

Adverse effect due to inhalation of *Vatsanabha* (*Aconitum ferox* Wall.) root powder during its processing and its *Ayurvedic* management: A Case study

Mital Buha^{1*}, Niral Sojitra¹, Rabinarayan Acharya²

M.D. Scholar^{1*} Professor & Head²

Dept. of Dravyaguna, Institute for Post Graduate Teaching and Research in Ayurveda (IPGT&RA), Gujarat Ayurved University, Jamnagar, Gujarat, Pin-361008, India

*Corresponding author: email: buhamital22@gmail.com Mob: +919727122131

Abstract

Vatsanabha (*Aconitum ferox* Wall.), in Ayurveda pharmacopoeia, is considered as deadly poison and has been categorized under group of *Sthavara visa* (poison of plant origin) and the *Mahavisha* (Potent poison). Pharmacopoeia recommends its use in various formulations after proper *Shodhana* (processing). A 25 year old female patient, complaining of irritation and burning sensation of the eyes and nasal mucosa, nausea, running nose, vomiting, fever, body ache, abdominal pain, difficulty in breathing, sudden onset menstruation cycle attended the OPD. The patient had a history of normal health, before she carried out *Marana* (incineration) process of *Shodhita* (processing) *Vatsanabha*. She had a precautionary measure of using mask and cap during the powdering of *vatsanabha* in a mechanical grinder and did not consume the drug orally. Patient was treated with *Nasya* (nasal administration) of *Ghrita Manda* (supernatant layer of ghee) (3-4 drops), *Sudarshana churna* (5 g) along with warm water thrice in a day, *Sitopaladi churna* (5 g) along with internal administration of combination of *Ghrita* (10 ml) and *Madhu* (5 ml). Patient was observed until all sign and symptoms subsided. Initial symptoms like nasal mucosa irritation & burning sensation, burning sensation of the eyes, vomiting and abdominal pain subsided in two day and fever, running nose, body ache within five days and she had a normal menstruation cycle in next month. Hence, it is concluded that *Vatsanabha Shodhana* (processing)/*Marana* (incineration) must be carried out in an open place to avoid inhalation of *vatsanabha* powder, gloves, mask and cap should be worn. *Vatsanabha* poisoning through inhalation can be managed by administration *Nasya* of *Ghrita Manda* and *Snehapana* as supportive therapy. It should be administered with caution to the patient during pregnancy.

Keywords: *Vatsanabha*, *Aconite*, Side effect, *Visa*, *Nasya*, ADR.

Received: 15.03.2018

Revised: 28.03.2018

Accepted on: 30.03.2018

Introduction:

Aconitum ferox Wall. (syn. *A. virorum*) is a member of the monkshood genus *Aconitum* of the family Ranunculaceae, and forms the principal source of the Indian poison known variously as *bikh*, *bish*, and *nabee*. It contains large quantities of the extremely toxic alkaloid aconitine, pseudoaconitine, and is considered to be the most poisonous plant found in the Himalaya and one of the most poisonous in the world.^[1] In Ayurvedic Pharmacopoeia *Vatsanabha* (*Aconitum ferox*) is also considered as the deadly poison categorized under the *Sthavara Visa* (poison of plant origin) and the *Mahavisha* (Potent poison)^[2-4]. Besides the hazardous effects, the root of *Vatsanabha* is considered to have medicinal value and used in many formulations to treat disorders like fever, skin disorders, etc. It is also used as external application to treat wound, unconsciousness, pain, rheumatoid arthritis.^[5]

Ayurvedic pharmacopeias recommends that *Vatsanabha* to be administered only after proper *Shodhana* (processing) either in *Gomutra* (cow's urine), *Ajadugdha* (goat's milk), *Godugdha* (cow's milk), *Triphala Kwatha* (decoction of *Triphala*), *MahishaMala* (buffalo Dung), *Ksharajala* (*Tankanodaka*) (water of borax)^[6-7] and *Marana* with *Tankana* (Borax), *Tankana* (Borax) and *Maricha* (*Piper nigrum*), *Gandhaka* (Sulpher), *Twak* (bark of *Cinnamomum zeylanicum*).^[8]

Present case study reports, for the first time, the adverse effects caused by *vatsanabha* root powder inhalation of *Shodhita Vatsanabha* root powder during the *Marana* (incineration) process of *Vatsanabha*.

