2	
25	*Ashmari* (urinary calculus)	2	
26	*Vicharchika* (skin disease with excessive exudation*)*	2	
27	*Daha* (burning sensation)	2	
28	*Mukharoga* (diseases of oral cavity)	2	
29	*Prameha* (polyurea)	1	
30	*Vidradhi* (abscess)	1	
31	*Amlapitta* (hyperacidity)	1	
32	*Unmada* (psychosis)	1	
33	*Karnaroga* (disease of ear)	1	
34	*Gandamala* (scrofula)	1	
35	*Raktapitta* (haemorrhage from external and internal orifices, bleeding disorders)	1	
36	*Chhardi*(vomiting)	1	
37	*Mutrakrichhra* (difficulty in micturation)	1	
38	*Pliharoga*	1	
39	*Mudhagarbha* (obstructed foetal presentation)	1	
40	*Buddhivikara*	1	
41	*Nasaroga* (diseases of nose)	1	
42	*Palita* (Greying of hair)	1	
43	*Digdhahata*	1	
44	*Vrana* (ulcer)	1	
45	*Anyaroga* (other diseases)	1	
46	*Shukravyadhi* (diseases of *Shukra*)	1	
47	*Sangnyanasha* (loss of conciousness)	1	

Figure 1: Statistical Therapeutic Indication of *Vatsanabha*



The estimated percentage of formulations of *Vatsanabha* in a particular disease can be determined using the following formula:

$$\frac{\text{Total number of formulations having Vatsanbha(as ingredient) for particular disease}}{\text{Total number of formulations having Vatsanabha(as ingridient) in RRS}} \times 100 = \text{Percentage}$$

For instance, the number of formulations having *Vatsanabha* in *Kushtha* (Multiple dermatological diseases) is 28, while the total *Vatsanabha* formulation in RRS is 180. Thus, the percentage of *Kushthaghna* formulations that cure multiple dermatological diseases is 15.55 %.

Rasavagbhata described a small number of formulations (20 formulations) that contained *Vatsanabha* as a single medication or as the majority part of a formulation, which are advised in the management of *Kushtha, Jwara, Netraroga, Kshaya,* and *Vishavikara,* etc., presented in Table No. 4.

Table 4: *Vyadhighnata* of *Vatsanabha* as a single drug therapy or as majority part of Formulation

Sr. no.	*Vyadhighnata* of *Vatsanabha* as a single medication or as	Formulation	Drug used in combination with *Vatsanabha*	Reference
1	*Kushtha* (Skin diseases)	*Medinisara Rasa*	_	RRS. 20/98-104
2	*Kushtha* (Skin diseases)	(Single drug therapy) *Vatsanabha*	_	RRS. 29/64
3	*Navajwara* (Fever)	(Single drug therapy) *Vatsanabha* In *Vataja Navajwara*	Curd (Adjuvant)	RRS. 29/47
		Pittaja Navajwara	Milk (Adjuvant)	
		Kaphaja Navajwara	*Ajamutra* (Goat urine) as	
4	*Kshaya Roga* (Life deteriorating disorders like Tuberculosis)	(Single drug therapy) *Vatsanabha*	*Chyavanaprasha* (Adjuvant)	RRS. 29/55
5	*Vicharchika* (skin disease with excessive exudation)	(Single drug therapy) *Vatsanabha*	*Amalatasa (Cassia fistula* Linn.*)*	RRS. 29/70
6	*Timira* (Eye disorder)	*Vishadi Anjan*	*Shankha Bhasma*	RRS. 23/76
		Prathama Vishakalpa	Ghee, Honey, sugar	RRS. 29/87
		Dwiteeya Vishakalpa	*Ajadugdha* (Goat milk), Ghee	RRS. 29/88
		Triteeya Vishakalpa	*Amalaki Swarasa* (juice of *Emblica officinalis,*Linn. *)*	RRS. 29/89
7	*Kacha* (Eye disorder)	*Kachandhyanashaka Anjana*	*Neelatuttha* (copper sulphate), *Sita* (sugar)	RRS. 23/90
		Prathama Vishakalpa	*Hiraka Bhasma, Streestanya* (female breast milk)	RRS. 29/91
		Dwiteeya Vishakalpa	*Sita* (sugar), *Beejapuraka (Citrus medica* Linn.)	RRS. 29/92
		Triteeya Vishakalpa	*Pippali* (*Piper longum* Linn.), *Beejapuraka (Citrus medica*	RRS. 29/93
8	*Shuklarma* (Pinguecula- a disease characterise by whitish muscular growth)	*Shuklarmajit Anjana*	*Pippali (Piper longum* Linn.), *Gomutra* (cow urine)	RRS. 29/94
9	*Visha-vikara* (Poisoning)	*Visha-hara yoga*	Milk, honey, ghee (Adjuvant)	RRS. 29/133
10	*Akhuvisha* (Rat bite)	*Vishakalpa*	*Shirisha* (*Albizia lebbeck*	RRS. 29/134
11	*Palitya* (Greying of hair), *Arunshika*	(Single drug therapy) *Vatsanabha*	*Sarshapa (Brassica nigra* Linn.*)*	RRS. 29/106
12	*Vidaha* (Burning)	(Single drug therapy) *Vatsanabha*	Milk, cow ghee	RRS. 29/136

