

**CONCEPTUAL STUDY OF LUTA VISA (SPIDER POISON) ACCORDING TO  
AYURVEDA ASWELL AS CONTEMPORARY SCIENCE**<sup>1</sup>\*Dr. Vivek Gopal and <sup>2</sup>Dr. Vidya C. Undale<sup>1</sup>PG Scholar (Agadtantara Evam Vidhi Vaidyak) Sumatibhai Shah Ayurved College Hadapsar Pune-28.<sup>2</sup>Asso. Prof. (Agadtantra Evam Vidhi Vaidyak) Sumatibhai Shah Ayurved College Hadapsar Pune-28.**\*Corresponding Author: Dr. Vivek Gopal**

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**ABSTRACT**

Agada tantra addresses the warning signs, physical additionally with the treatment of poisoning brought on by the bites of snakes, insects, worms, spiders, rodents, etc., as well as a variety of other poisons created by improper drug or substance combinations. The number of spider species has been estimated at over 50,000. Even though only a small percentage of spider bites are dangerous, delaying treatment can result in death. Since spider bites pose a risk to humans, they should be treated seriously, particularly in areas where they are endemic. In this review, our goal was to learn more about poisonous spiders and their cures. The classification, clinical features (general and specific) and treatment protocol for spiders (lutas) are all included in the Agada Tantra's simplified approach to spiders (lutas). This is a conceptual study and it is mainly focusing on the study of management of Spiderpoison in ayurveda and modern.

**KEYWORDS:** Luta, Spider poison, management contemporary science.**INTRODUCTION**

The eight branches (Astānga Ayurveda) that make up the basis of the system are divided into Agada Tantra (Toxicology), Salyatantra (Surgery), Salakyatantra (Ophthalmology and Otolaryngology), Kāyacikista (General Medicine), and Grahacikista (Psychiatry). Kaumārābhṛtya (Paediatrics) (Paediatrics). Geriatrics-focused Rasayana and Vjkarana (the Science of Fertility and Virility). The classifications and examinations of the poison, the diseases it causes, the various treatment philosophies, the prevention of the poisons, etc., are all described in detail in the classical Ayurvedic references.<sup>[1]</sup> The arachnid family includes at least 50,000 different species of spider. Spiders are classified as having two body parts, the thorax and the abdomen, eight jointed legs, and no wings or antennae.

Throughout their entire life, spiders capture and consume other insects (about 2,000 in a year). Despite the fact that spiders are extremely beneficial to our environment, the majority of people have a strong fear of them. The majority of spiders are killed purely for entertainment purposes and not because they pose a threat to humans.

All spiders produce venom, though the potency varies from spider to spider. A spider's fangs are hollow. The victim receives the venom injection through the fangs (usually an insect).

The victim receives the venom injection through the fangs (usually an insect). The venom's rapid paralysis and gastrointestinal aid will help the victim. The majority of spiders, fortunately, do not pose a threat to people because their fangs are either too short or too fragile to pierce skin.<sup>[2]</sup>

**MATERIALS AND METHODS**

The study on spider-poison with the help of Various articles, books, websites to the topic were reviewed for this conceptual Study.

**RESULTS**

**1) Mythological Account of The Origin of Luta-** It is said that once upon a time, king Visvamitra visited the hermitage of the holy sage Vasistha and, in some way, provoked the holy sage's wrath. As a result, Vasistha, the angry sage, begins to perspire drops of brilliantly shining sweat. and trickled down onto the mound of cut grass that was gathered for the cows. These drops of sweat then transformed into countless horrifying, poisonous spiders (Luta), which are now found to infest the royal sage's (Visvamitra) use-only items. They are sixteen in number and are known as Lutas (Spiders) because they were born from the holy sage Vasistha's sweat drops that fell on the freshly cut grass.

Due to its resemblance to insects, Acarya Vāgbhaṭa

classified this *Lutavisa* as an insect.

## II) Classification of Lūta

### 1) Based On Dōsaprakōpa

A) Vatika B) Paittika C) Ślesmika D) Sannipatika (miśraka)

### 2) Based On Visaprabhava

- A) Cutely and Violently (a fag) Death will occur within 7 days.  
 B) Moderate (fagen) - Death will occur within 7 to 10 days.  
 C) Mild (fay) Death will occur within 15 days.

