

## **AN EXPLICITED APPRAISAL ON KEETA VISHA W.S.R. TO INSECT BITE**

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### **ABSTRACT**

Insect bites are very common since times immemorial and occur when an insect is agitated who seeks to defend itself through its natural defense mechanisms. In Sushruta Samhita a total of 167 Keeta (insects) has been described in a separate chapter exhibiting their importance. Most of the bites are less harmful and negligible but sometimes that can lead to various complications i.e anaphylactic shock. Keeping this fact in mind, an attempt has been made in the present review to compile all possible information regarding Keet visha including their origin, classification, types, symptom of their bites along with its treatment principles encompassing few Keeta dansh nashak yoga mentioned in Ayurveda. It also enlists modern

review of insects including benefits of insects to human, common insects found in present times, classification of insects, effects of insect bite, reaction of body to insect sting, clinical features of Insect Poisoning.

**KEYWORDS:** Keeta Visha, Insect bite, Keeta Dansha.

## INTRODUCTION

Agad tantra is a branch of Ayurveda that deals with various endogenous and exogenous poisons, their toxic manifestations and remedial measures. It comprises general information, signs-symptoms and treatment of various poisons of vegetable, animal and mineral sources. All the Brihattra (Charak Samhita, Sushruta Samhita and Ashtang Sangraha) have given importance to this branch of Ayurveda. Since ancient times Agadtantra is popular due to incidences occurring in the life which were clearly described as administration of poison from food, drinks & other consumables to kill King, Enemy, Person. Apart from these legal incidences there are lots of environmental incidences like consuming poisonous plants, animals, exposure or inhalation to harmful chemicals, animal bites (like snake bite), insect bite.

In Ayurveda Visha is classified into three main types

1. **Sthavara Visha:** It includes plants, minerals and metal poisons etc.
2. **Jangam Visha:** It includes animal poisons like bites of snakes, insects, spiders, rats, scorpions etc.
3. **Kritrim Visha:** It includes poisons prepared chemically.

Insect bites and stings occur when an insect is agitated and seeks to defend itself through its natural defense mechanisms. In Sushrut Samhita a total of 167 Keeta (insects) are being described. Various types of insects come in contact with us in day to day life, insect bite is very common and usually it is ignored. Most of the bites are less harmful and negligible but sometimes poisonous bites could lead to various complications i.e anaphylactic shock.

**Ayurvedic review of keeta-** Keeta visha is considered under Jangam visha. Importance of keeta can be measured by the fact that Sushrutacharya mentioned a separate chapter for the Keeta visha (Sushrut Samhita kalpa Sthan chapter 8: Keetakalpa).

According to Acharya Sushruta keeta visha is mild, moderately hot and having profused vata and kapha. Acharya Vagbhata stated that there is predominant vitiation of vata and pitta in keeta visha.

**Origin of Keeta:** According to Acharya Charak keeta are originated from mutra (urine) and vita (excreta of snakes). They are of two types:

1. Dooshi visha Keeta.

## 2. Pranhara Keeta

**Classification of Keeta****As per doshas**

- 1- Vatika keeta
- 2- Pattika keeta
- 3- Kaphaja keeta
- 4- Sannipatika keeta

**As per severity**

- 1- Manda (mild)
- 2- Teekshna (strong)

**Table 1: Acharya Sushrut further divided keeta as.**

Sr.No.	Classification	Types
1	According to Doshas	67
2	Ekjatiya Keeta	52

**Table 2: According to doshas.**

Sr. No.	Classification	Types
1	Vataja Keeta	18
2	Pitaja Keeta	24
3	Kaphaja keeta	13
4	Sannipataja Keeta	12

**Table 3: Ekjatiya keeta: 52.**

Sr. No.	Name	Types
1	Kanabha	4
2	Godheraka	5
3	Galgolika	6
4	Shatpadi	8
5	Manduka	8
6	Vishvambhara	1
7	Ahinduka	1
8	Kandumaka	1
9	Shukvrinta	1
10	Piplika	6
11	Makshika	6
12	Mashak	5

1. Kanabha 4: (a) Triakanta (b) Karini (c) Hastikaksha (d) Aparajita.
2. Godheraka 5: (a) Pratisuryak (b) Nirupam (c) Pingbhasha (d) Bahuvarna (e) Godheraka

3. Galgolika 6: (a) Shweta (b) Krushna (c) Raktraji (d) Raktmandala (e) Saravshweta (f) Sarshapika
4. Manduka 8: (a) Krushna (b) Saar (c) Kuhak (d) Harita (e) Rakta (f) Yava varnabh (g) Bhrikuti (h) Kotika
5. Shatapadi 8: (a) Parusha (b) Krushna (c) Chitra (d) Kapila (e) Pitika (f) Rakta (g) Shweta (h) Agniprabha
6. Vishwambhara
7. Ahinduka
8. Kandumaka
9. Shukavrinta
10. Pipilika 6: (a) Sthulashirsha (b) Samavahika (c) Brahmika (d) Angulika (e) Kapilika (f) Chitravarna
11. Makshika 6: (a) Kantarika (b) Krushna (c) Pingala (d) Madhulika (e) Kashayi (f) Sthalika
12. Mashak 5: (a) Saamudra (b) Parimandala (c) Hastimashaka (d) Krushna (e) Parvatiya.

