



International Journal of Mosquito Research

ISSN: 2348-5906

CODEN: IJMRK2

IJMR 2024; 11(1): 01-03

© 2024 IJMR

<https://www.dipterajournal.com>

Received: 02-10-2023

Accepted: 05-11-2023

Dr. Divya KM

Assistant Professor, Department
of Agadatantra, Sri Sairam
Ayurveda Medical College,
Chennai, Tamil Nadu, India

Dr. Sethulekshmi S

Assistant Professor, Department
of Kayachikitsa, Sri Sairam
Ayurveda Medical College,
Chennai, Tamil Nadu, India

An insight into mosquito bite, it's prevention and management through Ayurveda, a review

Dr. Divya KM and Dr. Sethulekshmi S

DOI: <https://doi.org/10.22271/23487941.2024.v11.i1a.735>

Abstract

Ayurveda, the science of life, is the traditional practice of medicine in India which provides the signs, symptoms and treatment for various diseases including poison. Mosquito bites has been included under *Mashaka visha* (a type of insect poisoning) under one among the eight branches of *Ayurveda*, named *Agadatantra*, which deals with Ayurvedic toxicology. Various types of mosquitos including the fatal ones, their signs and symptoms, treatment of the complications arising due to their bites and various fumigations to repel them, has been well explained in the Ayurvedic classics, most of which are unknown to the society. As the health hazards arising due to the complication of mosquito bites turns life threatening, it becomes essential to explore alternative methods to control them and Ayurveda is one such science which offers it. The preventive and curative methods explained in the ayurvedic classics may be adopted to reduce the drastic number of vectors borne diseases arising due to mosquitoes. This article aims at bringing to light, the treatment methods explained in Ayurvedic classic for the management of mosquito bites and their complications.

Keywords: Ayurveda, mashaka visha, agadatantra, mosquito bite, treatment

Introduction

Mosquito bites are one among the major health problem currently faced by the people residing in developing countries. There is a tremendous increase in their number all over the world, due to availability of abundant breeding area as a result of water logging and stagnant water reservoirs.

Though most bites are harmless, some species of mosquitoes, with their bites, can inflict severe illness in humans as they act as vectors for certain parasites and viruses. They can thus spread diseases like dengue fever, malaria, yellow fever, Zika virus infection, West Nile virus infection etc. and various other diseases effecting the brain, some of which has bad prognosis^[1]. Hence it is mandatory to prevent as well as to treat mosquito bites before it progresses into severe health conditions.

Ayurveda is the indigenous system of medicine in India and has explained well about insect bite and their management under the branch '*Agadatantra*', which specifically deals with various kinds of bites, their management and other systemic toxicity. Under *Agadatantra*, insect bites, their signs and symptoms and treatment have been well explained under the category *Keeta visha*. A glance into the *Keeta visha* mentioned by various classical treatise of *Ayurveda*, such as *Charaka Samhita*, *Susruta Samhita* and *Ashtanga Hridaya* reveals that mosquito bites, their complications and treatment has been explained as *Mashaka damsha*.

Ayurvedic textbooks including *Keraleeya Visha chikitsa granthas* (Ayurvedic toxicology textbooks originating from Kerala) like *Prayogasammuchayam*, *Kriya koududi* and *Visha Jyotsnika* have explained in detail about various methods to repel mosquitos as well as to treat their bites.

Types of mosquitoes as per ayurvedic classics

The term Sanskrit term *Mashaka* used in Ayurvedic classics refers to mosquitoes or gnat, and there are five types of mosquitoes explained by *Acharya Susruta*^[2], as per their morphological features, as per *Ayurveda*.

Corresponding Author:

Dr. Divya KM

Assistant Professor, Department
of Agadatantra, Sri Sairam
Ayurveda Medical College,
Chennai, Tamil Nadu, India

They are namely

1. *Samudra*
2. *Parimandala*
3. *Hasti mashaka*
4. *Krishna*
5. *Parvateeya*

According to *Acharya Charaka*, the foremost symptoms arising commonly due to *Mashaka damsha* are *kandu* (itching) and *ishat svayadhu* (mild swelling) and *manda vedana* (mild pain) [3], while *Acharya Susruta* mentions *teevra kandu* (severe itching) as a general feature of *Mashaka damsha* [2].