### 3) Based On Prognosis

A) Krochasādhyā Lūtā - 8 types. B) Asādhyā Lūtā - 8 types.

## III) Site of Poison in Luta

The site of poison in spiders are eight. 1) Breath, 2) Fangs. 3) Fecal matter 4) Urine 5) Semen, 6) Saliva, 7) Nails and 8) Menstrual fluid

## IV) Clinical Features

### 1) General Features

The bites of *lutas* (spiders) typically have a round appearance with a rash that is white, black, red, yellow, or bluish in colour, soft elevated, with a centre that is either black or blue and looks like a net at its edges, spreading in nature like a *visarpa*, swollen, with burning sensation and severe pain, fever, and go through quick ripening (ulceration or suppuration), exudation.

### 2) Specific Features

#### A) According To Dōsas Vitiation

- i) **Vāyavya Lūta** - These seven diseases are caused by Vayu and are born from the soil: Kamud, Alavia, Rakt, Citra, Santa, Nimcak, and Kasana. It will exhibit the characteristics of the swelling, such as roughness, blue colour, causing joint pain, and other symptoms.<sup>[2]</sup>
- ii) **Agnēya Lūta**- The seven pitta diseases—Kapila, Agnimukhi, Pita, Padma, Mutra, Sita, and Asita—are created from sweat and Agneya. It will display symptoms such as thirst, bleb (vesicle) formation, fever, and burning sensations all over the body.
- iii) **Saumyaluta**- Pāndura, Raktapādika, Bhnga, Pinga, Trimandala, Pti, and Vira are the seven Saumya diseases that result from Saumya eggs (ova). It will manifest as a hard swelling that is white in colour, itchy, and mildly painful.
- iv) **Misra Lūta**- Enapadi, Kakanda, Laja, Vaidehi, Jalini, Mālāgūna, and Suvarna are the seven Upādikas, which are also known as Misra (mixed qualities). These quickly spread throughout the body. Being a combination of all three dosās and producing a burning sensation akin to fire, this condition is incurable while the others are treatable.

### B) According To the Site of Poison

- i) **By Breath** - When someone is poisoned by their breath, they quickly experience swelling, fever, and burning sensations.
- ii) **By Teeth** - The area where the teeth bite you has significant swelling at the bite site along with prickling pain and a burning sensation.
- iii) **By Excreta** - By the excrement, there is swelling with an unpleasant odour, burning, itching, and prickling sensations. It ripens quickly and turns yellowish when it is ready, resembling the fruit of *pilu*.
- iv) **By Urine**- The swelling is black in the centre with red edges. has a burning sensation, spreads outward, and has a whirling appearance.
- v) **By Semen**- The painful swelling is hard and has a tumour like appearance.
- vi) **By Saliva**- There is a superficial but elevated rash and pain. Comfortable to the touch and in mild pain when seated.
- vii) **By Nails**- It starts to itch, burn, and have eruptions that feel like hot smoke is coming out of it.
- viii) **By Menstrual blood** - In the form of red, garland-like eruptions that resemble to *Kimmsuka* flowers.

### C) Features of Spider According to Stagewise

According to days, Vāghhaacrya described different stages. Additionally, it was mentioned that a spider bite lesion takes a half-day to manifest (from the time of bite)

- i) **First day**- There will be a slight itch and pain that resembles being poked by a needle, but there will be no discoloration over the area that is affected.
- ii) **Second day**- The bite site exhibits characteristics similar to a *pitika*, including raised edges, eruptions surrounding it with well-defined colour changes in the skin, a depression in the centre, and itching.
- iii) **Third day**- The poisonous features experience severe excruciating pain, fever, horrifying pimples, red circular (mandala) patches in the shape of *soucer*, and discharge from hair follicles.
- iv) **Fourth day**- There is severe swelling that causes fever, dyspnoea, and elation.
- v) **Fifth day**- It results in poisoning-related/worried symptoms onto the dosas.
- vi) **Sixth day**- All of the vital organs are invaded by the poison.
- vii) **Seventh day**- The poison takes away life.

