



Role of Champakadi Agad and Jwaraghna Kashaya in Dengue Fever - A Case Study

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Dengue Fever is a Mosquito transmitted viral (flavivirus) disease. 400 million cases & 22000 death occurs due to dengue fever across world yearly. In West Bengal, 67271 cases with 30 deaths occurred in 2022 which was highly noted among all the states of India. Clinical features of Dengue fever are quite similar with Dandak Jwara and Vata-Pittaj Jwara explained in our classical texts. Specifically, Dhatugat Avastha of Jwara (~Fever) was precisely mentioned in our classics. Dengue fever toxins transmitted through mosquito bite in human body was correlate with Keeta Vish (~insect toxin). Primarily aim was to minimize the symptoms of Dengue are fever, rash, arthralgia, myalgia, headache. Secondary objective was to increase in platelet count & to avoid complications like Dengue Haemorrhagic Fever. In this case study young female patient was came with symptoms - Fever for 2 days, rash all over body, Itching, headache & body pain. According to laboratory investigations thrombocytopenia was seen & her Dengue NS1 was positive. Treatment protocol was Jwarahar (~antipyretic) & Keetavishaghna (~antitoxic). Jwaraghna Kashaya (~antipyretic decoction) & Champakadi Agad was orally given to the patient. Disease progress was analysed by clinical symptoms & laboratory parameters. The combine use of medicine with Pathya Kalpna (~dietary regimen) showed significant result in minimize fever, enhancement of Platelet count. Keetavishanghna & Jwaraghna Chikitsa were alleviating the symptoms of Dengue & found to be highly effective against the progression of disease.

Keywords: Champakadi Agad, Dengue, Vector borne diseases, Keetavish, Dhatugat Jwara

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Introduction

In Ayurveda, *Jwara* is explained as *Sarvarogagraja* (~first of all the diseases) for its supremacy among all the diseases. All *Aacharya* vividly explained *Jwara* (~fever) & provide their treatment. Impact of *Jwara* can be seen on all *Dhatus* (~fundamental elements). *Dhatugata Avastha* (~cellular level) of *Jwara*[1] is mentioned in our *Samhita*. Site of Manifestation of *Jwara* is body and also our mind.[2] Clinical features of *Jwara* are vary according to their site, types, stages and severity. Features of *Rasgata Jwara*, are *Bahistap* (~elevated body temperature), *Angamard* (~myalgia and arthralgia, also known as breakbone fever) and *Jrumbha* (~yawning and watering of the eyes).[3] As the disease progresses, it enters the *Rakta Dhatu*, which exhibits features like *Pidaka* (~maculo-papular rash), *Trishna* (~thirst), *Sarakta Sthivan* (~haemoptysis or bleeding from any orifice), *Daah* (~burning sensation), *Raag* (~redness), *Bhram* (~vertigo), *Mada* (~intoxication), and *Pralaap* (~delirium).[4] Dengue fever is not directly explained in the *Bruhatrayi Samhita*. Still on the basis of signs and symptoms Dengue can be correlate with the *Dhatugat Avastha of Jwara* with *Vata* and *Pitta Doshik* predominance.[5]

Dengue is a mosquito borne viral (Flavivirus – serotype 1-4) disease usually occurs worldwide.[6] The vector is mosquito *Aedes aegypti* & *Aedes albopictus*,[7] which breeds in standing water, water - based air coolers & type of dumps are a good environment for the vector in large cities. Mild dengue fever causes a high fever, headache, musculoskeletal pain (breakbone fever), occasionally biphasic fever (saddleback)[6] and flu-like symptoms. The severe form of dengue fever, also called dengue haemorrhagic fever, can cause serious bleeding, a sudden drop in blood pressure (shock) and death. Although most of the cases are asymptomatic in nature but mortality rate is very high. Diagnosis usually made by clinical features and confirmed by laboratory investigation. Approx. 400million infection & 100million clinically apparent infection occurs & 22000 death occurs due to dengue fever across world annually.[8] Among the millions of dengue viruses 1–4 infections, ~500,000 cases of severe dengue occur annually, with a lethality of ~2.5%.[9] Every year during the period of July-Nov, an upsurge in the cases of dengue has been observed.

In West Bengal, 67271 cases with 30 deaths occurred in 2022 which was highly noted among all the states of India. In 2024 till October 441 cases are occurred.[10] The disease has a seasonal pattern i.e., the cases peak after monsoon and it is not uniformly distributed throughout the year. However, the states in southern and western parts of the country report perennial transmission.[11]

Description of dengue fever as *Dandaka Jwara* (~breakbone fever) is found in the *Parishishta Adhyaya of Madhava Nidana*. It has been described that a particular species of mosquito is the basic cause of spread of fever called *Dandaka Jwara*. This fever mostly subsides within a week; however, it is more dangerous for the children and old people.[12]

In *Ashtang Ayurved* there is one *Anga* (~branch) of Ayurveda was explained, known as *Danshtra* (*Agad Tantra* ~ Toxicology) in *Samhitas*. [13] Under this section we found different references related to bite and treatment of *Sarpa* (~Snake), *Keeta* (~Insects), *Luta* (~Spider), *Mushak* (~Rat & rodents). *Aacharya Vagbhat* explained one magical formulation i.e., *Champakadi Agad* in *Keetalutadivishpratishedhiyaadhyaya*. [14] Pathogens transmitted in Dengue fever can be correlate with *Visha* i.e., *Keetavisha*. In present case study we used *Champakadi Agad*, to alleviate the impact of these toxins and to see the efficacy of *Agad* (~antidote) against vector borne diseases. *Jwaraghna Kashaya* is also show magical result in the management of pyrexia.

