



**CONCEPTUAL STUDY ON ANTI TOXIC EFFECT OF APAMARG MOOLA IN  
VRISHCHIKA DAMSHA**

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**ABSTRACT**

Scorpion bite is a common global public health problem including India. Despite various species of scorpions, only few of these can be potentially lethal to humans. In India, the annual number of scorpion stings cases exceeds 1.23 million, of which over 32,250 may be fatal. This can be attributed to various hurdles in the scorpion bite treatment like poor health services, difficult and untimely transportation facilities, wrong traditional beliefs, delay in anti-scorpion venom administration which ultimately leads to substantial amount of mortality and morbidity. Ayurveda has mentioned the bite of Sarpa, Keeta, Luta, Vrischika etc., the Jangama Visha (animate poisons), their characteristic symptoms and its management, in a very special branch of Astang Ayurveda. Vrischika (scorpions) is a type of Keeta (insect) due to its severity of poisoning and disease manifestations. Ayurveda Acharyas have given special attention to Vrischika Visha and are described in the classics as a special entity. Administration of anti-scorpion venom is the only specific treatment available in India but has many limitations like species specificity, difficulty in availability, affordability and ideal storage conditions. Vrischika Damsa is specific envenomation that needs medical attention. Much fruitful traditional and regional knowledge are available in the management of Vrischika Damsa Ayurveda has explained numerous medicinal plants in the management of Vrischika Damsha (Scorpion bite). These medicinal plants widely used by traditional healers. So present paper gives an idea of medicinal effect of Apamarg Moola in Vrischika Damsha.

**KEYWORDS:** Vrischika damsha, Scorpion poison, Apamarg, etc.

**INTRODUCTION**

Vrischika is the oldest poisonous creature of the earth.<sup>[1]</sup> This eight legged creature causes more than five thousand deaths worldwide in a year. Among 800-1000 species, 30 species are lethal to humans. Red scorpion is said to be most lethal among which found in India.<sup>[2]</sup>

In and around the coastal area we rarely found this lethal red scorpion, but Punjab is the land of poisonous black scorpion.<sup>[3]</sup> The black scorpion species belongs to Genus-Heterometrus mild poisonous scorpion. Casualty of life is very less, but it cause local pain, inflammation, oedema and redness of skin.<sup>[4]</sup> Ayurvedic texts too explain the various variety of *Vrischika* based on its origin, structure and its sting effect. *Manda Vrischika* is predominantly black in colour and produce similar effect of genus *Heterometrus* scorpion.<sup>[5]</sup>

This kind of Scorpion stings are seen often in rainy season in rural area where vegetation, often forested,

humid regions with subtropical to tropical climate.<sup>[6]</sup> The toxicity of scorpion venom is due to the presence of non-enzymatic protein **serotonin**. By the result of sting, people will rush to health aid, where treatment is given for pain. Whereas swelling will remains for weeks together, may leads to allergic reactions also. To overcome all these associated ailments it is necessary to adopt conservative method.

Poison has been a challenge and threat to well-being; even existence of life. Ayurveda has mentioned the bite of Sarpa, Keeta, Luta, Vrischika etc., the Jangama Visha (animate poisons), their characteristic symptoms and its management, in a very special branch called as Agadatantra. Even though Vrischika (scorpions) is a type of Keeta (insect) due to its severity of poisoning and disease manifestations Ayurveda Acharyas have given special attention to Vrischikavisha and are described in the classics as a special entity. Vrischikadamsa is specific envenomation that needs medical attention.

Much fruitful traditional and regional knowledge are there in the management of Vrishchikadamsa in India also in several places Vrishchikadamsa occurrence is high.

Apamarga have a great Vishaghn properties in his Panchanga but the specific Vishaghana property in his Moola which is used in traditional medical treatments of India. So we take a conceptual study on Anti-Toxic Effect of Apamargmoola in Vrishchika Damsha.

#### AIMS AND OBJECTIVES

- To study anti toxic effect of Apamarg Moola in Vrishchikadamsha.
- To evaluate and discuss the Ayurvedic property of Apamarg Moola and its mode of action in Vrishchikadamsha.

#### MATERIALS AND METHODS

- The study on *Vrishchikavisha* and *Apamarg Moola* was done with the help of *Ayurvedic Samhitas* especially *Sushruta Samhita* and *Asthang Sangreha* and conceptualize and summarize the data of different *Samhita* and respective commentaries.
- The text book of modern medicine and index medical journal has been also referred to review of material of consent topic.

#### CONCEPTUAL STUDY

General features of *Vrishchikavisha* according to Acharya Vagbhata. The features of *Visha* in *Vrishchika* are:

- Tiskhnan (highly potent) in nature.
- Ushna (hot potency), so it causes *Daha* (burning sensation like fire).

- In the beginning there will be *Daha* on the *Damshasthan* (bite site) and there after it spreads upwards (general spread).
- At the end, it localizes at the site of the sting. It produces severe pain, blackish discoloration and throbbing type of pain at the site of the sting.<sup>[7]</sup>

#### Scorpion Venom

Scorpion venom is a cocktail of several neurotoxins, cardio toxins, nephron-toxins, hemolytic toxins, nucleotides, amino acids, oligopeptides, phospholipase A, hyaluronidase, acetylcholine esterase, histamine, serotonin, 5- hydroxyl-ptamine and proteins that inhibit protease, angiotensin's and succinate dehydrogenase.<sup>[8]</sup>

#### Mechanism of action Scorpion venom

Scorpion venom is a potent sodium channel activator. It causes, delay in closing of neuronal sodium channels, which results in "autonomic storm" leading to sudden pouring of endogenous catecholamines into circulation leading to transient sympathetic and parasympathetic stimulation.<sup>[9]</sup>

#### Scorpion bite symptoms

Scorpion venom (sting) causes massive release of neurotransmitters, which result in various clinical features resulting from envenomation. Scorpion bite Symptoms such as profuse sweating, vomiting, increased salivation, bradycardia, priapism, cold extremities or transient hypertension followed by development of severe cardiovascular manifestations such as hypotension, tachycardia, pulmonary edema, tingling numbness and restlessness. Morbidity and mortality are result due to acute refractory pulmonary edema, cardiogenic shock and multi-organ failure.<sup>[10]</sup>

About Apamarga Moola Table no-10.