**Sign and Symptoms of Keeta Visha-** Fever, body ache, horripilation, discomforts, vomiting, diarrhea, thirst, burning sensation, edema, rashes etc are the common symptoms of insect bite.

**Dosh Pradhaanta in keeta:** Keeta: Vata Pitta Pradhaan

Kanabha and mooshak: Kapha Pradhaan

Scorpion is Vata Pradhaan

Dosha pradhaanta is to be considered during the treatment of keeta visha.

**Treatment principle:** Keeta are classified and treated according to their ability to vitiate doshas. In Ashtang Hridaya it is stated that the predominant vitiation is of vata and pitta. Acharya Sushrut differs from this opinion stating that the keeta visha is slow acting and hence not capable of vitiating pitta. As the main vitiation is of vata and kapha, sudation is permitted. The general accepted line of treatment in poison is sheeta. But in insect poisoning Sheetam Chikitsa will aggravate vitiation of kapha and it is contraindicated in wasps, bees, flies, insects, lizards, leeches, centipedes, frog, beetle, mosquito etc.

Acharya Charak described application of kshiri vruksh bark in all types of keeta damsha.

**Keeta dansh nashak yoga mentioned in Ayurveda**

1. The paste of mukta is good for alleviating swelling, burning sensation, piercing pain and fever.
2. Kusumbha flowers, cowteeths, svarnaksiri, feacus of pigeon, danti, trivitta and rocksalt this is applied to destroy the growth on the site of insect and spider poisoning.
3. Bark of katabhi, Arjuna, shirish, slesmataka and bark of latex bearing trees used as decoction paste and powder destroy the wounds caused by insect and spiders.
4. Five parts (fruit, root, bark, flower and leaf) of shirish taken together in equal quantity is known as “panchashirish” which is the best one for destroying the poison.
5. Application of paste of bark of ksiri vrukshas (tree with milky sap/panchavalkala) to the site of the bite after purification of the sting site destroys the poison.
6. Paste of mukta (pearls) is best to relive swelling, pricking, burning sensation and fever.
7. Vaccha, hingu, vidanga, saindhava, gajapippali, patha, prativisha and vyosa are made into decoction and consumed. This dashang agada formulated by kasapa destroys the poison of all kinds of insects.
8. Mahasneha (mixture of ghee, oil, fat and marrow) added with milk and honey and consumed destroys the poison of insects.
9. Fumigation with the feathers of the peacock and cock, oil and lavanottama all together quickly destroys the poison of insects and scorpions.
10. The patient bitten by insects who drinks the decoction of equal parts of tanduliyaka and trivrat added with ghee does not shiver from the poison just as mount Kailas from the wind.
11. For bite by pipilika, makshika (bees) and mashak (mosquito) application of paste of black mud of ant hill made with gomutra (cow urine) is the antidote.

**Modern review of insects-** Insects contributes approximately 80 percent of total number of animals on earth. Insects are very adaptable, they live in variety of habitats and able to withstand extreme climates and harsh environments. Insects are found in the Arctic, in the tropics, on mountains, in desserts, in water, in soil, in or on plants and animals. Some are harmful Agricultural pests while others are vector of diseases. Some insects are beneficial, they pollinate flowers and crops. The fossil record shows that insects existed 390,000,000 years ago. The scientific study of insects is called Entomology. Insects are very helpful for the production of crops but sometimes on the other hand they may cause injuries to the crops.

First is the direct injury done to the plant by the feeding insects which eats leaves or burrows in stems, fruits or roots. The second type is the indirect injury in which the insect itself does little or no harm but transmits a bacterial, viral or fungal infection to the crop. So it is the matter of great concern to us.

### **Benefits of insects to human**

- Many insects are beneficial to environment and humans like wasp, bees, butterflies etc. Insects gather nectar from different plants of the same species and also spread pollen from plants on which they have previously fed. This increases plants ability to cross-pollinate which leads to over all better environment.
- Insect plays an important role in biological research as genetic systems are well conserved among eukaryotes, understanding basic cellular processes like DNA replication or transcription in fruit flies can help to understand those processes in other eukaryotes.