Visha Dravya has characteristics like *Vyavayi, Vikasi, Sukshma, Chhedi, Madavaha, Agneya, Jivitahara, and Yogavahi.* (15) *Shodhana* of *Vatsanabha* converts the hazardous compounds pseudoaconitine and aconitine into less hazardous compounds, such as veratroyl pseudoaconine and benzoylaconine, respectively. (7) For this reason, though *Vatsanabha* is listed under Schedule "E" of the Drugs and Cosmetics Act (1940), it can be used in the treatment of disease at a therapeutic dose. Two perspectives on the use of *Vatsanabha* in so many different formulations can be discussed: first, in terms of its *Doshghnata*, and second, in light of the fact that it also possesses all *Vishaguna*. Every *Guna* has its own importance and potential.

Vyavayi Guna of *Vatsanabha* is responsible for quick action in the body as it circulates throughout it without being digested or transformed. (16) This helps the medication operate more quickly. It also possesses the *Ashukari Guna*. The primary distinction between *Vyavayi* and *Ashukari* is that *Vyavayi Guna* drugs initially spread throughout the body before being digested, while *Ashukari Guna* drugs are immediately digested and later spread very fast. Particularly in comparison to the way an oil drop spreads over the surface of water as soon as it touches the surface, *Vatsanabha* also travels quickly throughout the body (17). *Vatsanabha* possesses both *Ashu* and *Vyavayi* properties, which allows physicians to manage illnesses in a significantly shorter time frame with the aid of this fast-acting drug. Use of *Vatsanabha* can greatly shorten the curing period, especially when used in diseases of the later *Strotasa* (system), such as *Majjavaha Strotasa*, which are arduous to treat. *Laghu Guna* allows the components of the entire formulation to flow freely (18). In order to cure diseases of *Santarpana (*sedentary lifestyle), one can therefore take advantage of this property. *Sukshma Guna* of *Vatsanabha* helps it penetrate all the tiny and microstructures of the human body (19). Drugs with the *Yogavahi* property have the ability to adopt the qualities of the substances with which they are combined without losing their unique properties. As a result, such drugs can be used in different formulations to enhance the activity of those formulations. *Bhavaprakasha* and *Rasatarangini* mention *Vatsanabha* as *Yogavahi, i.e.,* bioenhancer. If we want any formulation to react quickly in an emergency situation, at least one medication with *Vyavayi* should be added to it. These reasons could be anticipated for the wide use of this drug in RRS. The probable mode of action of *Vatsanabha* in different diseases, with its traditional use and recent research, is described below.

***Vatsanabha* as *Shoolaghna* (analgesic)**

RRS quoted *Vatsanabha* as *Shoolaghna* under *Vatavyadhi* (20). This activity is supported by in vivo studies on albino Lewis rats of either sexes that showed an ethanolic extract of *Aconitum ferox* Wall. ex Seringe root has anti-arthritic and analgesic activities at a dose of 10 mg/kg. And it is probably due to the presence of bioactive substances like alkaloids, phenolics, and tannin compounds (21). Another study on albino Lewis rats of either sexes revealed antiarthritic activity, which showed the volume of the oedematous rat paw was reduced by an ethanolic root extract of *Aconitum ferox* Wall. ex Seringe when given at the recommended dosage level of 10 mg/kg, per os. Additionally, it was able to normalise haemoglobin, locomotor, and biochemical irregularities in adjuvant-induced arthritis in both the developing and developed phases of arthritis induced by CFA (22).

