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**Review Article**

# A review on Langlyadi Lepa use in Honey Bee Sting

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**Abstract**

Ayurveda is comprised of eight branches called as *Ashtang Ayurveda*. It contains *Kaya, Bala, Graha, Urdhwanga, shalya, Drashta, Jara* and *Vrushan*. In this, *drashta* means study of poisons. Poisoning is caused by many factors like biting, intake of inappropriate substances, application of paste of substance over body surface. Acharya Sushruta has mentioned sixteen types of Sadansha. One of it is spread by needle like structure. E.g. scorpion, Honey bees etc. Honey is one of the most prevalently used medicine in our Ayurveda and in rural areas also. During the collection of honey, there are chances of getting attacked by honey bee. When honey bee attacks, it leaves sting at the site. It causes severe local pain and inflammation. Sometime it becomes more lethal and patient gets died due to anaphylactic shock. Ayurveda has given 24 modalities of treatment for poisoning and Lepa karma is one of them. Acharya Sharangadhar has mentioned Langlyadi lepa is effective in kita visha. So present study is an attempt to view the efficacy of Langlyadi lepa in honey bee sting in Albino Mice.

**Keywords**: *Ayurveda, Drashtra, Honey, sting*

**Introduction**:

Ayurveda is a branch of science, which deals with maintaining health and treating the diseased condition of the body. There are eight main branches of Ayurveda. So it is called as 'Ashtang Ayureda".[1] Agadtantra or Drashtra is one of its eight branches. If deals with study on poisons. In Ayurveda, Visha is mainly classified in two types, namely Sthavara (inanimate) and Jangama (animate). Jangama visha is visha of animal origin. Other than this are Sthavara visha. Acharya Sushruta has given sixteen adhisthanas. They are Drushti (vision), Nishwas (exhalation), Danstra (bite), Nakha (nails), Mutra (urine), Purisha (stool), Shukra (semen), Lala (saliva), Artava (menses), Mukha (mouth), Sadansha (sting bite), Visardhita (flatus), Tundasthi (bones of animal died by toxin). [2] Out of this sixteen types, sadansha type toxin is spread by needle structure.

Honey bee is very important insect for human beings. They have became part of our culture. They are part of our farming. They are essential for production of agricultural crops as they do important function of pollination in agriculture. Apiculturists are easily get attacked by bee stings. It results into anaphylactic shock most of the time. Due to this, it is the need of time to identify drug, which is very effective and easily available. Acharya Sharangadhar

has mentioned local application of Langlyadi lepa to cure keeta visha. So present study is planned to study in vivo use of application of Langlyadi lepa in Apis Cerana Indica bee sting poisoning.

**Aims and objectives:**

**Aims**

To study the efficacy of Application of Langlyadi Lepa in Honey Bee sting in Albino Mice.

**Objectives**:

1. To study the toxic effect of Honey bee sting in Albino Mice according to Symptoms.
2. To study the efficacy of Langlyadi lepa application according to signs of Honey bee sting on Albino Mice.
3. To study the efficacy of Langlyadi lepa in Honey bee sting in Albino Mice.

**Review of literature:**

**Honey Bee sting:[3]**

- Latin name – Apis cerena indica
- Kingdom – Animalia
- Phylum – Anthropoda
- Subphylum – Uniramia
- Class – Insects
- Order – Hymenoptera
- Sub order- Appcrista
- Family – Apiae
- Tribe – Apini
- Genus – Apis
- Subspecies – Apis cerena indica

**Chemical constituents of Honey Bee venom [4] –**

Histamine, Hyaluronidase, Phospholipase A, Phospholipase B, Apamine, Peptide, Mellitin specific protein.

**Symptoms caused due to Honey Bee sting [5]**

- Itching
- Oedema
- Burning sensation
- Pain
- Erythema
- Tenderness

**Langlyadi lepa:**

Langlyadi Lepa is prepared by mixing Langali, Ativisha, Jalini, Alabu Mulbeejak drugs. They are crushed and pulverized with 85 no. Mesh and will form the churna. 1 part of cooked rice and 3 parts of water were set for fermentation for the formation of kanji. All the drugs in equal proportion are mixed and paste is prepared with the help of adequate amount of dhanyambu paste williform with the help of pastel. Consistency of lepa was medium (not too thick and not too thin).

