

Herbal Remedy for Scorpion Bite-A Survey in Chikmagaluru, Karnataka

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Abstract- Scorpion bite is common in India especially in villages. In India, the annual number of scorpion stings cases exceeds 1.23 million, of which over 32,250 may be fatal. There are several problems like poor transportation, wrong traditional beliefs, delay in anti-scorpion venom administration, poor health services faced by the villagers. Clinical features of the patients stung with scorpion are generally abnormalities indicative of cardiac, respiratory, autonomic and metabolic changes and deaths can be due to multi-system failure. Administration of anti-scorpion venom serum (AScVs) is the only specific treatment available in India but has many limitations like species specificity, difficulty in availability, affordability and ideal storage conditions. The medicinal plants, available locally and used widely by traditional healers, therefore need attention in this aspects. Wide arrays of the plants and their active principles have been evaluated for pharmacological properties useful in the treatment of scorpion bite. This is an attempt to present an account of sixteen plants used in the treatment of scorpion bite in any forms like topical application for local pain relief, oral formulation for pain relief and venom neutralization purpose.

Index Terms- Anti-scorpion venom serum (AScVs), Ayurvedic, Scorpion sting, Ethnomedicinal, Fatal, Local practitioners, Multi-system failure, Traditional healers,

I. INTRODUCTION

From ancient time's poisonous animal bites is a serious issue in world. Millions of people die every year because of poisonous animals' bites, snake bite cases being the most common culprit. Following this, scorpion bite is also a common and global public health problem associated with substantial morbidity and mortality. It constitutes an occupational hazard especially in field of agriculture for farmers, farm labors, villagers, migrating population and hunters. The factors mainly responsible for high mortality associated with scorpion bite are poor health services, difficult and untimely transportation facilities, wrong

traditional beliefs, delay in anti-scorpion venom administration. It is estimated that in India, the annual number of scorpion stings cases exceeds 1.23 million, of which over 32,250 may be fatal.

Globally, 1988 species of scorpions are known to occur of which, 113 valid species of 25 genera under 6 families exist in India. Scorpion antivenins are rather specific; hence, absolute specificity is an issue with its use. The development is costly, time consuming process requiring ideal storage conditions. In this context, the only available option for scorpion bite treatment is herbal treatment as these herbs are common, easily available and cheaper.

Study area:

Chikmagalur is district place situated in western ghat region of Karnataka, latitude 12.970002 and longitude of 77.560003. The city is situated near the highest peak in Western Ghats, the Mullayyanagiri and famous for coffee and areca nuts. The local practitioners revealed the drug, its preparation, usage. Ten such practitioners' methods are concluded who are from Mudigere, Kadur, and Chikmagalur talluks of Chikmagalur district.

Result: Local practitioners were usually used the herbs from more than ten years along with their ancestral usage, and many effected people were cured by the herbal medicine. Such herbs are listed here in the table.

Table 1: External application of herbal extract on scorpion sting, without addition of water or any other solvent

S. No	Botanical name of the plant	Vernacular name in	Family	Part used
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		Kanna da or Sanskrit		
1.	<i>Andrographis paniculata</i>	Kalmegh	<i>Acanthaceae</i>	Aerial parts - Ethanol extract for venom neutralization
2.	<i>Cleome viscosa L.</i>	Nayive lu	<i>Capparidaceae</i>	Leaves paste is applied externally on scorpion stung part.
3.	<i>Calotropis procera (Ait.) R. Br.</i>	Ekka	<i>Asclepiadaceae</i>	Latex is used for local application
4.	<i>Ficus benghalensis L.</i>	ala	<i>Moraceae</i>	Paste of tender leaves for local application
5.	<i>Mangifera indica L.</i>	Mavu	<i>Anacardiaceae</i>	Powder of flowers for local application
6.	<i>Nerium indicum Mill.</i>	kanage lu	<i>Apocynaceae</i>	Root paste for local application.
7.	<i>Argemone mexicana Linn.</i>	Mexican poppy	<i>Papaveraceae</i>	Latex and yellow juice of plant orally. Root paste for local application.

Table 2: External application without addition of water of herbal extract on scorpion sting, and oral dosage with water V/V

S.No	Botanical name of the plant	Vernacular name in Kannada or Sanskrit	Family	Part used
1.	<i>Albizia lebbbeck (L.) Benth</i>	karkbalegida	<i>Fabaceae</i>	Tonic is taken orally.
2.	<i>Azadirachta indica A. Juss.</i>	bevu	<i>Meliaceae</i>	Whole plant except root.
3.	<i>Aloe vera L.</i>	lolesara	<i>Liliaceae</i>	Whole plant juice- orally and externally.
4.	<i>Curcuma longa L.</i>	arisina	<i>Zingiberaceae</i>	Rhizome paste for external application
5.	<i>Leucas aspera (Wild) Link</i>	Thumbi	<i>Lamiaceae</i>	Leaf decoction is taken orally.
6.	<i>Terminalia arjuna Wight & Arn.</i>	arjuna	<i>Combretaceae</i>	Wood ash is taken orally.
7.	<i>Emblica officinalis Gaerth.</i>	bettadannelli	<i>Euphorbiaceae</i>	The leaf juice mixed with black pepper and drink to treat scorpion sting.
8.	<i>Annona squamosa L.39</i>	sitaphal	<i>Annonaceae</i>	Root paste for external application. Root bark decoction orally.
9.	<i>Luffa acutangula (L.) Roxb.</i>	hirekayi	<i>Cucurbitaceae</i>	Juice of the leaf is applied on the stung part.
10.	<i>Hemidesmus indicus (L.) R.Br.</i>	sugadhipala	<i>Asclepiadaceae</i>	Whole plant is used.

CONCLUSION

Data mentioned above clearly envisage that the herbal medications have excellent potential to treat various ailments including scorpion bite. They are largely used by all divisions of the population either directly as folk medications or indirectly in the preparation of recent pharmaceuticals. Herbal medicinal plants are an important element of indigenous medical systems globally. The information of medicinal plants has been accumulated in the course of several centuries based on various medicinal systems. The herbs used in the treatment of scorpion stings are easily available, common and cheaper. The method of preparation and mode of action is also simple and convenient. They are comparatively safer than synthetic drugs. Traditional medicinal knowledge is important not only for its potential contribution to drug development and market values but also for the healthcare professionals. Several medicinal plants with accepted therapeutic values in scorpion bite treatment are now attracting greater attention. The present review provides a base for enhancing scientists' attention towards consideration of ethnomedicinally important plants for scorpion bite treatment.

Future prospective: The information available in this paper could be helpful to scientists, drug designers, medicinal plant boards and other scientific bodies related to ayurvedic research in scorpion bite treatment. However, further studies are required to identify the phytochemicals. responsible for anti-scorpion activity of these medicinal plants.

Many scorpion bite incidents appear every day in villages and even anywhere suddenly, and no easy, immediate access to medicine but, many plants are locally available and easy to use by knowing these plant usage.

FUTURE SCOPE

There is a scope for the chemical analysis of plant extracts and their applicational aspects.

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