Fig 1: Common features of a mosquito bite

Acharya Susruta explains that, among the above five types of *Mashaka*, *Parvateeya* variety alone is considered as *Asadya*, meaning impossible to treat [2]. According to *Acharya Caraka* and *Vagbhatta*, the features of *Parvateeya* are explained as similar to that of *asadhya keeta damsha lakshana* (fatal and incurable insect bite features), which has been explained in the classics and the prognosis of this variety is bad [3]. According to *Kriyakoumudi*, this variety of mosquitoes originates from the mountain or hilly areas [4]. On injury of the skin at bite site while scratching using nails, post bite, it results in formation of *pidaka* along with *paka* (eruption with suppuration), while, leaving the sting as such in the bite site results in *daha* (severe burning sensation) and ultimately acts as *pranahara* (results in death) [5].

Ayurvedic management of mosquito bite

Though Ayurvedic drugs like Tulasi [6], neem and turmeric are commonly used as house hold remedies for insect bite including mosquito bites, Ayurvedic classics have explained the treatment of insect bite in detail which can be well applied as general line of management in mosquito bites, as per the signs and symptoms experienced. This includes internal and external application of *Agadayogas* (anti toxic formulations) such as *Vilwadi gutika* [7], *Dasanga agada* [8], *Pancha shireesha agada* which is widely available in the market.

Apart from these specific external applications has also been explained in Ayurvedic classics such as:

- External application of *Krishna vatmeeka mrithika* (Black ant hill soil) made into paste in *gomutra* (cow's urine) [9].
- External application of *Surasa manjari* (flower of *Ocimum sanctum* L) along with cow's urine [10].
- *Nagakesara pushpa* (flower of *Mesua ferrea*) and *Vyosha* (fruit of *Piper longum*, *Piper nigrum* and rhizome of *Zingiber officinale*), triturated in *Gomutra* (cow's urine) and applied externally [9].
- Wash the bite site with buttermilk [11].

- In case of severe pain, apply externally the paste of lime juice with *Navasadara* (Ammonium chloride) [12].

Fumigation for prevention of mosquito as per Ayurveda

According to Ayurveda, *Dhoopana* or Fumigation is a treatment protocol widely used to relieve symptoms as well as to remove any untoward occurrences in the environment. Many *dhoopana yogas* (formulation for fumigation) has been explained in the classics. One among such *yoga* explained by *Acharya Kashyapa*, that can be practiced for mosquito bite is the *Nrikeshadi dhoopa*, a fumigation combination containing human hair, yellow mustard and old jaggery, indicated for fumigating the site of insect bite, to reduce the discomfort caused by the poisonous bite.

Other fumigations which have been indicated in the classics to repel the mosquitoes are

- Seeds of *Bhallathaka* (*Semicarpus anacardium*), *Triphala*, flowers of *Arjuna* (*Terminalia arjuna*), *Laksha* (resin secreted by *Laciffer lacca*), *Sarjarasa* (oleoresin from *Vateria indica*) and *Usheera* (*Vetiveria zizanioides*) [13].
- Seeds of *Bhallathaka* and *Arka* (*Calotropis gigantea*), *Gokshura* (*Tribulus terrestris*), *Musta* (*Cyperus rotundus*), *Sarjarasa*, *Maricha* [14].
- *Aparajitha dhooma* mentioned in *dhoomakalpa adhyaya* of *Kashyapa Samhita* has proven microbicidal activity.

Table 1: Ingredients used to prepare *Aparajitha Dhooma choorna* [15]

S.No.	Name of Ingredients	Botanical name	Plant part used
1	<i>Gulgulu</i>	<i>Commiphora mukul</i>	Gum resin
2	<i>Vayambu</i>	<i>Acorus calamus</i>	Rhizome
3	<i>Chenchalyam</i>	<i>Shorea robusta</i>	Resin
4	<i>Aryaveppin tholi</i>	<i>Azadirachta indica</i>	Bark
5	<i>Erukkinveru</i>	<i>Calotropis gigantea</i>	Root
6	<i>Karakil</i>	<i>Aquilaria agallocha</i>	Heart wood
7	<i>Devatharam</i>	<i>Cedrus deodara</i>	Heart wood
8	<i>Karutha Katuku</i>	<i>Brassica nigra</i>	Seed
9	<i>Jigath</i>	<i>Litsea glutinosa</i>	Bark powder
10	Saw dust	<i>Aquilaria agallocha</i>	Bark powder
11	camphor	<i>Cinnamomum camphora</i>	Resin
12	Bamboo stick	<i>Bambusa vulgaris</i>	Stem sticks

Other methods suggested in Ayurveda to repel mosquitoes.