| Sr. No. | Drug | Latin name | Family | Rasa | Veerya | Vipaka | Part used |
|---|---|---|---|---|---|---|---|
| 1 | Langali [6] | Gloriosa superba | Liliaceae | Katu, Tikta | Ushna | Katu | Kanda |
| 2 | Ativisha [7] | Aconitum heterophyllum | Rananculaceae | Tikta, Katu | Ushna | Katu | Kanda |
| 3 | Jalini [8] | Luffa acutangulata | Cucurbirtaceae | Tikta | Ushna | Katu | Phal, Phul, Pan, beeja |
| 4 | Alabu [9] | Lagenarvu igaris | Cucurbirtaceae | Madhur | Sheeta | Madhura | Phal, beeja |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 5 | Mulbeejak [10] | Raphinuss ativus | Cruciferae | Katu, Tikta | Ushna | Katu | Beeja |

**Material and Methods:**

Langlyadi lepa for local application:

- Thickness of Doshaghna lepa application should be one fourth of Anguli.
- Thickness of Vishaghna lepa should be one third of the Anguli.
- Thickness of Varnya lepa should be half of the Anguli.
- By carefully seeing age and weight of the Albino Mice, I had applied the Langlyadi lepa, in such thickness as it will cover whole wound and inflammation around it.

**Protocol**:

| | |
|---|---|
| Animal Species | Albino Mice |
| Strain | Swiss Albino |
| Average weight of Mice | 20 – 25 gms |
| No. Of Mice | 6 |
| Age of Mice | 6 – 8 weeks |
| Sex of Mice | 50 % males and 50 % females |
| Period of Acclimatization | 7 days |
| Route of drug administration | Local application of lepa |

**Method of Experiment:**

Preparation of Mice before sting operation:

All Mice were prepared for experiment . Only desired area, means from back of each mouse hair was removed by hair removing cream.

1. Foraged – bees (of 2 – 3 weeks) colony was selected for the experiment..
2. For identification of groups of male and female Mice, they were stained (yellowish) with Picric acid which remains for three – four weeks.
3. Then each Mouse was given six bee stings one by one at their dorsal side maintaining a safe distance between two stings. (Before giving the stings, each spot was marked earlier).
4. After stinging – out of six stings in each Mouse, three stings were removed on one side and another three stings were kept in situ.
5. After that, reaction was observed at the time it sting operation.
6. Then after few minutes (15 – 20 minutes) sequentially Langlyadi lepa (daily fresh prepared) was applied form Mouse tail upwards.
7. After sting operation, all mice were observed for 24 hours for any toxic signs.
8. Skin reactions and other signs were observed for seven days.
9. Rating of skin reaction was evaluated as per the Indian Standards BIS (Bureau of Indian Standards ) 1992.
10. Histopathological observation test was done.

**Assessment**:

- Tenderness, Erythema, Scaling, Oedema and Diameter of the wound was predominantly observed in all mice.
- Females shown severe reaction. Few females also shown lacrimation of eyes and defecation during stinging. It shows the severity of pain in them. We can conclude that females were more sensitive to sting.
- Male becomes restless and irritable after stinging.

**Histopathological observation:**

In male and female Mice after sting in the dermis, there is a focus of congestion, vasodilation and chronic inflammation. Oedema was present. The infilatrate is mainly monicytic.

**Result and Discussion:**

- In this study, bee venom was induced by natural bee sting for this Apis cerena indica bees were used.
- The grades of parameter like Tenderness, Erythema, Scaling, Oedema and Diameter of the wound were used in the experiment. They were approved by ISI standards of Indian government for skin reaction.
- Freshly prepared Langlyadi lepa has been applied for 7 days daily after stinging for local application on wound.
- Wound was healed after 7 days.
- But during the histopathological studies, there is focus of congestion, chronic inflammation and vasodilatation was seen. Oedema was present. Infiltration was seen. Infiltration was mainly monocytic. Eosinophils were rare. The infilatrate quantity was mild.

| Sr. No. | Parameter | Relief |
|---|---|---|
| 1 | Tenderness | 88 % |
| 2 | Erythema | 93 % |
| 3 | Scaling | 87 % |
| 4 | Oedema | 100 % |
| 5 | Diameter of wound | 96 % |

**Conclusion**:

- As per Sharangadhar Samhita, Langlyadi lepa is effective in Honey bee sting.
- All ingredients of Langlyadi lepa are having Vishaghna and anti inflammatory property.
- Signs and symptoms of honey bee stings were significantly reduced within 7 days.
- Langlyadi lepa application is significantly effective in Honey bee sting.

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