

VATSANABH (ACONITE)-A REVIEW

Karambelkar Sharadini A.^{1*} and Savrikar Shriram S.²¹PhD Scholar, Tilak Maharashtra Vidyapeeth Pune, Maharashtra.Associate Prof. Department of Rasashastra & BK, BSDT'S Ayurveda Mahavidyalaya
Wagholi, Pune.²PhD Guide, Tilak Maharashtra Vidyapeeth Pune, Maharashtra.

Former Prof. R. A. Podar Govt. Ayurved Medical College Worli Mumbai.

Article Received on
18 March 2022,Revised on 08 April 2022,
Accepted on 28 April 2022

DOI: 10.20959/wjpr20225-24014

Corresponding Author*Dr. Karambelkar
Sharadini A.**PhD Scholar, Tilak
Maharashtra Vidyapeeth
Pune, Maharashtra.Associate Prof. Department
of Rasashastra & BK,
BSDT'S Ayurveda
Mahavidyalaya Wagholi,
Pune.sharuketki@gmail.com**ABSTRACT**

Since years together use of poisonous drugs in Ayurveda is very common. *Rasashastra* is a separate branch which comprises of *Rasaushadhies* (ie. Herbomineral, metalo-mineral formulations) prepared from *mrutalauha* (metallic bhasmas), *kandavisha* (poisonous drugs) and *sutam* (mercurials). So use of poisonous drugs only after the peculiar therapeutic processing/*sanskaras* to enhance their therapeutic value at the same time reduce their toxicity is uniqueness of this branch of medicine. Though, *Vatsanabh* (Aconite) is one of the important poisonous drugs still it has been used very scientifically with all precautions which have to be undertaken. It is very interesting to note that use of its antidote is also mentioned in Ayurveda classics, which shows the keenness of *Rasacharya* (ancient scientists) regarding thorough knowledge of the drug. Necessity to search for antidote indicated previous therapeutic utility of Aconite. It is not bound to the use of Aconite only but every drug is used very systematically and scientifically in Ayurveda whether it is poisonous or non poisonous.

Every drug had been classified as per its therapeutic action. Every drug has synonyms as per its morphology and pharmacology. In this review attempt has been made to collect each and every minute information regarding this important poisonous drug.

KEYWORDS: *Vatsanabh, Antidote, Rasayana, Species.*

INTRODUCTION

Since years together use of poisonous drugs in Ayurveda is very common. *Rasashastra* is a separate branch which comprises of *Rasaushadhies* (ie. Herbomineral, metalo-mineral formulations) prepared from *mrutalauha* (metallic bhasmas), *kandavisha* (poisonous drugs) and *sutam* (mercurials).^[1]

So use of poisonous drugs only after the peculiar therapeutic processing/*sanskaras* to enhance their therapeutic value at the same time reduce their toxicity is uniqueness of this branch of medicine.

Visha/poisonous described in different texts of Ayurveda.^[2]

Sr. no.	Name of Classical Text	Visha described
1	<i>Abhidhaan Kamdhenu</i>	<i>Visha, Haalahal, Brahmputra, Saurashtra Pradipana, Daarad, Kaakolam, Shauktikeya, Ahichhatra, MeshShrung, Kushth, Haimavat Pippal, Patal, Malin, Kambalam.</i>
2	<i>Rasarnava</i>	<i>Saktukam, Kaalakutam, Sitamusta, Shrungee, Krushnavisham (All are called Mahavisha)</i>
3	<i>Sushruta & Rasakamadhenu</i>	<i>Vairat, Paakalak, kadarmaka, kaalkuta, Mustaavish, mahaavish, Vatsanabh, HaalahalMoolak, Sarshap, Shrungak, market, Pundarik (all are Kandavisha and Tikshna visha)</i>
4	<i>Rasasara</i>	<i>Mayur, Kaalkut, saktuk, Binduk Vatsanabh, Sunabham, ShankhnabhamSumangalam, Shrungam, Karkotakam, MustamPushkaram, Shuklakandam, Raktashrungam, Haridram, Visham, Haalahalam, Bhraamar</i>
5	<i>Rasendra chudamani</i>	<i>Kaalkuta, Mayur, Binduk, Saktuk, Vaaluk, Vatsanabh, shankhnabh, Sumangal, Shrungi, Markat, musta, Kardam, pushkar, Shikhi, Haridra, Harit, Chakra, Visha, haalahal</i>
6-7	<i>Ayurved Prakash & Rasatarangini</i>	<i>Haalahala, Kaalkuta, shrungik, Pradipana, Saurashtik, Brahmputro, Haridra, Saktuk & Vatsanabh</i>

