IAMJ

Review Article International Ayurvedic Medical Journal ISSN:2320 5091

DENGUE IN AYURVEDIC PERSPECTIVE AND ITS MANAGEMENT- A REVIEW ARTICLE

Janagal Bhageshwary[1] Singh Chandan[2] Purvia Rajendra Prasad[3] Adlakha Manoj[4]

[1]MD Scholar [2]MD, Ph.D (Ay.) Associate Professor and H.O.D

[3]MD, Ph.D (Ay.) Assistant Professor, [4]MD , Ph.D (Ay.) Assistant Professor;

PG Department of Dravya guna, University College of Ayurveda, Dr. S. R. Rajasthan Ayurveda University, Jodhpur, Rajasthan, India

ABSTRACT

Dengue is caused by Aedesaegypti mosquito. Dengue is a viral disease that is similar in symptoms and etiology to the disease, Chikungunya. Dengue virus belongs to family Flaviviridae, having four serotypes that spread by the bite of infected Aedes mosquitoes. In allopathic, there is no treatment of this disease, treatment is based on the symptoms. In *Ayurveda,* Dengue fever is known as *Dandakjwara* which means joint pain that's why this is also called breakbone fever. The symptoms of dengue and *Dandakjwara* are very similar. *Ayurveda* treatment provides relief for the disease.

Keywords: Dengue, Virus, Fever, *Dandakjwara*

INTRODUCTION

The word "Dengue" is derived from the Swahili phrase Ka-dinga pepo, meaning "cramp-like seizure". Dengue fever is a disease caused by viruses that are transmitted to people by mosquitoes. The disease has also been termed "break bone fever" or "dandy fever". Four main characteristic manifestations of dengue illness are *(i)* continuous high fever lasting 2-7 days; *(ii)* hemorrhagic tendency as shown by a positive tourniquet test, petechiae or epistaxis; *(iii)* thrombocytopenia (platelet count <100x109/l); and *(iv)* evidence of plasma leakage manifested by haemoconcentration (an increase in haematocrit 20% above average for age, sex and population), pleural effusion and ascites, *etc*. Excellent work has been done at some of the centers in India on molecular epidemiology of Dengue immunopathology and vaccine development[1]

In *Ayurveda,* jwara is very large and complicated disease. In all diseases, jwara is most popular and important disease. It is an independent disease and also found in all disease. Jwar occurs from both *sharer* and *manas vikaras*. *Vata, pita, kapha* three are *sharer doshas*. *Raja* and *tama* two are *manas doshas*. All *dhatus* are destroying in jwara. In *Ayurveda* there are many types of jwara with different causes and different stages. *Dandak jwara* is also a type of jwara which occurs from *vata kapha dominant sannipatajjwara*. All symptoms of *jwara* are present in *Dandak jwara* and some special features also found which only present in *Dandak jwara*.[2]

HISTORY-

Dengue virus was isolated in Japan in

How to cite this URL: Dr. Shweta Hegde Et Al: Chandas - A Tool For Shloka Recitation W.S.R. To Sushruta Samhita. International Ayurvedic medical Journal {online} 2016 {cited 2016 July} Available from: http://www.iamj.in/posts/images/upload/3385_3390.pdf

1943 by inoculation of serum of patients in suckling mice and at Calcutta (now Kolkata) in 1944 from serum samples of US soldiers. The first epidemic of clinical Dengue-like illness was recorded in Madras (now Chennai) in 1780 and the first virologically proved epidemic of DF in India occurred in Calcutta and Eastern Coast of India in 1963-1964.[3]

SIGNS AND SYMPTOMS-

- Dengue fever usually stats suddenly with a rapidly climbing high fever that's why the temperature in dengue fever is called a "Saddle back" type temperature.
- Retro-orbital pain behind the eye.
- Nausea, vomiting and loss of appetite.
- Rashes develop on the feet or legs 3 to 4 days after the beginning of the fever.
- Swelling and pain in muscles and joints
- The joint pain in the body has given dengue fever the name that is "break bone fever". The common symptoms of dengue fever may go in around 10 days, but complete recovery from Dengue fever can take more than a month. [4]

DIAGNOSIS-

Diagnosis of DV infection is routinely done by demonstration of anti DV IgM antibodies or by NS-1 antigen in patients' serum depending upon day of illness using ELISA kits. Molecular methods (reverse transcriptase PCR) are being increasingly used in diagnosis of DV infection. A single tube nested PCR for detection and serotyping of DV was developed and used for detection of co-infection by two viruses. DV isolation in tissue culture cells and its sequencing is also being done.[5]

