

## EFFICACY OF COMBINED THERAPY OF CARICA PAPAYA AND KIWI FRUIT IN DENGUE FEVER: A SINGLE CASE STUDY

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### ABSTRACT

The purpose of study is combined effect of *Carica Papaya* leaves extracts and *Kiwi fruit* for Dengue fever. Dengue is mosquito borne disease caused by Dengue virus. All the symptoms of disease are due to low platelets count that may become very low if not managed. The combined use of *Kiwi fruit* and *Carica papaya* helps in reducing platelet aggregation. Kiwi fruit due to its immune boost function increases white blood cells that is found to be decreased in dengue fever that is leukopenia. A single Case study was done, and it is concluded that combined therapy of *Carica Papaya* and *Kiwi fruit* exhibited marked therapeutic effect on febrile condition of Dengue along with other associated symptoms. Other than this the drugs also corrected Leukopenia as well as Thrombocytopenia within 5 days.

**Keywords:** Dengue, Combined therapy, *Carica Papaya* leaf extract, *Kiwi fruit*, Thrombocytopenia.

### INTRODUCTION

Dengue is considered globally as the most concerning mosquito borne arboviral disease in terms of morbidity and mortality that places a significant socioeconomic and disease burden on many tropical and subtropical regions of the world. Till date, there is no specific treatment which is accepted for dengue fever in Modern Medicine. In Ayurveda, dengue fever can be correlated with *Visham Jwara*. Various formulations have been mentioned in *Jwara Prakaran* and also tried, scientifically validated and documented by modern researchers, showing evidence of efficacy. A case study of Dengue fever was done which was successfully managed with Ayurvedic medications. The patient showed marked improvement in symptomatology along with

hematological profile. So, it was concluded that dengue fever can be managed without any side effect in Ayurveda.

#### Case Report:

A 36 years old female patient reported to Kayachikitsa OPD of Dhanvantari Hospital Ashta with the chief complaint of fever and generalized body aches. On enquiry she revealed that she was quite asymptomatic before 2 days then she develop severe headaches, giddiness, generalized weakness, sore throat, body aches, fainting. After 2 days she got fever which was of high grade (104 degree F) and was associated with chills and severe headaches. Other associated symptoms were generalized body aches and weakness. For which

she took medication from a local medical store but she get only temporarily relief. So, with this history she came to Hospital there was no relevant history of past illness. As she belongs to a labour class in slum area, her socioeconomic history revealed Poor ventilation and hygienic standards. According her personal history, appetite was very much reduced, generalized weakness is more. On examination she was febrile (101degree F) had pulse rate 94/min, regular with good volume and Blood pressure of 100/70 mm of hg.

On systemic examination there was mild abdominal tenderness and symptoms of dehydration .She was

subjected to various routine lab investigations and diagnosed as case of Dengue fever (Positive NS1 antigen and Ig test) other blood investigation revealed leucopenia ( 2400 cells/cumm) and Thrombocytopenia (Platelet count 65000 cells//cumm).

**Management:** She was admitted in IPD of the same department and was put on Ayurvedic line of treatment along with light diet and plenty of fluid intake. Hemogram was advised to repeat every day After 5days there was remarkable improvement in haematological profile of the patient which was also evident symptomatically without any complications.

**Table 1:** Line of treatment given to the patient

Sr. No	Drug	Dose	How many times a Day
1	<i>Kiwi Fruit</i> (only Pulp)	1 fruit	Once a Day
2.	<i>Earandakarkatipatra</i> ( <i>Papaya Leaves</i> )	30 ml	Two times a Day.
3.	<i>Tribhuvankirtiras</i>	250mg	Three times a Day

**Table 2:** Day wise symptoms with haematological profile of the patient

Day	Symptoms	Total leucocyte count	Platelet count
1 <sup>st</sup>	Fever, headaches Generalized Body aches, Loss of Appetite	2400 cells/cumm	65000cells/cumm
2nd	Diminutions in intensity of fever along with Headaches, Rest of the symptoms remained same.	2900 cells/cumm	72000cells/cumm
3rd	Diminutions in intensity of fever along with Headaches, Rest of the symptoms remained same.	3600 cells/cumm	116000cells/cumm
4th	Marked reduction in frequency as Well as intensity of fever, No Headaches	5400cells//cumm	1,32,000cells/cumm
5th	Low grade fever (upto99 degree F) with no headaches, body aches markedly improved, appetite improved.	7400cells/cumm	146,000cells//cumm

After 15 days patient get relief from all the symptoms there is only presence of generalized weakness. And laboratory investigations shows there is NS1 antigen test become negative and both leucocytes and platelet count is also normal.

