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# Therapeutic importance of Vatsanabha (Aconitum ferox Wall.) in various diseases : A comprehensive Ayurvedic review with overview of current research

# Sushma<sup>1</sup>, Rita Kumari<sup>2</sup>, Darpan Gangil<sup>3</sup>

<sup>1</sup>Associate Professor, Dept. of Prasuti Tantra evam Stri Roga, I.A.M.S. Lucknow, Uttar Pradesh, India. <sup>2</sup>Associate Professor, Dept. of Agad Tantra, Rajiv Gandhi Memorial Ayurvedic College & Hospital, West Bengal, India. <sup>3</sup>Associate Professor, Dept. of Dravyaguna Vigyan, Mansarovar Ayurvedic Medical College, Bhopal, Madhya Pradesh, India.

# ABSTRACT

Ayurveda believes that every plant available on earth have quality to becoming a medicine. In other words, there is no plant material on the planet that cannot be used as potential therapeutic agent. There are two kinds of plants, poisonous and non-poisonous. Vatsanabha is the most poisonous plant found in Himalayas. It is used in the therapeutics of Ayurveda since time immemorial. Any substance can be incorporated into the potent medicine, only if it is used in the proper dose. But in case of poisonous plants, there are certain methods explained in Ayurveda classics, which are used to reduce or destroy the poisonous effects of it. Visha or poison is known for its quick action in the body. Keeping this principle in mind, some formulations, containing Visha drugs, are designed for fast action on the body. This article explores the literary review of Vatsanabha, purification methods, poisonous as well as therapeutic effects as described in various Materia Medica of Ayurveda. Understanding of any drug, especially clinical principles and limitations of poisonous drug plays an important role in its effective use.

Key words: Vatsanabha, Aconitum ferox, Plant poison, Shodhana, Aconite

### **INTRODUCTION**

Herbal mineral and herbo-mineral preparations play a major role in the Ayurvedic healing process. In this world all the materials may be used as potential medicine. Text books of our traditional Ayurveda advise us in case of using materials which are not fully known.<sup>[1]</sup> Every plant, animals, mineral matters may be included in Ayurvedic Pharmacopia when it is understood completely especially its nomenclature,

#### Address for correspondence:

#### Dr. Sushma

Associate Professor, Dept. of Prasuti Tantra evam Stri Roga, I.A.M.S. Lucknow, Uttar Pradesh, India. E-mail: sushmadoctor@yahoo.com

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properties, identification and uses.<sup>[2]</sup>

Vatsanabha (Aconitum ferox Wall.), a species of Ranunculaceae family, is a deciduous perennial herb with tall and erect stems crowned by racemes of blue, purple, white zygomorphic flowers with numerous stamens.<sup>[3]</sup>

It is categorized as *Mahavisha*<sup>[4]</sup> (highly poisonous) plant, found in Himalayan Alpine specially Sikkim in areas ranging from 10000 to 14000 feet in height and in Nepal.<sup>[5]</sup> Roots of Vatsanabha contain toxic alkaloids, pseudo aconitine, bikhaconitine, chasmaconitine, indaconitine. etc.<sup>[6]</sup>

It is credited to Paracelsus who expressed the classic toxicology maxim "All things are poison, and nothing is without poison; the dosage alone makes it, so a thing is not a poison."<sup>[7]</sup> As per Ayurveda, "even a strong poison can become an excellent medicine if administrated inproper dose; on the other hand, even the nectar can act like a poison if administered in higher dose than recommended."<sup>[8]</sup> Almost all

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*Nighantu* delineated *Vatsanabha*, its synonyms and properties but the utility of *Vatsanabha* increased after the development of *Rasa Shastra*. *Rasa Vagbhata* specially mentioned that three months administration of *Vatsanabha* cures all the eight major types of *Kushtha*, six month administration of *Vatsanabha* improves complexion and twelve month administration of *Vatsanabha* cures all the diseases.<sup>[9]</sup>

#### **MATERIALS AND METHODS**

Description related to Vatsanabha has been found in Vrihad-Trayi like Charaka Samhita and Sushruta Samhita. The Nighantus of Ayurveda i.e., Dhanwantari Nighantu, Sodhala Nighantu, Kaiyadev Nighantu, Bhava Prakash Nighantu etc. have elaborated Vatsanabha in their respective texts. References from these texts were reviewed for this article.