PREVENTION AND CONTROL-

Prevention depends on control of and protection from the bites of the mosquito that transmits it. The primary method of controlling A. aegypti is by eliminating its habitats. This is done by getting rid of open sources of water, or if this is not possible, by adding insecticides or biological control agents to these areas. People can prevent mosquito bites by wearing clothing that fully covers the skin, using mosquito netting while resting. However, these methods appear not to be sufficiently effective, as the frequency of outbreaks appears to be increasing in some areas, probably due to urbanization increasing the habitat of A. aegypti.[6]

IN *AYURVEDA*, DENGUE FEVER (*DANDAKA JWARA*)

Jwar (fever) is a large disease in *Ayurveda* which is describes in broad spectrum. *Ayurveda*, an ancient healing system refers fever as jwara, a condition in which the body condition goes beyond the normal temperature and is characterized by disturbance in normal functioning of the system. Separate chapter of *Dandakjwara* not available. Bt symptoms of *vat-kaphaolban sannipatajjwara* are similar with *Dandak jwara*. It is acute and infectious disease. Fever suddenly rise and felling very weak.

Description of dengue as *Dandaka Jwara* is found in the *parishishta chapter of Madhava Nidana.* It has been described that a particular species of mosquito is the basic cause of spread of fever called *Dandaka jvara*. This fever mostly subsides within a week; however, it is more dangerous for the children and old people.[7]

Causative factor *(Nidan)*-

Main cause of *Dandak jwara* is toga virus which spread in body through Aedes Aegypti mosquito.

Premonitory symptoms (*Purvarupa)*-

Angmard- bodyache, *klam* -tiredness without exertion, *aruchi*- anorexia, nausea, *avsaad*- depression.

Symptoms (*Rupa)*-

Severe breaking pain in bone and joints. High temperature of 103 to 105 degrees F. may occur which gets subside and may relapse again within three to four days (Saddle back fever). On 8th day, it subsides on its own. Severe pains in bones, difficulty in walking, slow pulse, excessive weakness, loss of appetite are common symptoms. During fever, pulse is not proportionately as fast as it should be with fever. Symptoms of common cold (*Pratishyaya)* cough and throat pain are also common symptoms of *Dandaka jwara* which becomes endemic due to virulence of *kapha and vata dosha.*[8]

Table-1 Symptoms of Dengue fever which can be correlated with *jwaralakshanas* mentioned in different Ayurvedic texts.

Name of the text	Type of jwara	Chills	Arthralgia	Headache	Nausea	Vomiting	Sleeplessness
Ch.S.Ch[9]	VP	-	+	+	-	+	+
	VK	+	+	+	-	-	-
Su.S.U.[10]	VP	-	+	+	-	+	+
	VK	+	+	+	-	-	-
As.H.Ni.[11]	VP	-	+	+	-	+	+
	VK	-	+	+	-	-	-

[VP- *Vata Pita* Jwara; VK- *Vata Kapha* Jwara; +Present; -Absent] [*Ch.S.Ch.- Charak Samhita Chikitsasthana* 3/85-86; *Su.S.U.- Sushruta Samhita Uttaratantra* 39/47-49; *As.H.Ni.- Astang Hridaya Nidansthana* 2/24-25; *Ma.ni.- Madhav Nidan* 2/14-16*]*.

Management (Chikitsa)-

There is no specific treatment for disease, *Ayurveda* stresses to strengthen immune system of the body and keeping a control on hyperthermia. No specific treatment for dengue fever exists. Drink plenty of fluids to avoid dehydration from vomiting and high fever.

There is no actual treatment is available for Dengue fever. Only symptomatic treatment is given and patient gets relief in fever. Allopath medicines give relief only for some time and side effects are more developed. No specific treatment is available for dengue fever.

So, in *Ayurveda* many medicinal plants are effective in Dengue fever and such a very impotant role in cure to Dengue fever. *Ayurvedic* medicines, herbs, *rasayanas* and much Ayurvedic therapy are use in treat for dengue fever.

Dengue fever is a life threatening infection in now a days. The treatment modalities of dengue can be categorized into symptom modifiers and general health promoters. The drugs which improve the Quality of Life (QOL) and vector control measures / agents are beneficial in the management of Dengue.[12]

A) Symptoms modifier- The agents that alleviate symptoms are categorized under symptom modifier.-

1. *Jwara hara* (anti pyretic)
2. *Soth hara* (anti inflammatory)
3. *Vedana hara* (analgesics)

B) General health promoting agents- The agents that improve Quality Of Life (QOL), provides strength or resistance against the disease and facilitate early recovery are classified under General Health Promoters.- *Aswagandha, Amalaki, Guduchi, Yastimadhu*.