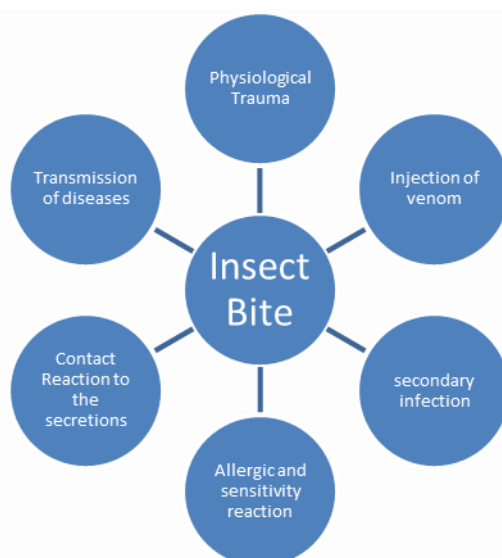
**Common Insects found in present Era-** Cockroaches, Mosquitoes, Flies, Bees, Wasps, Butterflies, Bugs, Ants, Scorpion, Mites, Spider, Millipedes, Centipedes, beetle etc.

**Effects of Insect bites-** Insect bites or sting occurs when an insect is agitated and seeks to defend itself through its natural defense mechanisms. The skin reaction to insect bite and stings usually lasts up to few days.

### **The reaction to a sting is of 3 types**

1. **Minor localized reaction (MLR)** It involves the area around the bite with redness, itching and pain.
2. **Large Local reaction (LLR)** It occurs when area of swelling is greater than 5 cms.
3. **Systemic reaction (SR)** When symptoms occur systemically.

Wasps and bees are the most common types of insects whose stings can result in allergic reactions. Although every person will have a reaction of some kind to an insect sting it will vary from person to person.



**There are mainly two types of effects seen after insect bite**

1. Psychological (*Shanka visha*): These arise psychological by fright.
2. Actual Venom Effect:
  - 2.1 Local reaction i.e. pain, swelling, necrosis etc
  - 2.2 Vasculotoxic reaction e.g. bleeding, shock etc.
  - 2.3 Neurotoxic reaction e.g. autonomic effects neurovascular block breathing difficulties.
  - 2.4 Cardiotoxic or Myotoxic effects
  - 2.5 Allergic Reactions.

**Clinical features of Insect Poisoning:** A rash, often blotchy, that spreads to other parts of the body, Itching, Pain, Cellulitis, Urticaria, Fever, Chills, Faintness or dizziness, Nausea, severe swelling which may be far from the bite area, such as the tongue or lips, Breathing difficulties, Chest pain and Rapid heartbeat.

If an insect bite becomes infected, the following signs and symptoms are possible:

- Pus inside the bite
- Pus around the bite
- Swollen glands
- An elevated body temperature (fever)
- Flu-like symptoms

Insects belong to the following three classes coming under Anthropoda; the largest phylum of animals:

1. **Hexapods:** True insects.
2. **Myriapods:** Mellipedes and centipedes.
3. **Arachinidae:** Mites, ticks, spiders and scorpions.

## DISCUSSION

Charak Acharya in Visha chikitsa adhaya 23 of Chikitsa Sthana explained the local application (Lepa) of kshiri vruksha twak to cure all types of keeta visha. In Sushrut Samhita there are 167 types of (Keeta) insects. They are said to originate from dead or decaying organic substances. Most of them are not been identified presently. In Ayurvedic Classics spiders and scorpions had been described separately with separate clinical features and treatment. Human being especially in tropics is living in environment full of insects, many of them are poisonous but people ignore importance of insect poisoning. This may lead to some serious clinical manifestations so it is necessary to understand and study insects and their effects.

**In Charak Samhita:** Description of Agadtantra is in chapter no. 23 of Chikitsa Sthaan. There is brief description of keeta visha, Makshika and its chikitsa.

**In Sushrut Samhita:** There is wide description of Agadtantra as well as keeta visha. Acharya Sushrut has described Agadtantra in 8 chapters of kalpa Sthaan. Keeta kalpa is chapter 8 of kalpa Sthaan in which wide description of keeta as well as Makshika damsh ,its symptoms and treatment are mentioned.

**In Ashtang Sangraha-** Keeta are classified into four types: Vayavya, Agneya, Soumya and Sankirna.

## CONCLUSION

Acharya Sushrut has described 167 types of keeta in chapter 8 of kalpa sthaan. It is mentioned in Charak Samhita that Panchkshiri Vruksh twak lepa reduces keeta visha poisoning. In the treatment context of Makshika damsha, Acharya Sushrut and Acharya Vagbhatt has given comprehensive treatment with local and internal medications.



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