Out of above list ten poisonous namely *Kaalkuta, Meshshrungi, Dardur, Haalahal, Karkota, Granthi, Haaridra, Raktashrungi, Keshar* and *Yamadranshta* should be used for *Dhatuvada* (Alchemy) and not for medicinal purpose.^[3-4] However out of nine poisonous described in *Rasatarangini* the *Vatsanabh* is only recommended for *Rasayana*.^[5]

Though, *Vatsanabh* (Aconite) is one of the important poisonous drugs still it has been used very scientifically with all precautions which have to be undertaken. It is very interesting to note that use of its antidote is also mentioned in Ayurveda classics, which shows the keenness of *Rasacharya* (ancient scientists) regarding thorough knowledge of the drug.^[6-7]

Necessity to search for antidote indicated previous therapeutic utility of Aconite. It is not bound to the use of Aconite only but every drug is used very systematically and scientifically in Ayurveda whether it is poisonous or non poisonous. Every drug had been classified as per its therapeutic action. Every drug has synonyms as per its morphology and pharmacology. In this review attempt has been made to collect each and every minute information regarding this important poisonous drug.

Botanical description, Morphology: A shrub 30-60 cm high, leaves like the leaves of water melon, short and stalk with hairy structure. Flower stalk-straight external flower is blue and resembling the flower of pea.

Fruit: thorny like *Hurhur (Tilwan)*, Seeds –black and winged, Root-is 9 cm, in length, and 1.5 to 3 cm in breadth. Externally it is brown in color but inside it is white, oily and shiny. In some texts, it is described as the plant which has leaves like *Sinduwar* i.e. *Nirgundi (Vitex Nigundo)*. Shape is like umbilicus of calf. No plant grow near this plant. The plant is called *Bachanag*. Some text describe the rhizome of *Vatsanabh* as resembling the udder of Cow, not more than 5 fingers in length. In India 24 types of *Vatsanabh* are available.^[8-10]

According to Rasatarangini: Tuber of *Vatsanabh* should be 5 to 7 angula long, its thickness should be 1 to 2.5 angula. It should be tapering from *moola* to *shipha*. It is *pandur* (Yellowish white) in colour.^[11]

(One angul = 2.5 cm.)

Therapeutic properties of *Vatsanabh* (Aconite)^[12]

Rasa: Madhura Veerya: Ushna Vipaka: Madhura

Guna: Ruksha, Tikshna, Laghu, Vyavayee, Vikasi

Action on doshas: Especially *kaphavaatshamak*, *Ruksha*, *Tikshna Laghu* so *kaphaghna*

By *Madhura rasa pitashamak*

By *Ushnaveerya: vatashamak vata kapha strotogami*.

Microscopy^[13]

Root shows epidermis 1-3 layered, suberised, papillose on outside, primary cortex consisting of 8-10 layers of oval to tangentially, elongated thin walled parenchymatous cells without or with a few intercellular spaces, a few rectangular, triangular stone cells in singles found scattered in this zone, primary cortex separated by distinct endodermis, inner bark,

parenchymatous, consisting of round to oval cells, containing a few group of phloem strands, occupying more than half the radius, cambium having 6-10 angles, xylem vessels arranged almost in a ring, some scattered, often forming v shaped ring enclosing xylem parenchyma in older portions, bundle compact often Wedge shaped having acute apex xylem exarch, metaxylem vessels met in center, starch grains simple measuring 6-18 micron in diameter, and compound grains consisting of 2-5 components with hilum in center, present in cortical cells Phloem parenchyma and xylem parenchyma.

Macroscopy^[14]

Roots paired, occasionally separated due to breakage, ovoid, conical, small portions of stem sometimes attached tapering downwards to a point, 2-4.5 cm rarely 5 cm long, 0.4-1.8 cm thick, gradually decreased in thickness towards tapering ends, wrinkled longitudinally and transversely, rough due to root scars, dark brown to blackish brown, fracture, cartilaginous, hard and white within the cambium ring and brownish outside cambium, odor indistinct, taste slightly bitter followed by a strong tingling sensation, poisonous.

Habitat^[15-16]

Vatsanabh founds in Alpine regions, in ranges of Himalaya. *Uttapatti: Vatsanabhah parvat kshonishutpadyate/ Ayu. Pra. Gadhapale ch kashmire nepaladau cha jayate/ R.T.24/11* *Vatsanabh* obtained from mountain ranges.