### D) According to Krcchasadhya and Asadhya

#### 1) Krochasādhyā Lūta Laksana

There are eight *Lutas*: Trimandala, Svta, Kapil, Pitik, Ala, Mtravisa, Rakt, and Kasana. A bite from one of them causes an aching headache, pain and itching near the bite site, as well as symptoms and conditions specific to the aggravated *vayu* and *kapha*.

#### ii) Asadhya Lūtalakṣna

The eight listed names—*Sauvarnika*, *Lajavarna*, *Jaline*, *Anipadi*, *Krsna*, *Agnivarna*, *Kākānda*, and *Mālāgū*—are regarded as *Asdhya Lutas*. Due to the concentrated

action of all three deranged bodily functions, their bites are characterised by bleeding, fever, a burning sensation, diarrhoea, and disorder. Additionally, the bitten part putrefies.

The most challenging cases to diagnose and treat involve Lūta bite. The majority of inexperienced doctors are baffled by the diagnosis in such a case.

Since the agadas are only applicable in cases of poisoning otherwise in healthy non-poisoned persons would produce all kinds of discomfort, a doctor should use such remedies which should not damage *rasa* etc. *dhatu*s in case of doubt or conflict regarding poisonous or non-poisonous conditions. Therefore, it is necessary for a doctor to have proof that a patient is poisonous in the first place before administering anti-poisonous medications. In many cases, a doctor's failure to recognise the presence of poison turns out to be more lethal than the bite itself<sup>3</sup>.

#### Types of poisonous spiders according to modern

##### White-tailed spider



White-tails have gained a bit of a reputation as the spider responsible for rotting flesh. This is due to unconfirmed reports that a bite could result in necrosis, also known as an ulceration. Although their venom is not listed as being lethal, it is unpleasant.

According to the Australian Museum, a bite results in "an initial burning pain at the bitten area, followed by swelling and itching."

It is stated that there are "rarely unconfirmed reports of wounds, blistering, or local ulceration." "North-east Queensland, New South Wales, Victoria, South Australia, Tasmania, and Western Australia are the locations where the species is found.

##### Yellow sac spider



Yellow sac spiders have a delicate appearance, but they have a painful bite. Headaches, nausea, and localised skin ulceration may follow. These insects, which are prevalent in Australia and the US, are frequently found in clothing or while gardening.

##### Six-eyed sand spider



While shy, this elusive spider can bite people if provoked. It is found in the deserts of southern Africa.

And since its venom is among the world's most terrifying, you don't want that to happen. There is also no antivenom. Due to the haemolytic (which ruptures red blood cells) that it contains, it can result in severe bleeding and even death. Only two human bites have been reported; one victim lost an arm to necrosis, and the other passed away from massive haemorrhaging. Six-eyed sand spiders come in more than 38,000 different species, but there are likely many more of them hiding in sandy areas.

##### Sydney funnel-web spider



The Sydney funnel-web spider is the most venomous spider in Australia and the second most venomous spider worldwide. The world's most lethal spider, it is believed to be capable of killing in under 15 minutes and has been linked to 13 fatalities. The Australian Reptile Park received the specimen shown in the image. Because of its size, it was given the name "The Rock" after the actor Dwayne Johnson. The toxin of the funnel-web attacks the nervous system. Tingling around the lips, sweating, nausea, vomiting, headaches, high blood pressure, and, in severe cases, fluid in the lungs and unconsciousness are all signs of being bitten. NSW Health advises the patient to apply a pressure immobilisation bandage and seek

emergency medical attention if a bite is suspected.

#### Red-headed mouse spider



It's a red-headed mouse spider, not a funnel-web, despite what you might have assumed. There are various species of mouse spiders, and they all reside in tunnels lined with silk. According to the Australian Museum, some species have venom that is "potentially as dangerous as that of the Sydney funnel-web spider. Fortunately, red-headed mouse spider bites are uncommon because they are typically found in sparsely populated areas.