**Table 3:** Assessment Criteria and Observation

Grade	Fever grade	Head ache Grade	Body ache Grade
4	High (102-104 degree F)	Severe requires medicine	Severe hamper routine work
3	Moderate ( 100-102 degree F)	Moderate	Moderate
2	Low (99-100 degree F)	Mild	Mild
1	Very low ( up to 99 degree F)	Occasional	Occasional
0	No fever 0	No headache	No Body aches

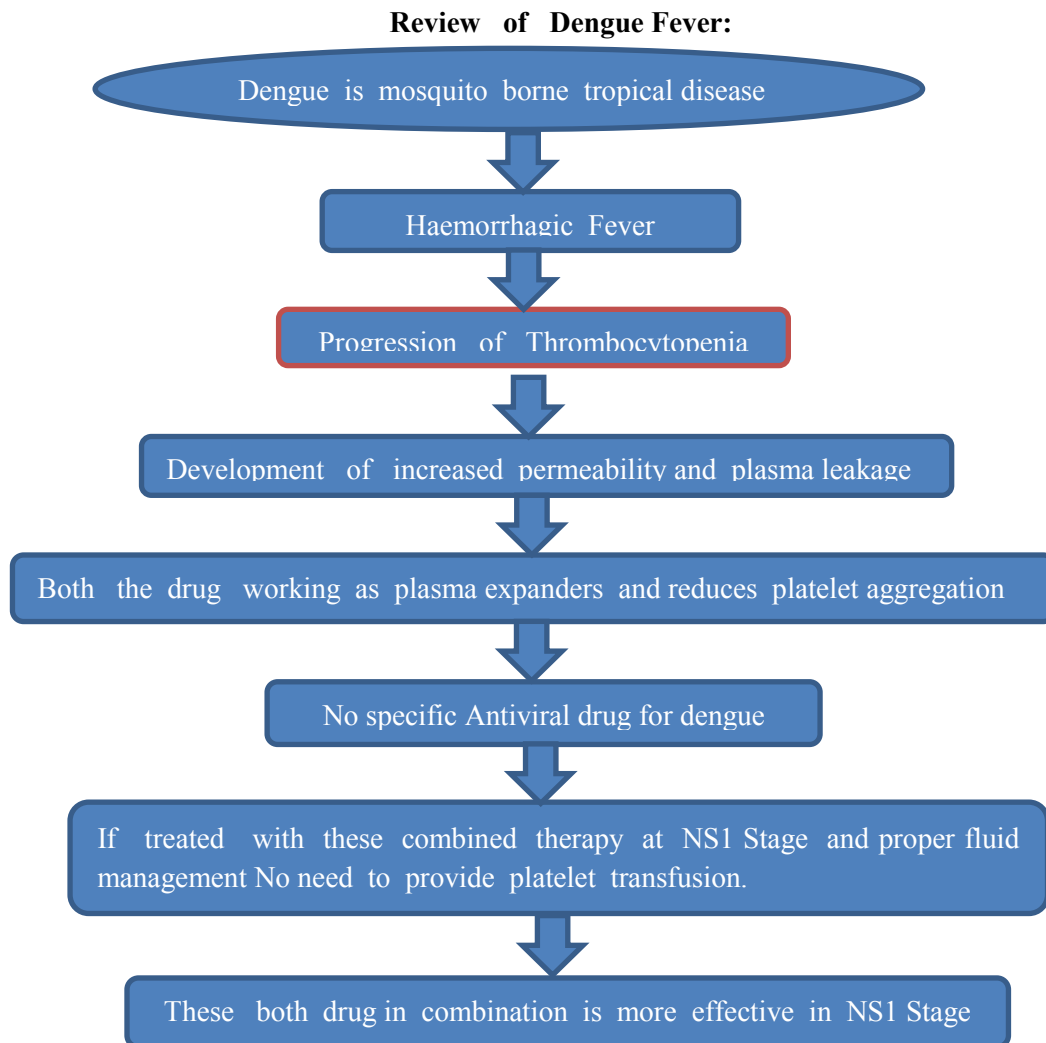
**Table 4:** Haematological Profile

Grade	TLC Grade	Platelet count Grade
4	2500-3000 cells/cumm	Less than 50000 cells/cumm
3	3000-3500 cells/cumm	50000--65000 cells/cumm
2	3500-4000cells/cumm	65000-80000 cells/cumm
1	4000—4500 cells/cumm	80000--95000cells/cumm
0	More than 5000 cells/cumm	More than 95000 cells/cumm

**Table 5:** Effect of Therapy (based on grading)

Sr. No.	Characteristic	BT	AT
1	Fever	4	1
2	Headache	4	0
3	Bodyache	4	2
4	TLC	4	0
5	Platelet count	3	0

(BT- Before treatment, AT- After treatment)



**Table 6:** Properties of Drugs Used

Properties	Kiwi, ( <i>Actinidia deliciosa</i> )	Erandakarkati ( <i>Carica Papaya</i> )
Ras	Madhur, Katu, Tikta	Katu, Tikta
Guna	Laghu, Ruksha	Laghu, Ruksha
Veerya	Ushna	Ushna
Vipak	Katu	Katu
Karma	Pachan, Kapha Vata shamak	Pachan, Kapha Vata shamaka

## DISCUSSION

Ayurveda refers Dengue Fever as a *Dandak Jwara*. As Dengue is manifest due to *Bhoot abhishanga Nidan* (viral infestation) as well as *vishamarambha* (Fever-sudden onset or onset after nonspecific symptoms), *Visham kriya* (fever with or without chills and rigors and *Visham kala* (irregular duration or interval of fever, it can be correlated with *Visham Jwara*. In general principle of Ayurveda *Nava jwara* (Acute fever) can be managed by,

- *Langhana* (fasting or taking light diet) maintains metabolic fire.
- *Swedana* (sudation) it eliminates toxins or metabolic waste out of our body.
- *Kala* (time waiting/patience) helps in correcting metabolism.
- *Yavagu sevana* (eating gruel)-improves digestion.
- *Tikta Rasa Bhashajam* (use of herb bitter in taste)- Due to *Deepana guna*, *Tikta rasa* helps in ameliorating digestive fire.