In Himalayas from Sikkim to Garwhal at a height of 3000-5000 meters.^[17]

Chemical constituents^[18]

Aconitin (a toxin), picroconine, benzoil, conine and homonepelin (gogte)

Types of *Vatsanabh*

White and black are the two types of *Vatsanabh*. Pure *Vatsanabh* is actually white in color, it becomes black after conditioning. This conditioning is required to protect it from insects.^[19]

According to *Rasakamdhenu* it is of two types *Shukla* & *Krushna* (white & black respectively).^[20]

According to *Rasatarangini* 3 types of *Vatsanabha* are:

1. *Krushnabh*
2. *Kapish*
3. *Pandur* (R.T.24/15pg650)

These varieties became subsequently more superior than other.^[21]

According to races it is of 4 types.^[22-23]

Races	Colour	Karma
<i>Brahman</i>	<i>Pandur</i>	<i>For Roga</i> (Disease)
<i>Kshatriya</i>	<i>Raktavarana</i>	<i>Vishabhakshane</i> (to Treat Poisonous)
<i>Vaishya</i>	<i>Peetaprabh</i>	<i>SarvaVyadhee</i> (All diseases)
<i>Kshudra</i>	<i>Krushnavarna</i>	<i>Sarpadrashtha</i> (Snakebite)

Types of Aconite as per Botany & Pharmacognosy

Aconitum is genus belonging to the family Rannunculaceae. This is small herbaceous plants distributed mostly in the temperate region all over the world. Review of literature shows that there are more than hundred species of Aconitum, of which only few are said to be growing in India. These include both toxic and non toxic species. Number of species available in India ranges between twenty seven to thirty three.^[24]

Datta and Mukherji (1950) revised the classification of the Aconite roots according to their botanical characters as well as on their physical and toxicological properties. According to them, there are five varieties of Aconite exist namely True Napellus, Indian Napellus, Ferox varieties, White Aconite, Non poisonous varieties.^[25]

In European commerce all the Indian forms of Aconite were classed as a form of *Aconitum ferox* Wall, but critical assessment revealed that true *Aconitum ferox* Wall is not the most plentiful of all the Aconitum species growing in this country. It has been reported that the so called Aconite roots sold by the drug dealers in India is an indiscriminate mixture of the roots of *Aconitum ferox* Wall, *Aconitum Napellus* L, and *Aconitum Palmatum* D. Don the latter predominating. According to Pandey and Ansari^[26] *Visha* is *Aconitum ferox* (Wall), *Ativisha* is *Aconitum heterophyllum* (Wall) *Prativisha* is *Aconitum palmatum* D Don and *Shringivisha* is *Aconitum chasmanthum* (Stapf). The drug dealers often sell the mixture of all the available varieties under name *Bachnaaga* so the commercial variety of Aconite in India is a mixture of the roots of several species of Aconitum other than above mentioned species too. *Ativisha* and *Prativisha* are considered non poisonous. In *Rasashastra* *Visha* or *Vatsanabh* are recommended for medicinal purpose only after *Shodhana* or the process of detoxification. This *Visha* or *Vatsanabh* are represented by *Aconitum chasmathum* Stapf in

Ayurvedic Pharmacopoeia of India.^[27] According to IUCN red listed medicinal plants of Siddha both of these species [*Aconitum ferox* Wall & *Aconitum Chasmathum* Stapf] come under critically endangered and endangered category.^[28] Considering above situation pharmacognosy study became essential before preparation of any formulation containing *Vatsanabh* as an ingredient to know its actual species.

Such study regarding authentication of *Vatsanabh* (Aconite species) is in process by Author & result will be published on completion of work.

***Vatsanabh* from Bruhatrayee**

Charak Samhita, *Charakcharya* included it in *Sthavara visha*.^[29]

Also it is one of the ingredient of *Aaindra Rasayana*.^[30]

Also in *Charak Samhita adhyay 3*, *Vatsanabh* is used for *Dharanakarma (to wear)* to avoid *Vishamajvara*.^[31]

In *Ashtang Hrudaya*,^[32] *Visha/Vatsanabha* is recommended in the treatment of *kushtha* A.hr.ci.19/83, *Timir*(A.hr.ut.13/33),

Gandamala (A.hr.ut.30/19), *Naadivrana* & *Apachi* (A.hr.ut.30/23), *Akhuvisha* (A.hr.ut.38/32),