As per *Kriyakoumudi*, in order to repel mosquitoes, it is advised to keep in the surrounding, a piece of cloth soaked in the *swarasa* (fresh juice) of Gin berry (*Glycosmis pentaphylla*), Tulasi and Common rue (*Ruta graveolens*). The application of lime juice also is believed to repel *mashaka* and prevent them from biting [16].

It is also advised to light a lamp using the wick prepared from the pappus of *Calotropis* seeds, dipped in mustard oil, especially during night, to ward off mosquitoes [17].

Conclusion

The health issues caused by mosquitoes is a major problem faced by the society which needs to be addressed with due importance as it effects the living standard and the general health of a community. Life threatening diseases arising from mosquito bites are being treated with much difficulty by

health personnels all over the world. The severity of these disorders may be reduced by following an initial line of management which can be given in all mosquito bites irrespective of their species, which is suggested in alternative medicine such as ayurveda. In addition to this, various types of fumigation for repelling mosquitoes have also been explained in the traditional ayurvedic texts which is a need of the hour, as prevention is better than cure. Hence adopting Ayurvedic management of mosquito bites, which lay unexplored, will help the society to thrive better, with healthy lifestyle and surroundings.

References

1. <https://www.mayoclinic.org/diseases-conditions/mosquito-bites/symptoms-causes/syc-20375310>
2. Acharya Susruta, Susruta Samhita with Dalhana comm Nibhanda sangraha, Acharya Yavadji Trikamji editor. Varanasi: Chaukamba orientalia. Kalpasthana 8/36; c2009. p. 588.
3. Agnivesa, Caraka samhita, In: Elaborated by caraka & drdhabala, Vaidya jadavaji trikamji acharya (eds.) Caraka samhita of Agnivesa with Ayurveda dipika commentary by cakrapani. Varanasi: Chaukamba surbharati prakashan. Chikitsa staana-23/157; c2009. p. 578.
4. Kuttikrishna menon, VM. 21 Kriyakaumudi. Kothuku visathinu: Sahitya pravarthika CS Ltd publication; sloka 992; P660.
5. Kuttikrishna menon, VM. 21 Kriyakaumudi. Kothuku visathinu: Sahitya pravarthika CS Ltd publication; Sloka 993; P660.
6. <https://www.matherhospital.org/wellness-at-mather/diseases-conditions/homes-remedies-for-those-itchy-mosquito-bites/>
7. Acharya Vagbhata. Sarpa visha prathishedam adhyayam.36/84-85In: *et al.* (eds.) Ashtanga Hridaya with sarvanga sundari & ayurveda rasayana commentary. Varanasi: Chaukamba surbharati prakashan; c2010. p. 913.
8. Acharya vagbhata. Sarpa visha prathishedam adhyayam.37/27-28 In: *et al.* (eds.) Ashtanga Hridaya with sarvanga sundari & ayurveda rasayana commentary. Varanasi: Chaukamba surbharati prakashan; c2010. p. 915.
9. Menon K. VM. 21 Kriyakaumudi. Kothuku visathinu: Sahitya pravarthika CS Ltd publication; sloka 996, P660.
10. Kuttikrishna Menon, VM. 21 Kriyakaumudi. Kothuku visathinu: Sahitya pravarthika CS Ltd publication; sloka 995, P660.
11. Kuttikrishna Menon, VM. 21 Kriyakaumudi. Kothuku visathinu: Sahitya pravarthika CS Ltd publication; sloka 997, P660.
12. Kuttikrishna Menon, VM. 21 Kriyakaumudi. Kothuku visathinu: Sahitya pravarthika CS Ltd publication; sloka 999, P661.
13. Kuttikrishna Menon VM. 21 Kriyakaumudi. Kothuku visathinu: Sahitya pravarthika CS Ltd publication; sloka 1001, P661
14. Kuttikrishna Menon, VM. 21 Kriyakaumudi. Kothuku visathinu: Sahitya pravarthika CS Ltd publication; sloka 1004, P661
15. Priya Prasannakumar, Divya S Balachandran. New Interventions in Fumigating with Aparajitha Dhooma Chooram. Ayushdhara. 2021;8(2):3130-3138.
16. Kuttikrishna Menon, VM. 21 Kriyakaumudi. Kothuku visathinu: Sahitya pravarthika CS Ltd publication; sloka 1000, P661.
17. Kuttikrishna Menon, VM. 21 Kriyakaumudi. Kothuku visathinu: Sahitya pravarthika CS Ltd publication; sloka 1002-1003, P661.