#### Brown recluse spider



This adorable creature is a nocturnal hunter that consumes flesh thanks to its necrotic venom. It can be found all over the world, including in Australia, the south and central United States, and other places. It takes several hours for bite symptoms to appear, but once they do, you may have a red welt, a fever, chills, nausea, joint pain, weakness, and, in rare instances, seizures or coma.

#### Red widow



Do not be deceived by the widow spider's attractive appearance; it is extremely dangerous. A neurotoxin found in the female's venom has the potential to prolong muscle spasms, cramping, and chest pain. Fortunately, they are native to Florida and have a small range, so they are thought to be responsible for very few bites.

#### Brown widow spider



The brown widow spider is a dangerous widow spider that is also present in southern Africa, South America, the United States, Australia, and other pantropical nations. Many people in Australia believe they were introduced during World War II because they are frequently found near US air bases. Even though its venom is thought to be less toxic than that of other widow spiders, the symptoms can still be unpleasant: generalised muscle pain and cramps, abdominal pain and cramps, weakness in the legs and difficulty moving around, pain in the localised lymph nodes, and elevated body temperature have all been reported as symptoms.

#### Black widow



We now reach the most well-known of the widow spiders, the black widow, which has earned a reputation as North America's most venomous spider. Their venom is actually about 15 times more potent than rattlesnake venom. These eight-legged creatures' venom contains a substance known as alpha-latrotoxin, which overwhelms nerve cells and produces excruciating pain. In the US, the species is to blame for more than 2500 trips to poison control centres annually. The most vulnerable groups to bites are children and the elderly.

Happily, fatalities are uncommon. Since 1983, there have been no black widow spider-related fatalities reported by the American Association of Poison Control Centre's.

Actually, the Australian red-back spider is related to black widows.

#### Brazilian wandering spider



Brazilian wandering spiders are large, aggressive, and thought to be the most venomous spider in the world. There are actually about nine species; *Phoneutria fera* and *Phoneutria nigriventer* are the two most dreaded. All spiders grow to impressive lengths, with some having around 15 cm-long leg spans. What occurs then if you fall prey to one of these arachnids? Toxins, peptides, and proteins are mixed together to form the venom. Within 30 minutes of a bite, systemic symptoms, which are described as being excruciatingly painful, appear. The venom can result in irregular heartbeat, fast or slow blood pressure, nausea, cramping in the abdomen, hypothermia, vertigo, blurred vision, convulsions, and excessive perspiration. 14 people have died as a result of the spider, but thankfully there is a venom antidote.<sup>[4]</sup>

**II) Poisonous Ingredient** - Protein, amines, and polypeptides make up spider poison. The communication between the nervous system and the muscles can be disrupted by some of these molecules, which results in paralysis. Necrosis results from other molecules killing cells.<sup>[5]</sup>

#### IV) Bite marks

Bite marks from most spiders are usually too small to easily be seen. Frequently the patient will not recall being bitten

#### V) Fatal dose

How dangerous is spider poison? The answer to this question is challenging. An LD50 value is assigned to a poison to indicate how toxic it is. The term "LD50" refers to the amount of a lethal dose required to kill 50% of a test population. A black widow spider's poison has an LD50 of 0.9 mg per kg of mouse. Thus, 0.013 mg of poison is sufficient to kill one mouse.

For a spider to kill a frog, it needs 2 mg. As a result, lethality varies between animals.

Humans have never been the subject of such a test. As a result, it is challenging to determine how dangerous a spider is to humans. We are aware that the black widow

can cause fatalities. The severity of spider venom's deadly effects on humans is greatly exaggerated. There are spiders, though, that can be harmful to people. There are several dangerous spider species, including the *Latrodectus* species (Black widow), the Australian Sydney funnel web spider, *Atrax robustus*, and some wandering spiders from South America. These spiders use a substance that disrupts the nervous system, which can result in cramps, shaking, pain, and dizziness in addition to disrupting heart rhythm. For kids and people with weak immune systems, a spider sting can be fatal.<sup>[6]</sup>

**vi) Prognosis** - It is rare for a healthy person to pass away. The average time for recovery is one week.<sup>[7]</sup>