Aconite is also classified in various *Nighantu* as follows.^[33]

Sr. No.	Name of <i>Nighantu</i>	<i>Varga</i>
1	<i>Ashtang Nighantu</i>	<i>Viprakira varga</i>
2	<i>Abhidhan ratnamala/ shadrassa nighantu</i>	<i>Kashayaskandha</i>
3	<i>Dhanvantari nighantu</i>	<i>Mishrakadi varga</i>
4	<i>Paryayratnamala</i>	<i>Visha</i>
5	<i>Bhavprakash nighantu</i>	<i>Mishravarga</i>
6	<i>Mahaushadha nighantu</i>	<i>Swarnadi varga</i>
7	<i>Kaidev nighantu</i>	<i>Visha varga</i>
8	<i>Raaj nighantu</i>	<i>Mishrak Varga</i>

Grahya lakshanas^[34]

According to classical text It should be plucked during winter or spring. It should be collected when it is fully matured, riped, developed (after fruiting), free from insects and other factors which destroy its therapeutic efficacy, it should be *Nava*(fresh), *Guru*(heavy), *Snigdha* (unctuous), and *Sthula* (of desired Thickness).

***Shodhana* of Aconite**

Importance of Aconite *shodhana*: *Vatsanabh*/Aconite has two important synonyms

Visha (poison) and *Amruta* (Nectar).

Both are indicating the action of *Vatsanabh* before and after *Shodhana* (Detoxification). If it is used in impure form it will lead to *Daha* (Burning), *Moha* (Inebriant state), *Hrudgatirodhana* (Cardiac depressant & *Mrutyu*(Death).^[35]

Contrary if it is used after purification it will proved to be life saving like Nectar.

Effect of *Shodhana* of Aconite in cow urine and cow milk was studied by **P.K Sarkar and etal**, reveal that the duration of administration of raw *Vatsanabh* increased, the cardio toxic activity also increased. The major effect observed were increase in heart rate, prolongation of the duration of QRS complex & prolongation of the repolarization period between two QRS complexes. These three toxic changes were much less in group of purified *Vatsanabh* processed with cow milk and cow urine. This clearly shows that the cardio-toxicity producing principles observed in raw *Vatsanabh* is removed by *Shodhana* process.^[36]

Variety of methods for the *Vatsanabh Shodhana* (Processing of Aconite) is described by different author of *Rasashastra* texts.

Sr. no.	Text book	Method of <i>Shodhana</i>
1	<i>Rasatarngini</i> ^[36]	Vatsanabh cut into small pieces and boiled in Cowmilk for 3 to 6 hrs in Dolayantra. (Special device in which drugs are kept in pottali in suspended manner in liquid media recommended for <i>Shodhana</i>) Instead of cow milk, goatmilk should used for Detoxication Similar to <i>Ayurved Prakash</i> Small pieces of Vatsanabh tied in cotton cloth pottali & kept in pot filled with cow urine subjected to Scorching, Sunheat (Atap) for three days. Everyday fresh cow urine should be added with removal of previously added cow urine.
2	<i>Ayurved Prakash</i> ^[37]	As per <i>Yogatarangini</i> , pieces of <i>Vatsanabh</i> kept in cotton cloth pottali. This pottali is kept in container filled with cow urine. This container should kept in sunlight for 3 days. Everyday stale cow urine from container should be removed and fresh cow urine should be added. After 3 days This <i>Vatsanabh</i> used for medicinal purpose. consider to be <i>Shuddha Vatsanabh</i> and <i>Vatsanabh</i> pieces are kept in Dolayantra filled with goat milk and boiled for 1 yaam i.e. 3 hrs. In absence of Goat milk, cow milk is recommended. Small pieces of <i>Vatsanabh</i> should be kept in faeces of Buffalo. Then heat should be given by <i>dhrudhmudra</i> /anaerobic incineration. After cooling itself <i>Vatsanabh</i> pieces should be removed

		and considered as <i>Shuddha Vatsanabh</i> .
3	Rasendra sarasangraha & other^[38]	Other than cow milk, cow urine & goat milk, <i>Triphla kvath</i> is also recommended for <i>Shodhana</i> to fill <i>dolayantra</i> .
4	Other^[39]	Most of the classical texts described <i>Vatsanabh shodhana</i> in cow milk or cow urine.