- *Ama Pachana* (drugs which improves abnormal metabolism).

As Dengue fever is an acute febrile illness so can be treated on line of *Nava Jwara*. Both the drugs *Erandakarkati* and *Kiwi fruit* due to their *tikta ras* increases digestive fire or *Agni* and thereby corrects *Agnimandya* and *Saam dosha* condition. *Erandakarkati* which is just opposite to *Guru* and *Picchila guna* of *Ama* (formed product due to abnormal digestion and metabolism) Both *Laghu* and *Ruksha guna* helps in alleviate symptoms of *Ama dosha*. Other than this *Erandakarkati* has *pachana guna* which clears *Ama* from *Samdosha* make all doshas in *Niram* state. *Kiwi fruit* is as *Rasayan* in Ayurveda to combat immunosuppressive condition, because it is excellent source of Vitamin C source of potassium and Folic acid.

*Tribhuvankirti Rasa* which has been mentioned in *Jwar chikitsa prakaran* has *Ushna virya* so effectively used in *Amaj* condition of *Jwara*.

Papaya leaves are great for boosting your immune system. They contain the compound, acetogenin which plays an important role in creating white blood cells. *Kiwi's* are great fruits for bolstering the immune system. They are rich in antioxidants and essential nutrients such as, vitamin C, vitamin E, and potassium. These nutrients all work together to increase your white blood cell count.

## CONCLUSION

It can be concluded from the case that combined therapy of *Carica Papaya* and *Kiwi fruit* exhibited marked therapeutic effect on febrile condition of Dengue along with other associated symptoms. Other than this the drugs also corrected

Leukopenia as well as Thrombocytopenia within 5 days. No side effects were seen during the admission. But further study is needed to study the effect of above formulation in other febrile condition also and secondarily. The study should be done on more no. of patients and for a longer duration to remark other benefits.

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