



ORIGINAL RESEARCH PAPER

Ayurveda

“PROTOCOL OF MANAGEMENT OF SCORPION BITE BY ALLOPATH AND AYURVEDA- A REVIEW”

KEY WORDS: Scorpion bite, Allopath, Ayurveda

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ABSTRACT

All scorpions have a venomous sting, but the vast majority of the species do not represent a serious threat to humans and in most cases healthy adults do not need any medical treatment after being stung. Only about 25 species are known to have venom capable of killing a human. In some parts of the world with highly venomous species human fatalities regularly occur, primarily in areas with limited access to medical treatment. The venom is a mixture of compounds (neurotoxins, enzyme inhibitors, etc.) each not only causing a different effect but possibly also targeting a specific animal. Each compound is made and stored in a pair of glandular sacs and is released in a quantity regulated by the scorpion itself. First aid for scorpion stings is generally symptomatic. It includes strong analgesia, either systemic (opioids or paracetamol) or locally applied (such as a cold compress) Cases of very high blood pressure are treated with anxiety-relieving medications and medications which lower the blood pressure by widening the diameter of blood vessels.[48] Scorpion envenomation with high morbidity and mortality is usually due to either excessive autonomic activity and cardiovascular toxic effects or neuromuscular toxic effects. Antivenom is the specific treatment for scorpion envenomation combined with supportive measures including vasodilators in patients with cardiovascular toxic effects and benzodiazepines when there is neuromuscular involvement. Although rare, severe hypersensitivity reactions including anaphylaxis to scorpion antivenin (SAV) are possible. Several herbal medicines are being used traditionally in the management of scorpion sting.

INTRODUCTION:

Scorpion bite is a common global public health problem including India. There are no available accurate statistics on scorpion stings world-wide, but the literature indicates that all settings usually affected by this problem, as well as geographical characteristics and health facilities, affect outcomes, which are serious in some regions¹ The estimated annual number of scorpion stings is 1.2 million leading to 3250 deaths (0.27%).² Previous studies indicate a high prevalence of scorpion envenomation as well as related mortality in developing countries compared to developed nations, reflecting a lack of adequate health care facilities, low socioeconomic backgrounds, and inadequate authentic information about this affliction in poor regions. In Asia, epidemiological data on scorpion stings is scarce. India is the most affected, with a reported incidence of 0.6%³

Risk factors:

There are certain factors which increase the risk of getting a scorpion bite. Scorpions are found in desert region and are active in summer and spring. Bark Scorpions hide in bark of the trees and beneath the rocks and logs. In home it is hide in trash cans, in firewood, bedding and shoes. It is likely to encounter poisonous scorpion when travelling to developing countries. It can also hide in clothing, luggage and come home along with.

Sign and symptoms:

Patient experience a painful, burning, tingling, numbing sensation and redness at bite site. Allergic reaction can be developed which can sometimes anaphylaxis (life threatening)

Serious symptoms of scorpion bite: Numbness, dysphagia, Blurry vision, erratic eye movements, Excessive salivation, Seizures, vomiting, Difficulty in breathing, Excessive seating, tachycardia, Hypertension and hypotension.

Diagnosis:

Doctors often diagnose a scorpion sting with a “tap test.” In this test, the doctor will tap the place where you were stung to see if the pain gets worse. This reaction is an indicator of a scorpion sting.⁴ Local reactions last 7 to 10 days. They are usually minor and go away without complications in a few days. More severe bites can cause more pain, fever, and muscle aches for a few days and more serious injury to your skin.⁵ If severe symptoms, it may have blood or imaging tests to check for the effects of the venom on your liver, heart, lungs and other organs.

Complications and associated conditions⁶

Older adults and children are the most likely to die from an untreated venomous scorpion bite. Death is typically caused by heart or respiratory failure some hours after they have been stung.