#### Identification

Initially it was very difficult, controversial to obtain and identify the *Kanda Visha*. The help of local tribes of Himalayan ranges may be sought for their knowledge.<sup>[10]</sup> Later *Acharyas* like *Rasa Vagbhata* and *Bhavamishra* mentioned certain identification characters of *Vatsanabha*. *Bhava Mishra* mentioned that its leaves resemble the leaves of *Sindhuvara*<sup>[11]</sup> and Rasa *Vagbhata* mentioned that its root resembles the navel of calf.<sup>[12]</sup>

In *Rasatarangini*, it is mentioned that no other plant grows in the vicinity of *Vatsanabha*.<sup>[13]</sup> In the same text, the size of the root is described as 5-7 *Angula* and circumference is 1.0 - 2.5 *Angula*.

Various synonyms of *Vatsanabha* are mentioned in the Table 1, it is found that it is termed as *Vatsanabha* due to its resemblance with the navel of Calf; it is called *Visha* because it produces the toxic effects; as it manifests mental disorder or intoxication in those who consumed it, it is termed as *Ksweda*; it takes away the life, it is delineated as *Garala*; it is termed as *Sindhuwar* due to its leaves resembles with the leaves of *Sindhuwar*; it is very beneficial to the body if used rationally, so it is called *Amruta*.

#### Figure 1: Vatsanabha in habitat



Table 1: Synonyms of Vatsanabha according todifferent authors.

Synonyms	D.N. <sup>[14]</sup>	B.P.N. <sup>[15]</sup>	R.N. <sup>[16]</sup>	P.N. <sup>[17]</sup>
Amruta	+	-	+	-
Garala	+	-	+	-
Mahoushadha	+	-	+	-
Mahavisha	-	-	-	+
Marana	+	-	+	-

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Naga	+	-	+	-
Pranaharakam	+	-	-	-
Sindhuvara	+	+	-	-
Sthoka	+	-	-	-
Tailakanda	-	-	-	+
Ugram	+	-	+	-
Vatsanabha	+	+	+	+
Visham	+	-	-	+
Vishamugram	+	-	+	-

D.N.- Dhanvantari Nighantu, B.P.N.- Bhava Prakash Nighantu, R.N.-Raja Nighantu, P.N.- Priya Nighantu

#### **Classification and categorization**

Acharya Charaka counted Vatsanabha under Sthavara Visha (vegetable poison). He also described it as one of the ingredients of Ainda Rasayana and denoted it as Visha.<sup>[18]</sup> It was Sushruta who quoted four varieties of Vatsanabha for the first time and described it under thirteen varieties of Kanda Visha (tuber root poison).<sup>[19]</sup> Table-2 delineated the classical citations of Vatsanabha:

# Table 2: Classical citation of Vatsanabha (Aconitumferox Wall.)

SN	Classical Text	Category
1.	Charaka Samhita	Sthavaravisha
2.	Sushruta Samhita	Kandavisha
3.	Dhanvantari Nighantu	Mishrakavarga
4.	Sodhala Nighantu	Chandnadivarga
5.	Shaligrama Nighantu	Vishavarga
6.	Bhava Prakasha Nighantu	Dhatwadivarga
7.	Raja Nighantu	Mishrakavarga
8.	Priya Nighantu	Shatapushpadivarga

*Maharshi Sushruta* mentioned the four varieties of *Vatsanabha* but *Rasa Vagbhata* and *Yogaratnakara* elaborated the four varieties as *Brahmana, Kshatriya, Vaishya* and *Shudra*.<sup>[20]</sup> Table- 3 shows colour and properties of each variety.

