

A SUMMARY OF THE RELEVANT STUDIES ON THE RISKS POSED BY SPIDER VENOM

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ABSTRACT:

Spiders belong to the phylum Arthropoda and the class Arachnida, respectively. Over 34,000 species are found in each of the 100 families. Every spider poses a threat. But just a few species have venom that is harmful to people. A spider's biting apparatus consists of two chelicerae and venom sacs, which are where the poison is stored. Frequently, the venom is a clear liquid with a little greasy feel. The spider bites by spinning two punctures into the victim's body with its sharp, fang-like fangs. Spider venom appears to have a complex chemical make-up and to have both neurotoxic and hemotoxic effects. Local symptoms such as a scorching, throbbing, and painful sensation, numbness, stiffness, and maybe a very minor swelling at the site of punctures are frequently present after a bite. Most of the time, this symptom only lasts a short while—a few minutes to a few hours. Some poisons contain hemotoxins, which cause necrosis and gangrene by destroying the cells in the area. Cytotoxic, hemotoxic, and neurotoxic are the three types of toxicity. Black widow spiders (*Latrodectus mactans*), brown spiders, and tarantulas are among the spider species that can severely poison humans (*Lycosa* species). Neurotoxic venom is produced by black widow spiders.

KEYWORDS: Spider, neurotoxin, black spider, envenomation

INTRODUCTION:

the more than 20,000 species of spiders that are divided into 60 families. Most of them are not dangerous. The larger species' looks frequently terrify or repulse people. One of the deadliest and most toxic spider species are the black widow and *Loxosceles* (*Latrodectus mactans*). The *Lycosa raptoria* species, popularly known as the tarantula, can dangerously envenomate a human. the more than 20,000 species of spiders that are divided into 60 families. Most of them are not dangerous. The larger species' looks frequently terrify or repulse people. Black widow and *Loxosceles* spiders are among the most lethal toxic

species (*Latrodectus mectans*). Envenomation from the *Lycosa raptoria* "tarantula a" species can be fatal. The venom contains a variety of neurotoxins, vascular poisons, and necrolytic enzymes (more in black widow). Gangrene develops within 24 hours as a result of the acute neurological symptoms, cell membrane collapse, and blood vessel destruction. Most of them, whether chemical or irrational, contain a component in their systems that will irritate skin and damage tissue. [1]

Origins of the spider (Lootaa utpatti, according per Veds): Sweating drips from Vasiht's head, who is angry with Vishwamitra, fall upon the mowed grass that has been transformed into Lootaa. Others think that the flames that erupted from the asuras' bodies as the Khaad'ava woodland burned were what gave rise to Lootaa. Others claim that the term "lootaa" alludes to blebs (vesicles) that appear on the body after consuming poisonous food.

Ayurveda and Spider

28 different varieties of loot are stated by Vaagbhat, compared to Sushruta's 16 different types. Vaatika, paittika kaphaja, and saannipaatika are categorised by vaagbhat'a based on the symptoms found in men. There were also further classes for asaadhya and kruchara saadhya (severe) (fatal). The lootaa visa is said to be extremely dangerous, challenging to recognise, and challenging to treat. It is said that theft, or pittakaphaadhika, results in wealth. Pitta kaphalakshanas will thus happen more frequently. Burning, pus, and oedema will all be present. Therefore, the lesion will present clinically as a vesiculo bullus [2,3].

Classification of spiders (Lootaa)

Spiders are classified as follows

1. According to prognosis
 - a. Krucharasaadhya (Cured with difficulty) — Ekadoshaja
 - b. Asaadhya (Incurable)—Tridoshaja
2. According to the potency of poison (VishaVeerya)
 - a. Teekshna (Highly Potent)
 - b. Madhya (Medium)
 - c. Manda (Low potency)
3. According to the predominance of humors (Doshas)
 - a. Vaatika — 7
 - b. Paittika — 7
 - c. Kaphaja — 7
 - d. Saannipaatika — 7[4]

Classification of lootaa according to dosha

Agneya luta(pitta)	Saumya luta (kapha)	Vayavaya(vata)	Misraluta (sannipataja)
Kapila	Kaakanda	Kumudaa	Kaakanda
Agnimukh	Raktapadikaa	Alavisa	Enapadi
Pitaa	Bringaa	Raktaa	Laajaa
Padhma	Pingaa	Citra	Vaidehi

mutraa	Trimandalaa	Santaa	Jaalani
sitaa	Puti	Nimechaka	Maalaaguna

Various Acharyas attribute Lootaa Visha Adhishtan.

S. No.	Text	Adhisthan no.	Name of Adhisthan
1	Susruta samhita	07	Lala, Nakha, Mutra, Damstra, Raja, Purisha, Sukra
2	Astanga sangrah	08	Lala, Nakha, Mutra, Damstra, Raja, Purisha, Sukra, swasa
3	Astanga hridaya	06	Lala, Nakha, Mutra, Damstra, Raja, Purisha, Sukra, swasa

The prognosis for spider poisoning: Even the most painful and severe spider bites can be poisoned. Venomous becomes lethal after a week. If the person is a little bit poisonous, it can take a little longer. A moderate animal's bite won't be fatal, though. Poisoning deaths occur in a single night [5].

Name of sadhya asadhya Lootaa (spider) Krichha asadhya (curable with difficulty): 8 in number - 1. Trimandalaa, 2. Sweta, 3. Kapila, 4. Pitika, 5. Alavisa, 6. Mutravisa, 7. Rakta, 8. Kasana.

Symptoms of krichha sadhya Lootaa –

- Headache,
- itching and
- pain at site of bite and disorders peculiar to the aggravated Vayu and kapha.

Clinical features of Lootaa Vish on a daily basis [6].

S. No.	Sushruta Samhita	Astanga Hridaya
1	At the site of the bite, there is only mild itching, kotha (urticaria), and haziness in colour.	Without any indication of colour, it seems to be a needle mark and is quite unpredictable with some little discomfort and itching.
2	The bite site has a distinctive morphology where it is sunken in the middle and enlarges at the end.	elevation at the periphery or becomes thickly covered eruptions with a well-defined centre that are depressed in colour and itch.
3	Clearer views of the features are possible.	Fever, horripilation, red saucer-shaped rashes, intense prickling discomfort, and bleeding all appear at the hair follicle.
4	Poison deteriorates	intense heat, significant swelling, dyspnoea, and light-headedness
5	a worsening of disorders specifically related to poisoning.	increasing poisoned symptom counts
7	consisting of the complete body, including the	It spreads to important areas.

	marma (vital spots).	
8	exceedingly common and widespread Fatal anxiety	exceedingly common and widespread Fatal anxiety

Treatment of spider poisoning General Treatment

- Incision (chhedana)
- Cautery (dahan Karma)
- Coating (Lepana)
- Seka
- Blood letting
- Vamana
- Virechana [7,8]

For external uses:

- Ginger and holy basil
- Honey and salt rock
- Milk and terrified basil root [9]
- Roots of Indian Indigo and Albizialebeck their leaves' juice.
- fresh turmeric, fresh basil leaves, and water at a boil Abreus, Indian Indigo, and vortexnegundo precarious. [10]

FOR USES INTERNALLY

- Milk with frightened basil and turmeric
- Adherence to Neeleetulaadi (Jyotsnikaa)
- Lodhraadilehya (KriyaKoumudee) [1]

Conflict of interest:

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