Case report:

On 9th October 2017, 25 year old female, presented with the case No. 54562 to the OPD, complaining of fever and burning sensation in nasal mucosa. She gave a history of conducting *Marana* (incineration) process of *Shodhita Vatsanabha* with *Maricha* (*Piper nigrum*). During the process while powdering the *Shodhita Vatsanabha* and mixing with *Maricha* by trituration process, she experienced irritation and burning sensation in the eyes, burning sensation in nasal mucosa, nausea, vomiting, fever, body ache, abdominal pain, difficulty in breathing, burning sensation in stomach and starting of the menstruation cycle before her regular schedule. She had no past history of fever and abdominal pain and she had a history of regular menstruation cycle. She was not under any medication. The personal history of patient and *Astavidha Pariksha* findings were observed as noted in table-1 and table-2 respectively.

Treatment protocol:

The patient was treated with internal systemic treatment protocol and local treatment as mentioned in the table-3 at OPD basis for 7 days, with a detail follow up.

Table- 1: Personal history of the patient:

Name: ABC (changed)	Bala – <i>Madhyam</i> (Average)	Prakriti – <i>PittaVata</i>
Age – 25 yrs.	Sleep – Disturbed	BP –100/70 mmHg
Sex – Female	Addiction –None	Temperature - 100°
Marital Status – Unmarried	Bowel Habit – Regular	Weight – 47 kg
Occupation – Research scholar	Appetite – Poor	Height – 164 cm

Table-2: Astavidha Pariksha:

<i>Nadi</i> (Pulse): 70/min	<i>Shabda</i> (Speech): Clear
<i>Mala</i> (Stool): 4-5 time/ day	<i>Sparsha</i> (Touch): <i>Ushna</i>
<i>Mutra</i> (Urine): Regular	<i>Druka</i> (Eyes): Normal
<i>Jivha</i> (Tongue): <i>Sama</i>	<i>Akruti</i> (Built): <i>Madhyam</i>

Table -3: Treatment protocol:

Medicines	Dose	Route	Aushadhakala	Anupana
<i>Sudarshana churna</i> ^[9]	5g thrice a day	Oral	Before meal	Warm water (15ml)
<i>Sitopaladi churna</i> ^[9]	3gm thrice a day	Oral	Before meal	<i>Ghrita</i> (10ml) + <i>Honey</i> (5 ml)
<i>Goghrita</i>	20g/ day	Oral	Before meal	-
<i>Goghrita Manda</i>	3-4 drops twice a day	<i>Pratimarsh Nasya</i>	Before meal	-

Discussion:

According to *Ayurvedic* pharmacopoeia *Vatsanabha* possess *Madhura*, *Katu*, *Tikta*, *Kashaya Rasa*; *Laghu*, *Tikshana*, *Vyavayi Guna*; *Ushna Veerya*; *Katu Vipaka* and *Tridosahara*, *Vatakaphahara*, *Rasayana*(rejuvenation), *Sveadajanana* (perspiration), *Shulahara* (pain reliever), *Deepana* (Appetizer), *Brumhana*

(nourishing), Antipyretic, Anti-inflammatory, Analgesic, Antioxidant, Hypnotic properties according to *Ayurvedic* pharmacopoeia.^[10-11]

Intake of raw *Vatsanabha* or overdose of *Shuddha Vatsanabha* may cause *Grivastambha* (stiffness of neck), yellowish discoloration of urine, stool and eye, *Jvara* (fever), *Hikka* (hiccup), *Galagraha*

(difficulty in swallowing), *Dantaharsha* (tingling sensation in the teeth), *Phena Vamana* (vomiting of frothy material), *Aruchi* (anorexia), *Swasa* (asthma), *Murccha* (fainting), burning sensation in the body, *Moha* (unconsciousness), *Hrudgati Rodham* (arrest of cardiac function), even death.^[12]

Typical symptoms of 17 cases, poisoning due to consumption of *Aconite* species, such as neuralgic, cardiovascular, gastrointestinal, ventricular tachycardia has been previously reported.^[13]

Accidental toxicity and death have resulted when the plant has been consumed accidentally, possibly mistaken for wild parsley, horseradish, or other herbs growing in the wild.^[14-15] Few reports of toxicity have also been reported due to the use of traditional Chinese remedies sometimes with fatal outcome.^[16-17] Most incidents of *Aconite* toxicity have been reported from Asian countries with few case reports from India.^[18-21] Cardiac arrhythmias arising from *aconite* poisoning has been successfully treated with amiodarone.^[22]

In this case, when the patient was treated with above treatment protocol, patient was relieved from symptoms like irritation and burning sensation of the eyes, nausea, vomiting, fever, body ache, abdominal pain, difficulty in breathing, burning sensation nasal mucosa, burning sensation in stomach within the follow up period of seven days. After treatment, next menstruation cycle was regular. Sudden onset of menstruation cycle may be due to hormonal changes.