# Table 3: Color and properties of different variety ofVatsanabha.

SN.	Variety	Colour	Property
1	Brahmana	Pandu	Rasayana
2	Kshatriya	Rakta	Deha-pushti Kara
3	Vaishya	Peeta	Kushthaghna
4	Shudra	Krishna	Kushthaghna

#### Ayurvedic properties<sup>[21]</sup>

#### Table 4: Ayurvedic properties of Vatsanabha.

Rasa	Madhura
Guna	Laghu, Ruksha, Tikshna, Vyavayi, Vikashi
Virya	Ushna
Vipaka	Katu
Karma	Vata-kaphahara, Jwarahara, Jangama Vishahara, Madakari, Kushthaghna
Prabhava	Rasayana

#### Shodhana

Since it is categorized under *Mahavisha* because of its highly poisonous properties, purification is needed before administer it in human body as medicine. Most of the authors from *Rasa Shastra* mentioned purification methods of *Vatsanabha* in their respective texts. Various purification methods are enumerated below:

 Small pieces of Vatsanabha immersed in a pot with Gomutra (cow's urine), placed under bright sunlight for 3 days, everyday replacing with fresh

symptoms

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Table 5: Stages of Poisoning and their respective

*Gomutra*. Dry it on 4<sup>th</sup> day after removing the outer layer and store it.<sup>[22]</sup>

- Small pieces of Vatsanabha kept in a small Pottali (small packing with cloth) and do Swedana (steam cooking) of it with either Godugdha (cow's milk) or Ajadugdha (goat's milk) in Dolayantra for 1 – 2 Yama (3-6 hours). Let it cool down and once itis cool down, dried and stored.<sup>[22]</sup>
- Small pieces of Vatsanabha are given Bhavana (trituration) of Gomutra in Khalwayantra (mortar and pestle) for consistent 3days.<sup>[23]</sup>
- Small pieces of Vatsanabha kept in a small Pottali and do Swedana with Triphala Kwatha alone or with Ajadugdha or with Gomutra in Dolayantra for 24 hours. Store it once it is cool down and dried.<sup>[24]</sup>
- Small pieces of Vatsanabha kept in a small Pottali and do Swedana with Godugdha in Dolayantra for 5hours.Store it once it is cool down and dried.<sup>[25]</sup>
- Small pieces of Vatsanabha placed in the Patra tarnished with Mahisha Shakruta (Buffalo dung) and packed as a ball, burnt as red hot with high temperature using Karisha for 3 hours. After cooling down by its own, the pack is broken open to collect the purified Vatsanabha and stored.<sup>[26]</sup>
- Small pieces of Vatsanabha kept in a small Pottali and do Swedana either with Godugdha or Godugdha + Jala in Dolayantra for 3 hours. Store it once it is cool down and dried.<sup>[27]</sup>

#### **Toxic Effects**

Sushruta Samhita documented the toxic effects of Vatsanabha in Kalpasthana 2nd chapter viz. Grivastambha (torticollis) and Peetavit-Mutra-Netrata (deep yellowish discoloration of stool, urine and eyes).<sup>[28]</sup> Overdosing of Ayurvedic formulation containing Vatsanabha may cause bradycardia and hypotension.<sup>[29]</sup> In acute oral toxicity of Vatsanabha Moola Choorna calculated LD<sub>50</sub> was found to be 29.57 mg/kg bodyweight.<sup>[30]</sup> Rasa Vagbhata enumerated the Ashta-Vegas (eight stages) of poisoning and described symptoms as mentioned in Table 5:<sup>[31]</sup>