***Vatsanabha* as *Pramehaghna* (Anti-diabetic)**

Vatsanabha is claimed to have efficacy against *Prameha* (23) (anti-diabetic) action. The action is proven by in vitro and in vivo tests on 40 alloxan - induced Sprague - Dawley rats with an ethanolic extract of *Aconitum ferox* Wall. ex Seringe root. This revealed a significant inhibitory effect against - glucosidase and showed the anti-diabetic activity of *Vatsanabha*. (24)

***Vatsanabha* as *Vishaghna* (Anti-poisonous)**

Vatsanabha is quoted as *Sarpavishahara.* (25) *Sthavaravisha* can be used in poisoning due to *Jangamavisha* (26). *Aconitum ferox* Wall. ex Seringe has activity against snake venom. In vitro experimentation had shown that neutrophils, the neutrophil to lymphocyte ratio and SGOT have been significantly reversed by *Aconitum ferox* Wall. ex Seringe. A probable mode of action could be that venom toxins may be modified in terms of lowering their toxicity and, as a possible consequence, reducing the degree of tissue damage. Thus, *Aconitum ferox* Wall. ex Seringe demonstrated effective protection for liver and heart cells against cobra venom (*Naja naja)* induced damage in mice. (27)

***Vatsanabha* as *Krimihara* (Anti-microbial)**

Vatsanabha is one of the ingredients listed in formulations for the treatment of *Shwasa* (28), *Kshaya* (29), *Vidradhi* (30), and *Jwara* (31). As per modern research, bacterial activity is the main cause of these diseases. In comparison with gram-positive bacteria, the extract from *Aconitum ferox* Wall. ex Seringe exhibited better antibacterial efficacy against gram-negative bacteria. It validates the traditional claimed uses of this plant, that it is able to cure a variety of infections caused by bacteria (32).

***Vatsanabha* as *Kushthahara* (effective in skin diseases)**

Kushtha is a condition manifesting differently on the skin depending on the degree of vitiation of the *Dosha* and their impact on other components, namely the *Rasa, Rakta, Mamsa*, and *Lasika* (lymphatic system). As *Vatsanabha* possesses *Kapha* pacifying nature and possesses properties like *Ruksha* (dry), *Laghu* (Light), and *Ushna* (hot), as well as *Katuvipaka* (post digestive state), it leads to the eradication of *Kushtha*. According to *Ayurveda Prakasha* and *Rasatarangini (33)*, it is *Kushthaghna*. The eight major forms of *Kushtha* are effectively treated after administration of *Shuddha Vatsanabha* for three months; the complexion could be enhanced after administration for six months; and all ailments can be cured after twelve months of *Vatsanabha* administration. (34)

***Vatsanabha* as *Netrarogahara (*effective in eye disorders)**

According to *Ashtanga Samgraha*, the origin of *Netra* (eye) is from *Kapha* and *Raktavaha Srotasa* and *Mahabhuta* (35). Thus, medications that are *Kaphahara* are typically recommended for *Netravikara* (eye disorders). In RRS, *Vatsanabha* is repeatedly quoted in eye disorders as a single drug or in combination with other drugs in the majority of cases for *Timira* and *Kacha* diseases. It is also indicated in *Arma*

(pterygium), probably due to its *Ruksha* (dry) property. *Acharya Vagbhata* delineated the *Timira Roga* as *Dwiteeya-patalagata Vyadhi* (disorders affecting second layer of eye) (36), which is comprised of *Mansdhatu,* and *Acharya Sushruta* described it as *Triteeyapatalagata Vyadhi* (disorders affecting third layer of eye), made up of *Medadhatu* (37). *Vatsanabha* easily pacifies the diseases of *Mansa* and *Medadushti* due to the presence of *Ushna and Ruksha Guna*. Along with this, it has *Kaphaghna* action, which is useful in eye disorders. Other traditional treatises like *Rasatarangini* also highlight the usefulness of *Vatsanabha* in cases of *Nishandha* (nightblindness) and *Abhishyanda (*conjuctivitis). (38) Its activity in eye disorders, as per modern in vivo studies, is needed to conduct critically.