Sudarshana churna is having property like *Deepana* (appetizer), *Pachana* (digestive),

Tridosahara, *Jvarahara* (antipyretic), *Kasa* (bronchitis), *Swasa* (Asthma)^[9], antipyretic and anti-oxidant properties^[23]. Due to these properties, it helps in reducing *Aama* in the body and eliminates the toxins, which is an ideal treatment for fever.

Sitopaladi churna is having property like *Deepana* (appetizer), *Kaphapittahara*, in *Mandagni* (loss of appetite), *Kasa* (bronchitis), *Swasa* (asthma), *Aruchi* (anorexia), *Jvara* (fever), *Kshaya* (tuberculosis),^[9] anti-oxidant, anti-tussive, and anti-inflammatory properties.^[24] Due to these properties, it may helps in strengthening respiratory system as well as other parts of the body. It may acts as expectorant and decreases phlegm from the lungs, dilates respiratory tract and soothes throat mucosa and so it reduces irritation in throat and gives relief in non-productive cough.

Hrdyaavarana (giving medication to protect the heart) is on among 24 medicaments mentioned by *Charaka* for treatment of *Visha Chikitsa* and *Ghrita* is one among them.^[25] It also possess properties like *Deepana* (Appetizer), *Vatapittahara*, *Raktaprasadana*, *Vishghna* (antidote), *Ojovardhaka*^[26], antibacterial, anti-fungal, antiviral, anti-aging and anti-oxidant^[27] properties. Because of these properties, it helps detoxification and has cooling effect on body.

Shushruta recommends administration of *Goghrita*, in the form of *Pratimarsha Nasya*, for the management of poison, it administered through nasal route. *Nasa* is the portal way of *Shiraha* (head)^[27] and

Goghrita is having *Madhura Rasa, Snigdha, Guru Guna, Sheeta Veerya, Madhura Vipaka* and due to these properties it relieves symptom *Nasadaha* (burning sensation in the nose), *Akshidaha* (burning sensation of the eyes) because *Nasa* is portal way of *shiraha*.^[28]

Conclusion:

Vatsanabha can cause adverse effects through inhalation also. *Vatsanabha Shodhana* and *Marana* should be carried out, in open palace to avoid inhalation and the precaution should be taken by wearing eye protection, gloves, mask and hair cap. *Ayurvedic* treatment protocol with internal administration of *Sudarshana churna, Sitopaladi Churna, Snehapana* with *Goghrita* and *Nasya* with *Goghrita Manda* are effective in the management of *Vatsanabha* poison due to inhalation. Caution must be taken, if administrated, during pregnancy also.

References:

1. K. M. Nadakarni. Indian plants and drugs, 3rd edition. Srishti book distributors; 2005. p. 12-14.
2. Sadananda Mishra. Rasatarangini. Kashinath Shastri, editor. Varanasi: Motilal Banarasidas; 2000. 24/7-8. P.648
3. Sushruta. Sushruta Samhita, Vol. I & II. Kaviraj Ambika Dutta Shastri, editor. 2nd ed. Varanasi: Chaukhambha Sanskrit Sansthan; 2012. Kalpasthana, 2/5. p.21.
4. Charaka. Charaka Samhita. Rajeswara Datta Shastri, editor. 2nd ed. Varanasi: Chaukhambha Bharati Academy; 2011. Chikitsasthana, 23/11-12. p.625.
5. Sadananda Mishra. Rasatarangini. Kashinath Shastri, editor. Varanasi: Motilal Banarasidas; 2000. 24/26-31. P.653.
6. Sadananda Mishra. Rasatarangini. Kashinath Shastri, editor. Varanasi: Motilal Banarasidas; 2000. 24/19-25. P.652.
7. Madhava. Ayurveda Prakasha. Gulrajasharma Mishra, editor. Varanasi: Chaukhambha Bharati Academy; 2007. 6/59-60. P.493
8. Shastri Laxmipati. Yogratnakara. Bhrahmasankar Shastri, editor. Varanasi: Chaukhambha Prakashan; 2013. 1/1. P.166
9. Anonymous, The Ayurvedic Pharmacopoeia of India Part 1. 2nd revised edition; Govt. of India: Ministry of Health and Family Welfare, Department of Indian Systems of Medicine and Homoeopathy; New Delhi: 2001 P-116.
10. Sadananda Mishra. Rasatarangini. Kashinath Shastri, editor. Varanasi: Motilal Banarasidas; 2000. 24/26. P-653.
11. Singh LB, Poisonous (Visa) Plants in Ayurveda, Chaukhambha Sanskrit Bhawan, Varanasi, 2nd ed., 2003.
12. Sadananda Mishra. Rasatarangini. Kashinath Shastri, editor. Varanasi: Motilal Banarasidas; 2000. 24/18. p.651
13. Lin CC, Chan TY, Deng JF. Clinical features and management of herb-induced aconitine poisoning. Ann Emerg Med. 2004; 43:574-9.
14. R. Pallela, L. Young, B. Gallagher, S.P. Avis, E.W. Randel, A case of fatal aconitine poisoning by monkshood ingestion, J Forensic Sci, 53 (2008), pp. 491-494.
15. Y.T. Tai, P.P. But, K. Young, C.P. Lau, Cardio toxicity after accidental herb-