Drug	Classical text	Rasa	Guna	Virya	Vipaka	Karma	Pharmacological activity	Chemical composition
Rakta Apamarga (Achyranthus aspera Linn.)	Raj Nighantu <sup>[11]</sup>	Katu	Tikshna	Sita	Katu	Kapha- vatnut, vishaghna	Wounds, prurites, antidote to poisons, causes vomiting.	Betaine, achyranthine, hentricontane,ecdysterone, achyranthus saponins A, B, C, D.
	Dhanwantri Nighantu <sup>[12]</sup>	Tikta, katu	Tikshna	Usna	-	Kapha- nashana, vata- visthambi.	Useful in wounds (septic), pruritus & poisons	
	<b>Kaidev Nighantu<sup>[13]</sup> (Phala)</b>	Madhur	Ruksha	Sita	Madhura	Durjra, vistambhaka, vatajnaka,	Useful in Raktpitta	
	<b>Bhavprakash Nighantu<sup>[14]</sup> (Phala)</b>	Madhur	Ruksha	Sita	Madhura	Durjra, vistambhaka, vatajnaka,	Useful in Raktpitta	

Note – Rakt Apamarga Phala having Madhura Rasa, Ruksha Guna, Madhura Vipaka, Sita Virya.

#### Probable mode of action

1. The red flowered variety of Apamarga is cold in potency and pungent in Rasa. It alleviates kapha and Vata. It is indicated in wounds, prurities and as an

antidote to poisons. It is astringent and causes vomiting.<sup>[15]</sup> {R.N.}

2. There is another red kind of Apamarga of which synonyms are Raktapushah, Vasirah, Kapippali, Ksdraapamarga, Raktah, Raktapurvakah.<sup>[16]</sup>
3. Rakta Apamarga pacifies Kaphadosa caused flatuance and is useful in wounds, prurities and poisons. It is astringent in action and powerful emetic.<sup>[17]</sup> {D.N.}
4. Vashir having Madhura Rasa, Madhura Vipaka, Seet Virya<sup>[18]</sup> {K.N.}

Rakt Apamarg Moola is a Vishahara drug. This property may be due to the Prabhava of the Moola Churna. The poison entered in the body would be soon distributed in the body after vitiating the Rakta Dhatu. To neutralize the poison internal administration of Vishahara drug is essential. Also, the Acharyas are described the importance of complete elimination or neutralization of the poison is necessary; as partial neutralization or elimination can cause delayed effects on the body. Mode of action of drugs depends on many factors like Rasa, Guna, Veerya, Vipaka, Prabhava, and Karma, Doshagnata etc. Rakt Apamarg Moola is used very widely for toxic conditions and is found to be very effective in insect-bite at different area of India. It is a proved effective drug in animal study of Snake Bite. While analyzing the Doshagnata property of the Drug, it is having Kapha-vatnut, Vishaghna (R.N.), Kaphanashana, Vata-visthambi (D.N.), Vata Kaphaghna and Tridoshaghna property. On analyzing the Guna, the drug is Laghu Teekshna predominant. Likewise its Rasa is Katu, Tikta; Vipaka is Katu, Madhura; and Veerya is Ushna Anushnaseeta predominant in combination. By virtue of these properties the properties of drug can be Vata Kaphaghna, Laghu Teekshna Guna, Katu Rasa, Katu Vipaka and Ushna Veerya.

#### DISCUSSION

The cases of scorpion poisoning reported in India was 32% Scorpion venom symptoms are produces are mostly classified into Two group Local and Systemic, in local Swelling, sweating and radiating pain, along the involve dermatome (area of skin that is supplied by a single spinal nerve). Systemic manifestation includes – vomiting, hyper salivation, mydriasis, priapism, hypotension. Pulmonary edema is common cause of fatality. Scorpion anti-venom is one of the line of treatment in India, though it is specific antidote to venom action it does not prevent or reverse the cardio vascular morbidity. So it is the time need to evaluate the Anti venom activity of medicinal plant. Since ancient time many herbs are use in the treatment of scorpion bite and it is also scientifically proved. There are so many plant which has a therapeutic value in the scorpion bite treatment. As we know that *Damsha* of *Vrishcika* causes *Vata* vitiation in the body So this *Rakt Apamarga* have *Vatahara*, *Vata Kaphaghna*, *Vishghna*, *Hridiyak* property (Table no-1); Which produces analgesic, anti-inflammatory, anti-Oxidant, anti-depressant, hypotensive and Wound healing properties.

#### CONCLUSION

According to the classical references in Ayurveda the poisoning caused due to scorpion bite can be treated successfully by use of many Vishaghana Yogas and Ekal Dravyas. Table mentioned above clearly envisage that the herbal medicine have excellent potential to treat various ailments including scorpion bite. According to Rasa, Guna, Veerya, Vipaka and Prabhava of Rakt Apamarga Moola; we can used in the treatment of scorpion stings. It may be shows makeable results in use of scorpion bite with Madhu or any other preparations. The method of preparation and mode of action always remain simple, convenient and cost-effective. They are comparatively safer than synthetic drugs However; further studies are required to identify the phytochemicals responsible for anti-scorpion activity of these medicinal drugs and also various other formulations.

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