#### The following treatment for the Luta visa

1) Snuff (nasya), 2) Medicated collyrium (amjana), 3) Unguents (abhyangana), 4) Potions (pana), 5) Administration of nasal drops (avapidhana). 6) Gargling (ganḍuṣa), 7) Emesis (vamana), 8) Purgation (virēcana) and 9) Blood-letting (siravyadhana)<sup>[8]</sup> 10) Dhupanam (Fumigation), 11) Gandusha (Gargling)<sup>[9]</sup>

**1) Snuffing** - It's best to remove the poison with nasal drops made from syayama, yavaphala, phanijjaka seeds, siria, and macerated with vrtka juice. Additionally, it might be helpful if you experience head heaviness, swelling, excessive salivation, lockjaw, etc.

**2) Medicated Collyrium** - When the onset of sleep is accompanied by vision problems, eye swelling, or itching, collyrium should be used in conjunction with the following medications: vaca, manohva, trikatu, triphala, lödhra, gairika, anka, nilötpala, tamra, mukt, hema, and pravala.

**3) Unguents** - Ghee that has been medicated using the roots of katabhi, tagara, gangeyi, rcana, the two bhatish, Samng, Dvadru, and candana.

**4) Potions** - In the event of a spider bite, sarpmki, candana, vakra, mrgaki, gandhmkuli, ela, and mahasugandha are ground into a paste and combined with goat urine for external application and internal consumption. There is nothing else that compares to this.

#### 5) Avapidhana Nasaya

The drugs which are described for the nasya can be used.

**6) Gargling** - Can be done with any antipoissonous drugs.

**7) Emesis** - In persons who are strong, the aggravated döśās and poison should be removed by administering the emesis therapy, using kakandaki, köšavati, lödhra, indrayava and saindava or patola patra, marica, karaghata and priyangu.

#### 8) Purgation

Purgation can be also done by triphala, trivrt and saindava

**9) Blood-letting** -Blood should be drawn from other body parts before (vantero) letting. either by cutting the vein, or by sucking horn. Ghee, milk, etc., should be applied to the body coldly after bloodletting. Acarya Vāgbhata continued to explain that the bite site should be cauterised (burned) by heated Jambavoasalaka and the sting should be removed from it as soon as possible. If pitta symptoms are predominated, cauterization should be avoided.

As long as the stage of inflammation and suppuration persists, all cases of bites from any insect or snake, as well as any accompanying ulcers, should be carefully treated with the precautions and remedies for snakebites.

**10) Dhupanam(Fumigation):** Fumigation is done by antipoisonous drugs

The majority of spider bites usually recover on their own in a week or so. A recluse spiderbite sometimes leaves a scar and takes longer to heal.

#### **Following are the steps involved in spider bite first-aid**

Use gentle soap and water to clean the wound. To help prevent infection, apply an antibiotic ointment three times per day.

The bite should be covered with a cool compress for 15 minutes every hour. Use a dry cloth that has been wet with water or frozen. This lessens the discomfort and swelling.

Elevate the affected area if at all possible.

As needed, take an over-the-counter painkiller.

An antihistamine, such as diphenhydramine (Benadryl) or cetirizine (Zyrtec), may be helpful if the affected area itches.

Keep an eye out for signs of infection or worsening of the bite. If the bite turns into an open wound or becomes infected, you might need antibiotics.

Your doctor may recommend either pain medication, muscle relaxants, or both to treat pain and muscle spasms. A tetanus shot might also be necessary.<sup>[10]</sup>

Even though widow or recluse bites can be frightful and seem quite serious, they frequently heal without leaving behind serious harm or death. A widow spider's envenomation typically goes away in 2 to 3 days, whereas a recluse spider's envenomation takes longer to get better. With the right wound care, necrotic bite wounds from recluse bites usually heal in one to eight weeks. Pharmacologic and nonpharmacologic modalities are available as treatment options.<sup>[10]</sup>

**Nonpharmacologic Therapies:** There aren't many nonpharmacologic treatments available for widow spider bites. Cleaning the bite site's wound is the first

recommended course of action. Soap and water are sufficient to clean the wound because the main objective is to prevent infection. To help lessen localized pain and inflammation, the next step is to apply an ice pack or another cold substance to the affected area. If the affected person has not received a tetanus booster, it is advised because spider bites have been shown to increase the risk of tetanus infection in patients.