- induced aconite poisoning, *Lancet*, 340 (1992), pp. 1254-1256.
16. S.W. Smith, R.R. Shah, J.L. Hunt, C.A. Herzog, Bidirectional ventricular tachycardia resulting from herbal aconite poisoning, *Ann Emerg Med*, 45 (2005), pp. 100-101
 17. M. Imazio, R. Belli, F. Pomari, *et al.* Malignant ventricular arrhythmias due to *Aconitum napellus* seeds, *Circulation*, 102 (2000), pp. 2907-2908.
 18. C.C. Lin, T.Y. Chan, J.F. Deng, Clinical features and management of herb-induced aconitine poisoning, *Ann Emerg Med*, 43 (2004), pp. 574-579.
 19. S. Singh, P. Fradnis, B.K. Sharma, Aconite poisoning, *J Assoc Physicians India*, 34 (1986), pp. 825-826
 20. S. Guha, B. Dawn, G. Dutta, T. Chakraborty, S. Pain, Bradycardia, reversible panconduction defect and syncope following self-medication with a homeopathic medicine, *Cardiology*, 91 (1999), pp. 268-271.
 21. B.S. Gupta, R. Saigal, R. Vottery, N. Singhal, S. Banerjee, Sustained ventricular tachycardia in a case of aconite poisoning, *J Assoc Physicians India*, 47 (1999), p. 455.
 22. D.F. Yeh, F.T. Chiang, S.K. Huang Successful treatment of aconitine induced life threatening ventricular tachyarrhythmia with amiodarone, *Heart*, 84 (2000), p. E8
 23. Govindadasa. BhaishajyaRatnavali. Ambikadatta Shastri, editor. Varanasi: Chaukhambha Prakashan; 2011. 5/445-454. p.117.
 24. Charaka. Charaka Samhita. Rajeswara Datta Shastri, editor. 2nd ed. Varanasi: Chaukhambha Bharati Academy; 2011. Chikitsasthana, 8/104. p.293.
 25. Charaka. Charaka Samhita. Rajeswara DattaShastri, editor. 2nd ed. Varanasi: Chaukhambha Bharati Academy; 2011. Chikitsasthana, 23/46. p.633.
 26. Sushruta. Sushruta Samhita, Vol. I .Kaviraj Ambika Dutta Shastri, editor. 2nd ed. Varanasi: Chaukhambha Sanskrit Sansthan; 2012. Chikitsasthana, 31/15. p.168.
 27. Ayurvedic Pharmacopoeia of India part I vol. 6, 1steditionGovt. of India: Ministry of Health and Family Welfare, Department of Indian Systems of Medicine and Homoeopathy; New Delhi; p.n 204.
 28. Sushruta. Sushruta Samhita, Vol. I & II. Kaviraj Ambika Dutta Shastri, editor. 2nd ed. Varanasi: Chaukhambha Sanskrit Sansthan; 2012. Kalpasthana, 1/64. p.12.

Guarantor: Corresponding author is guarantor of this article and its contents.

Conflict of interest: Author declares that there is no conflict of interest.

How to cite this article: Buha M, Sojitra N, Acharya RN. Adverse effect due to inhalation of Vatsanabha (*Aconitumferox*Wall.) during its processing and its Ayurvedic management: A Case study *Int. J AYUSH CaRe*. 2018; 2(1):14-19.