***Vatsanabha* as *Jwarahara* (antipyretic)**

As per ayurveda, the *Samprapti* (patho-physiology) of *Jwara* (fever) starts from *Ama Dosha* (undigested food) and *Agnimandya* (weakened digestive enzymes). *Vatsanabha* reduces the *Ama Dosha* and improves *Agnimandya* due to the presence of *Ushna, Laghu* and *Vyavayi Guna*. As per modern research, aconite probably improves heat dissipation, which lowers the temperature. The thermogenetic system may also have a role. During a fever, the activity is more noticeable. A small amount of perspiration is caused when the fever is reduced, but unless in higher doses, there is no excessive sweating. (39)

***Vatsanabha* as *Rasayana* (Immunomodulator)**

The herbal treatment known as *Rasayana* is used to prevent ageing and to maintain health at its optimum integrity. Many compositions stated in RRS refer *to Vatsanabha* as *Rasayana* (40). Modern studies indicate that the root of *Aconitum ferox* Wall. ex Seringe is the plant's primary repository for phytochemicals. One of the documented biological impacts of the phytochemicals contained in plants is their capacity to scavenge free radicals. Two in vitro tests, DPPH and ABTS, based on various reaction processes, were utilised in order to thoroughly evaluate the antioxidant activities of in vitro and wild *Aconitum ferox* Wall. ex Seringe roots. The findings of the antioxidant tests showed that the wild plants have a higher level of radical scavenging activity. According to the study, there are other chemicals present in the roots of *Aconitum ferox Wall.* ex Seringe that are responsible for the antioxidant action in addition to phenols and flavonoids (41).

Activity of *Vatsanabha* in other diseases

In *Galaganda,* vitiated *Kapha* and *Meda* are causative factors. (42) If *Galaganda* remains untreated for a longer period of time, it gets converted into *Apachi*. (43) Thus, as *Vatsanabha* is *Kaphaghna, Ushna, Laghu and Rusha,* it could be used in the treatment of *Galaganda*. *Agnimandya* (Subdued digestive fire, metabolic disorder) is the primary contributing factor in the development of the ailments *Grahani Roga* (Chronic diarrhoea with malabsorption of nutrients), *Arsha* (haemorrhoids), *Atisara* (diarrhoea), and *Udara* (ascites). *Vatsanabha,* possessing *Ushna*, *Laghu*, and *Dipaka* properties, helps to improve *Agni* (digestive force) and is frequently used to treat these conditions.

Conclusion

It can be concluded that although *Vatsanabha* is enlisted in the *Mahavisha* (poison category), it can be used as single drug therapy as well as multidrug therapy with other herbo - mineral substances and given along with different *Anupana* (adjuvants), and has the potential to cure a wide array of diseases like *Jwara* (fever), *Kushtha* (skin diseases), *Agnimandya* (digestive impairment) and *Netraroga* (eye diseases), *Kshaya* (health deteriorating diseases like tuberculosis), *Vatavyadhi* (diseases due to *Vata Dosha*), *Udara* (ascitis), etc. It can also be inferred that *Vatsanabha* is safe for internal usage if it is purified with an appropriate *Shodhana* (purification) process. Despite many claims on its safety and efficacy due to an inappropriate process, it has now been proven that the *Shodhana* technique was skilfully created by the ancient *Acharya* to provide high medicinal efficacy while exhibiting no harmful actions. Its reference in 180 formulations under different *Rogadhikara* (disease indications) proves the multi target approach of the drug. Modern research has already proven its analgesic, antipyretic, antioxidant, antimicrobial, and many more activities. Along with these, the study reveals that *Vatsanabha* is an active ingredient in more than 17% of the total formulation in RRS, concluding that it is rightly, A known *Visha* but potent medicine.

Abbreviations

- RRS - *Rasa Ratna Samuchchaya*

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