Similar to widow spider bites, recluse spider bites can be treated without the use of drugs. In order to avoid infection, the wound needs to be cleaned first. The affected area is then covered with a cold compress. If the bite was on an extremity, it should be elevated and immobilised. Finally, a tetanus booster should be administered as tetanus prophylaxis.

Overtreatment of a bite may result in additional skin damage, so it is not advised to remove the bite site right away to avoid skin necrosis.

**Pharmacologic Therapies:** Initial pharmacologic therapy for widow bites is aimed at relieving the associated muscle pain and cramping. Formerly, calcium gluconate was a first-line option to treat the symptoms associated with widow spider envenomation. However, reviews of widow spider exposure cases have shown that this treatment is not as effective as the use of IV benzodiazepines and opioids such as morphine (mean dose 15 mg) or meperidine (mean dose 88 mg). When the drugs were used as combination therapy, the mean doses of morphine and meperidine were 20 mg and 50 mg, respectively. Benzodiazepines, especially diazepam (mean dose 15 mg) or lorazepam (mean dose 4 mg), usually relieve the symptoms of muscle rigidity and spasms, and opioids are used to lessen the pain that accompanies envenomation.

The patient can usually be kept alive with this treatment until their symptoms go away.

A Latrodectus antivenin is available for severe toxicity brought on by widow spider envenomation. Uncontrolled hypertension, seizures, and respiratory arrest following envenomation are indications for the use of antivenin. Antivenin use is typically recommended for up to 48 hours following a widow bite, but case reports have demonstrated that it can remain effective for up to 90 hours. Antivenin is packaged in dry powder form in each vial, along with a 2.5-mL vial of sterile diluent. The recommended dosage for both adults and kids is the entire reconstituted vial's contents, administered either intramuscularly (IM; anterolateral thigh) or intravenously (IV; 10–50 mL of sterile saline over 15 minutes). Usually, one dose is sufficient, and symptoms disappear within one to three hours. Antivenin may, on occasion, need to be given in a second dose. The antivenin is made from horse serum, so anaphylaxis precautions like having a tourniquet and epinephrine on hand are advised. A vial of horse serum is included with the antivenin to

enable sensitivity testing prior to administration. There have been cases of serum sickness up to 12 days after antivenin administration.

Due to the dearth of clinical trials, pharmacologic treatment for recluse bites is less clear.

There has been speculation that therapies like hyperbaric oxygen, dapson, and cyproheptadine are effective in treating recluse bites. Nevertheless, a randomised, controlled trial in rabbits which exhibit reactions resembling those of people failed to find any additional advantages over the control group. Another suggested therapy for recluse envenomation was topical nitroglycerine, but it was also found to be ineffective and may even increase systemic toxicity. Currently, there is no antivenom for recluse bites in the United States, so only supportive measures are used as treatment. For itching relief and to aid in the healing of necrotic wounds, oral antihistamines like diphenhydramine may be used. Oral or parenteral analgesics may also be used to treat pain.<sup>[11]</sup>

## DISCUSSION

From this Ayurvedic and modern management of spider poison, this is useful in spider bite. Also useful for every person who doesn't know about management of spider poison and that information give help to them and every person who's or that person who unfortunately bitten by spider and save that person from getting worsen and serious condition, because many people suffer serious symptoms and people face serious condition. This condition happens because of not more knowledge about management of spider poisoning. This ayurvedic and modern treatment knowledge also useful when modern treatment is not available, then we can use ayurvedic treatment and if ayurvedic treatment not available then we can use modern treatment. This helps many doctors treat spider poisoning cases for surviving people. This treatment is useful in all spiders' bites and poisoning because many times people don't recognize exactly which spider species bite them because many people never know more detail about poisonous spiders' species and which species is more dangerous so this study gives literary information of Luta in Ayurveda and modern to perspective.

## CONCLUSION

We can conclude that easy and effective accessibility of modern and ayurvedic medicine in case of spider poisoning can be made available. This study can be helpful to prevent the complication which is caused by spider poisoning.

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