<ul style="list-style-type: none"> • <i>Pranahar</i>: Fatal if use inappropriately. • <i>Vyavayee</i>: Spread all over body without digestion • <i>Vikasi</i>: It loosens the joints • <i>Aagneya</i>: Hot in potency • <i>Yogvaahi</i>: Increases the therapeutic potential of the drug to which it is accompanied • <i>Bruhan</i>: Nourishes body • <i>Veeryavardhana</i>: Aphrodisiac. • <i>Kanthrukaghna</i>: Throat diseases • <i>Sannipataghna</i>: Useful in diseases caused by vitiation of all three i.e. Vata, pitta & kapha • <i>Rasayana</i>: Rejuvenating and antiaging • <i>Deepan</i>: Improve digestive power • <i>Balavardhana</i>: Improves strength • <i>Agnimandiyahara</i>: Correcting digestive disorders • <i>Kasahara</i>: Relieves cough • <i>Gulmahara</i>: Inflammatory condition in internal organs • <i>Kushthara</i>: Diseases of skin 	<ul style="list-style-type: none"> • <i>Panduhar</i>: Anaemia • <i>Jvarahar</i>: In fever/pyrexia • <i>Amavatahara</i>: Rheumatic conditions • <i>Vataghna</i>: Used in diseases occurred due to vitiation of vata • <i>Timir</i>: Ophthalmic condition • <i>Naishandhyahara</i>: Night blindness • <i>Abhishyand</i>: Conjunctivitis • <i>Netrashoth</i>: Ophthalmic condition • <i>Akhu, vrushchik, sarpa vishahara</i>: Rodent bite, scorpion bite & snake bite • <i>Karnashoth</i>: Otitis media • <i>Shirashoolahara</i>: Headache • <i>Ghrudhrasi</i>: Sciatica • <i>Kativedna</i>: Lower backache • <i>Plihodar</i>: Useful in splenic disorders • <i>Vataraktahara</i>: In gout • <i>Shwashara</i>: Respiratory diseases • <i>Gudamayahara</i>: Anorectal diseases • <i>Grahanihara</i>: Metabolic diseases
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Antidotes of Vatsanabh

According to *Rasaratnasamucchaya*^[42] Cow ghee is considered as one of the best antidotes for *Visha*. *Tankan* (Borax) administered with ghee is main Antidote of Aconite. *Arjuna* (*Terminalia Arjuna* Roxb) bark along with honey/ghee & *Rajani* (*Curuma long* Linn), *Meghnad* (*Butea frondosa* Wild), *Sarpakshi* (*Ophirrhiza mungos* L) *churna* along with ghee is another antidote described in *Rasakamdhenu*.^[43] Double quantity of *Marich* (*Piper Nigrum* L) is also recommended as an antidote in absence of borax (*Yogratnakar*).^[44]

During consumption of Aconite rules regarding behavioral and dietary aspects are also explained in *Rasaratnasamucchaya*.^[45]

For Rasayana purpose *Vatsanabh* should be used after *Ghrutpana* (Consumption of Ghee) & *Shodhana* (Detoxication).

For Sattva predominant people it should be administered during winter and spring, conditionally it should be used during summer for the treatment of diseases. It should not be used in rainy season and during cloudy weather.

Contraindicated in *Krodha* (anger), *pitta* predominance, *Bhrama* (Giddiness), *Klaibya* (Impotence), King or Royal employees, when feeling hungry or thirsty, after walking long distance (Tired), *marma rogas*, pregnant ladies, kids, old age people, emaciated individuals. Diet rich in pungent, sour, salty tastes, oil, sleep during day time, exposure to fire and heat are also fore bidden.

Dose as per different ayurvedic texts

Rasasanket Kalika^[46] *Uttam=8yava Madhyam=6yava Hina=4yava*

According to *Ayurved Prakash*.^[47]

Starting from dose equal to *til* seed [season] to *8yava*, It cures all disease of human being.

According to *Rasatarangini*^[48]

1/16th *Ratti* to 1/8th *Ratti*

Fatal Dose as per toxicology.^[49]

1gm root, 2-5mg of Aconitine, Extract-250mg, Tincture 2-30ml

Fatal period 2-6 hrs (According to API dose 15-30mg powder form).^[50]

CONCLUSION

Vatsanabh is one of the important poisonous drug used in *Rasashastra* after proper processing.

Since years together it is used to cure number of disease conditions.

Considering variation in its species it become essential to undertake study, cultivation, research project to treasure this miraculous drug so it should not be included in rare and endangered species in future.

Conflict of interest

There is no conflict of interest. It is not funded by any authority.

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