Stages	Symptoms
1 <sup>st</sup> Stage ( <i>Prathama Vega</i> )	Twak Vikara (Skin Diseases)
2 <sup>nd</sup> Stage ( <i>Dwitiya Vega</i> )	<i>Vepathu</i> (Tremors)
3 <sup>rd</sup> Stage ( <i>Tritiya Vega</i> )	<i>Daha</i> (Burning all over the Body)
4 <sup>th</sup> Stage (Chaturtha Vega)	Vikrutavastha (Deformities)
5 <sup>th</sup> Stage <i>Panchama Vega</i> )	<i>Phenodgama</i> (Froth from Mouth)
6 <sup>th</sup> Stage ( <i>Shashtama</i> Vega)	Skandha Bhanga (Drooping of Shoulders)
7 <sup>th</sup> Stage ( <i>Saptama Vega</i> )	Jadata (Comatose)
8 <sup>th</sup> Stage ( <i>Ashtama Vega</i> )	Marana (Death)

#### Antidotes

Overdosing or accidental administration of *Vatsanabha* can produce toxic symptoms. *Rasa Vagbhata* mentioned specifically that the treatment of poisoning is possible up to the 5<sup>th</sup> *Vega* only. First *Vamana* (vomiting) should be induced followed by *Lepa, Kwatha* or *Anjana* of *Vishaghna Gana*.

Tankana Bhasma (Borax clax), considered to be the main antidote,<sup>[32]</sup> may be administered along with ghee or with honey and juice of *Meghanada* (*Amaraanthus tricolor*).<sup>[33]</sup> Combination of honey, *Dadhi* (curd) and bark of *Arjuna* (*Terminalia arjuna*) may be another alternative antidote.<sup>[35]</sup> Wherever Vatsanabha is used in the formulation, *Tankana Bhasma* should be added in equal quantity to nullify the toxic effect of Vatsanabha. If *Tankana* is not available, *Maricha* (*Piper nigrum*) may be used in double the quantity of Vatsanabha.

#### **DISCUSSION AND RESULT**

According to *Ayurveda*, every substance in the world can be used as a potential medicine. Every single substance or drug must be understood completely for its properties and mode of actions etc. before its

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administration to the human body to prevent unexpected actions. Everything can potentially work as poison if not administered in proper dose. *Ayurveda* believes that even a strong poison can work as nectar if administrated properly.

Vatsanabha (Aconitum ferox Wall.) is a member of Ranunculaceae family which grows in Himalaya ranging from10000to14000feet in height. Its root tuber is useful part which is highly poisonous and that is why Maharshi Sushruta classified it under thirteen Mahavisha (highly poisonous) Kanda Visha. Various synonyms and identification characters of Vatsanabha are mentioned in Ayurvedic classics. Sometime it creates controversy for its identification but Rasa Vagbhata and Rasatarangini clarified that its root resembles the navel of calf and no other plant grows in the vicinity of Vatsanabha, also the size of the root is described as 5-7 Angula and circumference is 1.0 - 2.5 Angula. Rasa Vagbhata and Yogaratnakara elaborated the four varieties as Brahmana, Kshatriya, Vaishya and Shudra. Since Vatsanabha is toxicin nature, it should be administered in small and calculated dose and that to after Shodhana process only. Shodhana process, mentioned in Ayurveda classics, can potentially reduce or remove the toxic effect of any drug and make it safer to use it. Specific Shodhana processes are described in Rasa Granthas which shows the developed status of the science. Rasa Vagbhata detailed the Ashta-Vegas (eight stages) of poisoning along with the clinical features. Overdosing or accidental administration of Vatsanabha or its formulations can produce toxic symptoms. Thus, detailed description of antidotes and the management of patient were delineated. Tankan Bhasma along with the Goghrita was considered as one of the best antidote for Vatsanabha poisoning.

#### CONCLUSION

Amruta is one of the synonyms of Vatsanabha which means if it is administered rationally; it can act as nectar and can cure all the diseases in 12 month of use. Present article will be helpful in understanding the identification, toxic effects, purification methods, antidotes and management of Vatsanabha poisoning. Correct and accurate information may prevent the physicians for its irrational use and timely management of its poisoning.

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