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Ayurvedic management of Dengue Fever - A Case Study

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ABSTRACT

Dengue fever is the fastest spreading vector-borne virus disease, transmitted through the bite of female mosquitos of the *Aedes aegypti* species. Dengue fever has surged in recent decades, with estimates putting 40-50% of the world's population at risk for the disease^[1] In *Ayurveda*, dengue fever can be correlated with *Vishamjwara*. Various formulations have been mentioned in *Jwara Prakaran*. A case study of dengue fever was done which was successfully managed with Ayurvedic medications. So, it can conclude that dengue fever can be managed without any side effect in Ayurveda. In this study 20 years old male patient with complaints of fever with chills, headache, body ache and itching over body was present. Blood investigations revealed dengue positive along with decreased platelets count. It was managed with Ayurvedic medications for 7 days and also developed good immunity against the disease. The subject was treated on the base of *Vishamjwara* with various formulations given in *Jwara Prakaran*. Lab tests were also done on time to monitor the changes. Symptomatology and haematological profile both significantly improved.

Key words: Dengue fever, *Vishamjwara*, *Jwara Chikitsa*, Ayurvedic medications.

INTRODUCTION

Dengue is the most rapidly spreading vector borne viral disease transmitted by the bite of female mosquitoes of the species *Aedes aegypti*.^[2] Regarding morbidity and mortality, Dengue is regarded as the most serious mosquito-borne arboviral disease in the world. Dengue is also known as breakbone fever with the symptoms range from high grade fever, severe headache, intense muscle and joint pain, rashes and in one third patients haemorrhagic shock leads to death. Increased human population density, urbanization, climatic change,

inadequate sanitation (which provides mosquito breeding grounds) leads to Dengue fever. Dengue fever has grown into a global public health hazard, affecting more than 2.5 billion people in nation.^[3] Dengue virus can cause a spectrum of illness ranging from asymptomatic dengue infection to dengue fever (DF) to dengue hemorrhagic fever (DHF) to dengue shock syndrome (DSS). It is estimated that close to 3.6 billion are at risk with 390 million infections of which 96 million are symptomatic. Among the 96 million symptomatic cases, 2 million ends in severe form of infections, that is, DHF and DSS, and around 21,000 fatal cases occur annually around the world.^[4] Dengue is caused by one of any of four related viruses: dengue virus 1, 2, 3, and 4 hence person can be infected with dengue multiple times in their life.^[4] The viruses travel in the blood stream and that they destroy the body capacity to produce new platelets and the platelet count started falling after 2 to 3 days of the infection. In Ayurveda there is no direct reference and description is given but dengue fever can be correlated with *Vishamjwara* in Ayurveda. Various formulations have been mentioned in *Jwara Chikitsa*. Repeated use

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of antibiotics causing resistance of body to it. So, its need of time, the globe is turning to alternative medical systems like Ayurveda these days to cure illnesses in such life-threatening conditions like dengue. A case study of dengue fever was done which was successfully managed with Ayurvedic medications.

CASE REPORT

The present case study is successful Ayurvedic management of a case of Dengue fever. A 20 year old male patient presented with the symptoms of *Sheetpurvak Jwara Prachiti* (fever with chills), *Shirshool* (Headache), *Angamarda* (Body ache), *Sarvang Kandu* (Itching over body) and *Aruchi* (Anorexia) since from 3 to 7 days. Patient was taking allopathic medication for the same, but the symptoms doesn't resolved, so he came for Ayurvedic medication to manage the fever. On first visit after taking history and vitals of patient we have done lab investigations of patient for Malaria, Dengue and Typhoid. Where Dengue test was positive. Patient was willing to continue *Ayurvedic* medications. So, The Informed written consent for day observation of patient were taken for further management.

Patient information

Patient Name - xyz

Age - 20 yrs

Sex - male

History of Present illness

20yr old male patient with complaints of *Sheetapurvak Jwarprachiti* (fever with chills), *Shiroshool* (headache), *Angamarda* (bodyache), *Sarvang Kandu* (itching over body) and *Aruchi* (Anorexia) were present since 8 days. In history, patient told about *Daurbalya* (weakness) and *Tiktasyata* were present before six months. Lab investigations of patient were done for Malaria, Dengue and Typhoid. Where Dengue test was positive of a patient. Hence the case was diagnosed with Dengue fever.

