

**ROLE OF GOMUTRA IN THE SHODHANA OF VATSANABHA****Dr. Nallamala Vaishnavi\*<sup>1</sup>, Dr. Ch. Sri Durga<sup>2</sup>**

<sup>1</sup>P.G. Scholar, Department of Rasa Shastra and Bhaishajya Kalpana, S.V. Ayurvedic College & Hospital, Tirupati.

<sup>2</sup>Professor & HOD, P.G. Department of Rasa Shastra and Bhaishajya Kalpana, S.V. Ayurvedic College & Hospital, Tirupati.

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**\*Corresponding Author****Dr. Nallamala Vaishnavi**

P.G. Scholar, Department of Rasa Shastra and Bhaishajya Kalpana, S.V. Ayurvedic College & Hospital, Tirupati.



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**ABSTRACT**

Vatsanabha (*Aconitum ferox*) is classified under Mahavisha due to the presence of aconitine alkaloids which cause severe toxic effects. However, when purified using the classical Shodhana procedure, its toxicity is significantly reduced while retaining its therapeutic actions. Gomutra (cow's urine) is described as one of the most effective Shodhana dravyas for Vatsanabha. This article highlights the rationale, method, and classical references supporting the use of Gomutra in Vatsanabha Shodhana.

**INTRODUCTION**

Vatsanabha has been used traditionally for its potent analgesic, antipyretic, dipana and vedana sthapana actions. In the unprocessed state, it can cause neurotoxicity and cardiac depression due to aconitine. Hence, Shodhana is mandatory

before internal administration. Ayurvedic texts prescribe Gomutra as a suitable purification medium owing to its ushna, tikshna and kaphavata hara properties, which helps to neutralize toxicity and enhance safe therapeutic effects.

**Taxonomical Classification**

**Botanical name** - *Aconitum ferox*

**Family**- Ranunculaceae

**English name**- Aconite

**Part used**- Tuberos root

**Synonyms-** Vatsanabha, Visha, Nepalashringi, Garala, Pranaharaka, Marana, Nabhi

### **Grahya Swaroopa<sup>[1]</sup>**

The rhizome of Vatsanabha which is selected for pharmaceutical purposes should be Sthula, Snigdha, Guru, freshly collected after fruiting season and non-infested.

### **History of Aconite**

Aconite, also known as Vatsanabha in Ayurveda, is a widely used but highly toxic medicinal plant with a long history in traditional medicine across cultures. The name “Aconite” comes from the Greek word *Akoniton*, meaning spear or lance, as its poisonous paste was once used on weapons.<sup>[2]</sup> References to its use appear as early as the Atharva Veda,<sup>[2,3]</sup> and later in Charaka Samhita, Chakradatta (1050 AD), and Sharangadhara Samhita (1363 AD), where it was described for treating fever, diarrhea, indigestion, cough, and as an aphrodisiac.

In Ayurveda and Traditional Chinese Medicine (TCM), Aconite was recognized for both its potent therapeutic and toxic properties. Ancient texts detailed purification (Shodhana) methods to detoxify the root without losing efficacy. In TCM, it is known as Chuan Wu and used for cold-induced pain, fever and respiratory tract infections<sup>2</sup>, though with caution due to toxicity.

Despite its risks, purified Aconite remains part of Ayurvedic formulations, with few toxicity reports in India. However, global cases highlight its potential for severe or even fatal effects, warranting careful evaluation and revalidation of its medicinal use.

### **Toxic effects of Vatsanabha**

It is warned for overdosing or crude use without shodhana, it may cause Daha, Moha, Hridgati Rodhana and Mrithyu eventually.<sup>[4]</sup>

### **Necessity of Shodhana**

Raw Vatsanabha contains alkaloids such as aconitine and pseudoaconitine, which are highly toxic. Improper use can cause burning sensation, tremors, cardiac arrest, and even death. It imparts a sensation of tingling & numbness of the lips, tongue and mouth when chewed.<sup>[5]</sup> Therefore, purification (Shodhana) is essential to reduce its toxicity while retaining medicinal potency.

**Shodhana of Vatsanabha using Gomutra**

**Ashtanga Hrudaya – Uttara Tantra (40/40–42):** Describes Vatsanabha as maha-visa and directs strict purification before internal use.

**Rasa Tarangini (22/10–14):** Specifically recommends Gomutra as a primary Shodhana dravya for Vatsanabha.

**Ayurveda Prakasha (6/63–70):** Explains the procedure of boiling Vatsanabha in Gomutra to reduce toxicity.

**Properties of Gomutra<sup>[6]</sup>**

- Gomutra is Ushna, Ruksha, Teekshna, Katu and Lavana Rasa, Katu Vipaka.
- It is Kapha and Vata Shamaka, Pitta Sanshodhaka, Vishaghna, Lekhana, Dipana, Pachana.