1. *Balya* (Tonic)
2. *Rasayan* (Immunomodulator)

The commonly used *Ayurvedic* poly herbal/ herbo- mineral/ metallic formulations in the management of Dengue fever symptoms viz. fever, arthritis, arthralgia etc.

S. No.	Indication	Name of the Formulation
1.	*Parsvasula, Jwara*[13]	Dasmula kwath
2.	*Jwara*[14]	Patoladi kwath
3.	*Sandhi vedna*[15]	Maharasnadi kwath
4.	*Jirna jwara*[16]	Arogyavardhani gutika

Diet and Life style adoption-

Ahara (diet)-

1. Always have home made fresh food, plenty of lukewarm liquids, light and warm diet, liberally use ginger and turmeric in foods.
2. Always avoid food prepared under unhygienic conditions, contaminated and stale food, cold drinks, beverage etc.

Vihara (life style)-

1. Avoid visiting the disease prevalent areas.
2. Proper sanitation measures to be followed.

Amrita (Guduchi), Tulasi (Holi basil), Shunthi (Dried ginger), *Erand-karkati (Papaya)* are the commonly available medicinal plants and used to prevent its complications by potentiating immune system so that disease gets controlled within a period of 4to 8 days.

GUDUCHI

Giloy or *Amrita* is an anti-inflammatory (that reduces inflammation) and antipyretic (that reduce fever) herb.

Botanical name- *Tinospora cordifolia*

Family- *Menispermaceae*

Chemical composition-

Columbin, tinosporaside, jatrorhizine, palmatine, berberine, tembeterine, tinocordifolioside, phenylpropene disaccharides, choline, tinosporic acid, tinosporal, and tinosporon have been isolated from *Tinospora cordifolia*.

Medicinal properties-

- ***Rasa*** *– Kashaya, Tikta* ***Guna*** *– Laghu, Snigdha*
- ***Veerya*** *– Ushna* ***Vipaka*** *– Madhura*
- ***Karma*** *- Doshatrayahara-* balances *tridoshas: vata, pita, kapha* [17]

Part used - Most used part is stem. Almost all the pharmacies use stem of *Guduchi*. Leaves and areal roots are also used for medicinal purpose.

Dose - Stem powder = 3-6 gram. Water decoction= 50-100 ml.

There is a special extraction technique for *Guduchi*, called as *Guduchi satva.* It is useful in fever. *Guduchi satva* = 1-2 gram.[18]

Action of *Guduchi*-

The bitter properties present in the drug show antispasmodic properties which is helpful in preventing infectious diseases like dengue, swine flu, malaria etc. This wonderful *Ayurvedic* herb helps in raising the efficiency of protective WBC (white blood cells) and builds up the body's own protection mechanism known as immune system. *Giloy* has antibacterial, anti-inflammatory, anti-rheumatic, and anti-allergic actions. In dengue, platelets count is decreases and body strength is very weak. *Guduchi* increase platelet counts. *Guduchi* an amazing role in strengthening our natural immune system by helping the White Blood Cell count to increase in our body. This action of *Guduchi* as a major immunity booster is very remedial especially during the dengue spell. In dengue, immune power is very weak. *Guduchi* boost immunity in dengue fever. Tinospora is effective in promoting regeneration of the liver. Dengue is sometimes associated with the problems of degeneration of liver. This herb fights this degeneration by raising the efficacy of the WBCs in the body.[19]

PAPAYA

In recent times, *papaya* leaves are very effective and useful in management of dengue fever especially in increasing platelet count in dengue patients with low platelet count and those who develop hemorrhagic dengue fever.

Botanical name - *Carica papaya*

Family- *Caricaceae*

Chemical constituents- *Papaya* contains a chemical called papain, which is commonly used as a meat tenderizer. Papain breaks down proteins, carbohydrates, and fats. That's why it works as a meat tenderizer.

Medicinal Properties-

- ***Rasa-*** *katu, tikta* ***Guna-*** *laghu, ruksha, tikshan*
- ***Virya-*** *ushan* ***Vipak-*** *katu* ***Karma-*** *kapha- vata shamak, pachan*,[20]

Useful part - leaves, fruit, seeds.

Dose- Seed powder= 0.5 gram. Leaves water decoction= 40-80 ml.