Prevention⁷

According to the United States National Institute for Occupational Safety and Health (NIOSH), the following steps should be taken to prevent scorpion stings.¹⁴⁷¹

- Wearing long sleeves and trousers
- Wearing leather gloves
- Shaking out clothing or shoes before putting them on.
- Workers with a history of severe allergic reactions to insect bites or stings should consider carrying an epinephrine auto injector (EpiPen) and should wear a medical identification bracelet or necklace stating their allergy.

First aid:⁸

- Wash the sting with soap and water and remove all jewelry because swelling of tissue may impede the circulation if it not allowed to expand.
- Apply cool compresses, usually 10 minutes on and ten minutes off of the site of the sting.
- Acetaminophen (Tylenol) 1-2 tablets every 4 hours may be given to relieve pain (usually not to exceed 3g per 24 hours). Avoid aspirin and ibuprofen (Advil, Motrin) because they may contribute to other problems.
- Antibiotics are not helpful unless the sting area become secondarily infected.
- Do not cut into the wound or apply suction.

Treatment:

If symptoms are severe, you may need to receive hospital care. You may need to take sedatives if you’re experiencing muscle spasms and intravenous (IV) medication to treat high blood pressure, pain, and agitation.

It includes strong analgesia, either systemic (opioids or paracetamol) or locally applied (such as a cold compress). Cases of very high blood pressure are treated with anxiety-relieving medications and medications which lower the blood pressure by widening the diameter of blood vessels.⁹

Scorpion envenomation with high morbidity and mortality is usually due to either excessive autonomic activity and cardiovascular toxic effects or neuromuscular toxic effects. Antivenom is the specific treatment for scorpion envenomation

combined with supportive measures including vasodilators in patients with cardiovascular toxic effects and benzodiazepines when there is neuromuscular involvement. Although rare, severe hypersensitivity reactions including anaphylaxis to scorpion antivenin (SAV) are possible.¹⁰

Scorpion antivenom is sometimes used with caution because of concerns over its side effects and cost (although with the development of Anascorp antivenom, adverse effects have been reduced).

Antivenom is most effective if given before symptoms develop, so children who are seen in remote rural emergency rooms in areas with scorpions, where access to medical care is limited, are often treated with antivenom as a preventive measure. Your doctor may also recommend antivenom if your symptoms are extremely severe.

Treatment will depend on whether your symptoms are due to an allergic reaction, rather than the effects of the venom itself, and how severe these symptoms are.

Nearly 80 % of the global population still depends upon the herbal drugs for their health care. In India, the use of different parts of several medicinal plants to cure specific ailments has been practiced since ancient times. Various cultural traditions are associated with use of wild plants as medicinal herbs.

The details of Vrushik visha dansha and chikitsa are mentioned in Sushrut kalpa chapter 8.¹¹ Chakra taila parisheka. Pratisaran of Rajani, Saindhav, Vyosha, Shirish phala and Pushpa.

Main herbal plants:¹²

1. **Achyranthes aspera** L. (Chirchiri),
Roots are crushed with 2 seeds of *Caesalpinia cristata* (gatayan) and externally applied on sting part. A sarbat made by 20gm root of this plant with 5 *Piper nigrum* (kali mirch) is also effective.
2. **Madhuca latifolia** Roxb. (Mahua),
Dried fruits with leaves of *Ipomea stramonium* (beshram) made into paste and applied on sting part.
3. **Martynia annua** L. (Bichhu),
Seeds about 5 gm, soaked in the water and made paste, applied 2-3 times externally on affected area.
4. **Tamarindus indica** L. (Imali),
Make a small incision on the site of scorpion sting and place the cotyledon over it. If poison are absorbed the patient get relief.

CONCLUSION:

Besides basic measures of environmental management for preventing Scorpion bites, it is necessary to update the clinical management by considering Ayurvedic treatment. Review provides a base for enhancing scientists attention towards important plants for scorpion bite treatment. It is helpful to scientists, drug designers and other scientific bodies related to ayurvedic research in scorpion bite treatment.

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