**Rationale for using Gomutra**

Parameter	Effect of Gomutra
Ushna veerya	Counteracts cold & depressive action of Vatsanabha
Katu Tikta Rasa	Enhances digestive and detoxifying actions
Lekhana & Kaphavatahara	Reduces Ama and enhances bioavailability
Dosha prayatna	Balances aggravated Vata & Kapha caused by raw Vatsanabha

**Chemical action**

Gomutra contains<sup>[6]</sup>

- 95 % water, 2.5% urea, 2.5% enzymes, harmones.
- 24 types of salts, minerals like Iron, calcium, phosphorous, potassium, Sulphur, ammonia etc.
- Volatile fatty acids, Potassium salts, Urea, Phenolic compounds. These help in:
- Hydrolyzing aconitine alkaloids.
- Converting Aconitine → Benzoylaconine → Aconine , a less toxic derivative.
- Thus, neurotoxicity and cardiotoxicity is reduced while medicinal value is retained.

**Shodhana procedure<sup>[7]</sup>**

Vatsanabha was cut into chanaka-matra (Bengal-gram-sized) pieces and placed in an earthen vessel. Enough Gomutra was added to fully immerse the drug, and the vessel was kept in sunlight. The next morning, the pieces were transferred to a fresh earthen pot and again submerged in fresh Gomutra. This process was repeated for three consecutive days. On the fourth day, the pieces were removed, the outer layer was peeled, thoroughly washed with hot

water, and dried under sunlight. The dried material was then powdered finely using a khalva yantra.

### Physico-Chemical Changes After Shodhana of Vatsanabha

Processing (Shodhana) of Vatsanabha (*Aconitum ferox*) in Gomutra brings significant physical and chemical alterations that contribute to its detoxification. These changes have been documented in classical Ayurvedic treatises as well as validated in contemporary analytical studies.

Physical parameters	Before	After
Color	Dark brown	Light brown
Odour	Typical	Odourless
Touch	Hard	Soft
Taste	Bitter	Salty bitter
Appearance	Smooth	Dull

#### a. Colour Changes

- After soaking in Gomutra for repeated cycles, the tuber pieces exhibit a dull brown coloration instead of the original dark brown color.
- Color of Gomutra changes from Pale yellow color to dark brownish color.

**Reason:** Absorption of pigments, leaching of toxic constituents, and surface oxidation.

#### b. Reduction in Irritancy and Pungency

Raw Vatsanabha produces tingling and numbness when touched. After Shodhana, this irritant sensation significantly reduces.

#### c. Change in Texture

The tubers become softer and more porous, allowing easier removal of the outer toxic layer (tvak).

#### d. Decrease in Weight

A measurable reduction in weight occurs due to removal of outer peel, Leaching of aconitine and other alkaloids.

#### e. Reduction of Aconitine Content (Major Toxic Alkaloid)

Aconitine undergoes hydrolysis during Gomutra processing, converting into Benzoylaconine and Aconine (least toxic) Studies show 60–80% reduction in aconitine after Gomutra Shodhana.<sup>[8]</sup>

**f. Increase in Non-toxic Derivatives**

After hydrolysis, Aconine levels increase, making the drug pharmacologically safe yet potent.

**g. pH Modification<sup>[8]</sup>**

Gomutra has an alkaline pH. After soaking Vatsanabha

- pH shifts slightly lower due to extraction of acidic constituents but remains alkaline.
- This alkalinity accelerates alkaloid breakdown.

**h. Leaching of Water-Soluble Toxic Compounds**

- The contents of Gomutra (Urea, Volatile fatty acids, Phenolic compounds) enhance solvent action, allowing toxic alkaloids and resins to dissolve out of the tuber.

**i. Role of enzymes and organic compounds**

- Enzymes in Gomutra such as Urease, Catalase and Peroxidase promote hydrolysis and oxidative degeneration of toxic aconitine alkaloids.
- Its volatile fatty acids and phenolic compounds provide antimicrobial and antioxidant effects, protecting the drug during the Shodhana process.

**j. Increase in Potassium, Nitrogenous Compounds & Volatile Components**

Because Gomutra gets absorbed by the softened tuber:

- Trace minerals ( $K^+$ ,  $Na^+$ ) increase slightly
- Nitrogenous content increases due to urea penetration

These do not add toxicity but improve metabolic stimulation (deepana effect).

**CONCLUSION**

Gomutra plays a vital role in the Shodhana of Vatsanabha (*Aconitum ferox*) by effectively reducing its toxicity while preserving its therapeutic properties. Due to its ushna, tikshna, and kapha-vatahara qualities, it facilitates detoxification through processes such as hydrolysis of aconitine into less toxic derivatives and leaching of harmful constituents. The physico-chemical changes produced during Gomutra Shodhana enhance the safety and medicinal value of Vatsanabha, thereby emphasizing the importance of classical purification methods in Ayurvedic pharmaceuticals.

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