History of past illness

No any history of HTN, Diabetes mellitus and thyroid.

No history of any surgery.

No history of covid-19 disease.

No any other major illness.

Personal history

Aahar - *Tikta Madhur Rasatmak Aahar*

Pradhan Gun Sevan - *Ushna, Tikshna, Singdha, Guru*

Vihar - Daily habit of *Ratri Jagaran*

Ashtavidha Parikshan

Nadi - 92/ min (*Pitta Vataj*)

Mala - *Samyak* (1-2 veg/day)

Mutra - *Pitamutrata* (4-5 veg/day)

Jivha - *Saam*

Shabda - *Spashta*

Sparsha - *Ushnasparshatva*

Druk - *Prakrut*

Aakruti - *Madhyam*

On examination

Blood Pressure - 130/90 mmHg

Respiratory Rate - 20/min

Temperature - 102.30°F

Weight - 52 kg

(Temperature charting was done every 6 hourly to assist the fever)

Assessment criteria^[5]

Fever Grade

Characteristics	Grade
High (102 - 104°F)	4
Moderate (100 - 102°F)	3
Low (99 - 100°F)	2
Very low (up to 99°F)	1
No fever	0

Headache Grade

Characteristics	Grade
Severe, requires medicine	4
Moderate	3
Mild	2
Occasional	1
No headache	0

Body ache Grade

Characteristics	Grade
Severe, hamper routine work	4
Moderate	3
Mild	2
Occasional	1
No body ache	0

Haematological Profile

TLC Grade

Characteristics	Grade
3000-3500 cells/cu mm	4
3500-4000 cells/cu mm	3
4000-4500 cells/cu mm	2
4500-5000 cells/cu mm	1
More than 5000 cells/cu mm	0

Platelet Count Grade

Characteristics	Grade
Less than 50,000 cells/cu mm	4
50,000-65000 cells/cu mm	3
65,000- 80000cells/cu mm	2

80000 -95000cells/cu mm	1
More than 95,000 cells/cu mm	0

Shaman Chikitsa

SN	Medications	Dose	Kala	Anupan	Duration
1.	Jaymangal Ras ^[7]	1 (120 mg)	Vyanodane		7 days
2.	Raktapachak Yog ^[8] (Patol, Sariva, Musta, Patha, Kutaki)	10 gms	Vyanodane	Koshna Jala	15 days
3.	Pittaj Jwaraghna Yog ^[9] (Dhamasa, Pitapapada, Bhunimba, Vasa, Kutaki, Musta, Mishri)	10 gms	Vyanodane	Koshna Jala	15 days
4.	Sanshamani Vatj ^[10]	1	Vyanodane	Koshna Jala	15 days
5.	Avipattikar Churna ^[11]	5 gms	Nishikale	Sakhar + Jala	15 days
6.	Mahasudarshan Kadha ^[12]	30 ml	Vyanodane	Koshna Jala	15 days
7.	Syp. Plateforte	20 ml	Vyanodane		15 days
8.	Mauktik Kamdudha ^[13]	1	Apane		15 days

Date wise symptoms with haematological profile of the patient

Date	Symptoms	Total leucocytes count	Platelet count
03/08/2023	Fever, body ache, headache, loss of appetite	3900 cells/cumm	93000 cells/cumm

04/08/2023	Reduction in the intensity of fever and headache and body ache.	4400 cells/cumm	1,01000 cells/cumm
05/08/2023	Marked diminution in frequency and intensity of fever, no headache	5200 cells/cumm	1,10000 cells/cumm
06/08/2023	Low grade fever (up to 98°F) with no headache, body ache markedly improved along with improvement in appetite.	6100 cells/cumm	1,12000 cells/cumm

RESULTS

The subject was treated on the base of *Vishamjwara* with various formulations given in *Jwara Prakaran*. Lab tests were also done on time to monitor the changes. Symptomatology and haematological profile both significantly improved.

SN	Characteristics	Before treatment	After treatment
1.	Fever	4	1
2.	Headache	4	1
3.	Body ache	3	1

Effect of therapy (Based on grading)

SN	Laboratory investigations	Before treatment	After treatment
1.	TLC	3	0
2.	Platelet count	1	0

DISCUSSION

Fever (*Jwara*) is presenting as *Vishama Arambha*, *Vishama Kaala*, *Vishama Kriya* so it can be categorised under *Vishamajwara*.^[14] Dengue fever can be compared to any specific type *Vishamajwara*.