Uses- *Papaya* is used for preventing and treating gastrointestinal tract disorders, intestinal parasite infections, and as a sedative and diuretic. It is also used for nerve pains (neuralgia).[21]

Action-

Papaya seeds are collect and leave for few days to dry them. When seeds properly dry, powdered them, seeds powder is used in accurate dose.

Papaya leaves and seeds are inhibiting heamolysis. Platelets are very low in dengue. *Papaya* leaves increases thrombolytic counts. *Papaya* leaves also contain important nutrients, including vitamin A, C and E, they support the immune system.[22]

CONCLUSION

Dengue disease continuously involves newer areas, newer populations. Prevention and vector control of dengue fever disease is not very well known. No vaccine is yet available for protection. In allopath, proper treatment is not available. So, in *Ayurveda* many herbs are available for dengue fever and no harm effect of these herbs. Some medicinal plants are described in this paper, which are more effective and more useful in dengue fever disease. They are immune modulator herbs which provide immunity and resistance against bacteria, virus, and any infection.

REFERENCES

1. K3. imura R, Hotta S. Studies on dengue fever (IV) on inoculation of dengue virus into mice. *Nippon Igaku* 1944; *3379* : 629-33.
2. Prof. Ajaykumar Sharma, chaukhambha publishers, Varanasi, 2013, Rasavaha Srotasa ke roga, page no. 457
3. Sarkar JK, Chatterjee SN, Chakravarty SK. Haemorrhagic 5. fever in Calcutta: some epidemiological observations. *Indian J Med Res* 1964; *52* : 651-9.
4. WebMD Medical Reference Reviewed by Lisa Bernstein, MD on August 04, 2015© 2015 WebMD, LLC. All rights reserved.
5. Chakravarti 199. A, Kumar A, Malik S. Detection of dengue infection by combining the use of an NS1 antigen based assay with antibody detection. *Southeast Asian J Trop Med Public Health* 2011; *42* : 297-302.
6. Reiter P (11 March 2010). "Yellow fever and dengue: a threat to Europe?". *Euro Surveill*. 15 (10): 19509. PMID 20403310
7. http ://www.nhp.gov.in/ayurvedic-perspective-of-dengue-fever-mtl
8. Prof. yadunandana upadhyaya, chaukhambha bharti academy, Varanasi, 2010, parishishat chapter of madhav nidan, p.510
9. Charak samhita chikitsasthan, pt. kashinathshastri and gorakhnathchaturvedi(vol.2), chaukhambhabhartiakadmi, Varanasi, republished2007, page no.117

10. Sushruta samhita uttartantra, kavirajdrambikadatt shastri(vol.2), chaukhambha sanskrita sansthan, Varanasi, edition reprint 2011, page no.225
11. Astangahradyam nidansthan, dr.brahmanandatripathi, chaukhambha sanskrita sansthan, edition reprinted 2007, Varanasi, page no.438
12. http://www.ccras.nic.in/Training-module/6.%20MANAGEMENT%20OF%20DENGUE%20THROUGH%20AYURVEDA%20AND%20SIDDHA%20TECHNICAL%20REPORT.pdf
13. Bhaisajya Ratnavali, Proff. Sidhinandanmishra, chaukhambha prakashan, Varanasi, edition 2011, Kasarogadhikara; page no.460
14. Chakradatta Jwara Chikitsa; drindradev triphathi, chaukhambha Sanskrit sansthsan, Varanasi, edition vikrama samvat 2052, page no.114
15. Sarangadhara Samhita, pt.parsuramshastri, vidhyasagar, chaukhambhiaorientalia, Madhyama Khanda Adhyaya-2, page no.156
16. Rasaratna Samucchaya Visarpadi Chikitsa Adhyaya page no.252
17. Sharma p.v., chaukhambha bharti academy, Varanasi, 2012, p.762
18. Sharma p.v., chaukhambha bharti academy,Varanasi, 2012, p. 763
19. http://www.futurepointindia.com/articles/latestarticles/giloy.aspx-
20. Sharma p.v., chaukhambha bharti academy, Varanasi, 2012, p. 374
21. http://www.indiatvnews.com/news/india/four-herbal-cures-of-dengue-suggested-by-baba-ramdev-54658.html
22. http://www.indiatvnews.com/news/india/four-herbal-cures-of-dengue-suggested-by-baba-ramdev-54658.html

CORRESPONDING AUTHOR

Janagal Bhageshwary

MD Scholar PG Department of DravyaGuna, University College of Ayurveda,
Dr. S. R. Rajasthan Ayurveda University, Jodhpur, Rajasthan, India

Email: bhageshwaryjanagal@gmail.com

Source of Support: Nil
Conflict of Interest: None Declared