The medications used in this management includes *Jaymangal Rasa* is a novel herbo-mineral formulation prescribed in *Vegavastha* of *Jwara*. It balances *Raktagat Ushma* thereby balancing *Tridosha*. Ingredients of *Jaymangal Rasa* are *Hingul*, *Swarna*

Bhasma, *Rajat Bhasma*, *Lohabhasma*, *Tankan*, *Maricha*, etc. which are known as *Raktaprasadak*, *Ojovardhak*, *Vishaghna* and *Rasayan*. *Hingul* is specially indicated in *Amashayottha Vikara*, as *Samprapti* of *Jwara* starts from *Amashaya* due to *Agnimandya*. It controls *Jwaravega* by improving digestive fire. *Raktapachak Yog* mentioned in *Jwara Chikitsa* mostly contains *Tikta Rasatmak* and *Sheet Viryatmak Dravya* which are effective in Anorexia, *Agnimandya* seen in *Jwara*. *Raktapachak Yog* improves digestive fire and also improves Quality of blood. *Pittaj Jwaraghna Yog* contains *Tikta Rasatmak* and *Jwarahar Dravya* which improves conditions like *Agnimandya*, *Aruchi*, *Trishna* which is seen in manifestations of *Jwara*. *Sanshamani Vati* which is reference of *Sidhhayog Sangraha* of *Yadavji Trikamji* contains *Guduchi* as a main ingredient having *Tiktaras* and *Ushna Virya* which acts as *Jwaraghna*.^[15] In *Avipattikar Churna Khandasharkara* contributes major quantity. Apart from *Khandasharkara* the main ingredient is *Trivruta (Nishoth)*. It has *Katu*, *Tikta Rasa*, *Laghu Tikshna Guna*, *Ushna Virya* and *Katu Vipak*.^[16] It has *Rechana* and *Shothahar* properties leading to *Pitta Virechana* useful in *Samprapti Vighatana* of *Jwara*. *Mahasudarshan Kadha* contains *Chirayata*, *Musta*, *Shunthi*, *Nimba*, etc. where *Swertia chirayata* is 50% of the total quantity of remaining ingredients. It is well known for antipyretic and antiviral activity. According to *Ayurveda*, *Jwara* is *Pitta Pradhan Vyadhi* and *Mahasudarshan Kadha* contains *Pittavirechaniya Dravya*. It reduces *Dhatu Agnimandya* by increasing *Dhatu Agni* due to its *Tiktarasa Pradhanata*.

In dengue fever rapid destruction of platelets are seen which results in thrombocytopenia. Syrup Plateforte contains *Papaya* leaves extract which stops destruction of platelets also helps in improving platelets health and it has anti inflammatory property. Dengue fever has traditionally been treated using *C. papaya* leaves.^[17] This plant's aqueous extract showed possible action against dengue disease by boosting neutrophils, white blood cells, and platelets. *Mauktik Kamdudha* is commonly used in *Pittaj Vikar*. It contains *Dravyas* of *Sudha Varg* like *Prawal*, *Mukta*, *Muktashukti*, *Shankha*, *Kapardik*, etc. which are *Sheet Viryatamak* and

Pittashamak and reduces aggravated *Pitta*.^[18] Breakdown of platelets is generally due to vitiated *Ushna Guna* of *Pitta* in body, as *Kamdudha* is *Sheeta Gunatmak* it inhibits destruction of platelets.

CONCLUSION

The case study leads to the conclusion that the formulations demonstrated a significant therapeutic impact on the feverish dengue condition and its associated symptoms. Temperatures below 104°F (40°C) linked with common viral diseases, such as the flu, may aid the immune system in fighting sickness and are normally harmless. In such cases, instead of taking antipyretic medicines, natural immunomodulators from *Ayurveda* as part of *Jwarachikitsa* help to avoid complications and improve overall health. Dengue Fever can be effectively managed with Ayurvedic drugs if treated promptly. Apart from it, within five days, the medications also treated thrombocytopenia and leucopenia. During the admission, no negative effects were seen. However, more research is required to observe the effectiveness of the above formulation in other febrile illnesses as well. Secondly, more patients should be included in the study, and it should be conducted for a longer period of time to note any additional benefits.

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