Case Report

Patient Information:

A 22 years old female patient came to the Kayachikitsa outpatient department on (21/09/24) with High grade fever (103.8°F), severe headache, generalised weakness, rashes over extremities, chest & back with intense itching, 2 episodes of vomiting. The complaints started with a mild fever, nausea, abdominal pain, reddish rash over both hands increased gradually in size since previous 2 days. The patient took 2-3 paracetamol tablet for fever, but fever not subsided & intermittently occurred with associated complaints. There was blood investigation reports, reveals her Dengue NS1 positive & also marked thrombocytopenia [Figure. 1: a & b]. There was no history of any major illness, allergy towards any allergen & surgical intervention.



Figure 1: Rash before & after treatment

Clinical Findings:

There was high grade fever (103.8°), with reddish rash over chest, back & both extremities with itching [Figure 2a]. Rash was macular in nature without active bleeding spot. Torniquet test was positive.

Abdominal tenderness in upper quadrants present but hepato- splenomegaly was not noted. This case was diagnosed as *Rasa-Raktagat Jwara* with *Keetavishaktata*.

General Examination:

1. General Assessment of illness: Moderate
2. BP: 80/60mmhg
3. Mental state patient was conscious, alert, oriented and anxious
4. Intelligence: Good
5. Respiration Rate:15/min
6. Build & state of nutrition: Medium
7. Weight: 45kg
8. Pulse: 118bpm
9. Body temperature: 103.4F

Ashtavidha Pariksha:

1. Nadi: Vata Pitta
2. Mutra: Pit Varna, 5-6times/day
3. Mala: Vibandha
4. Jivha: Ishat Saam
5. Shabda: Ksheena
6. Sparsha: Ushna
7. Drik: Prakrit
8. Akriti: Madhyam

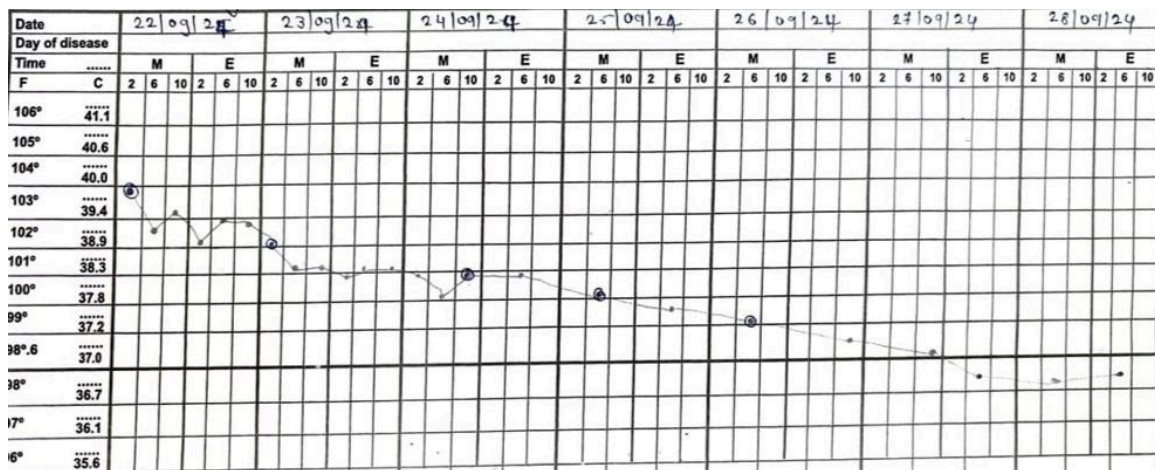


Figure 2: Temperature chart

Therapeutic Intervention:

The *Jwaraghna* (~antipyretic), *Tarpak* (~Hydrating), *Vishaghna* (~Detoxifying), *Raktashodhak* (~Blood purifying), medicines were prescribed in the management of this case. Ingredients of *Jwaraghna Kashaya* [14] are *Draksha*, *Madhuk*, *Madhu*, etc., having *Madhur* (~sweet)- *Tikta* (~bitter) *Rasa* (~taste), *Sheeta Virya*, *Madhur Vipaki* which are *Vata-Pitta Shamak* in nature.

This medicine (Figure. 3) administered in the form of *Chruna Kalpana* (~powder form) - 4gm twice a day with lukewarm water before food intake. *Champakadi Agad* [15] was used, having *Keetavishaghna* properties. This *Agad* given to the patient 1.5gm twice a day with normal water after meal. Along with both medicine special attention was given towards *Pathya - Apathya* (Table. 1). For the maintenance of hydration *Dhanyak + Jeera Him Kalpana* used in *Muhurmuhu* (frequently) *Kaal*.

All diet given to the patient was *Agnideepak* (~Improve digestion), *Arochakghna* (Taste enhancer) & having nutritious quality.



Figure 3: Medicine

Pathya:

Table 1: Pathya (Diet regimen)

Date	Breakfast	Lunch	Evening Snacks	Dinner	Muhurmu
22/09/24	1 Bowl Pomegranate	Mudga Peya 200ml	15 Manuka (Black)	Mudga Peya 200ml	Dhanyak + Jirak Him-20ml
23/09/24	Mudga Peya 200ml	Tandul Peya 200ml	Papaya1 Bowl Pomegranate	Mudga Peya 200ml	Dhanyak + Jirak Him-20ml, 10 Pieces of Manuka (Black).
24/09/24	Mudga Peya 200ml, 2 pieces Dates	Tandul Peya – 300ml	1 Rajgira Ladu, Papaya	Mudga Peya 200ml	Dhanyak + Jirak Him-20ml, 10 Pieces of Manuka (Black).
25/09/24	Mudga Yush 300ml, Papaya	1 bowl Oats	1 Bowl Pomegranate, 2-3 Dates	Mudga Peya 300ml	Dhanyak + Jirak Him-20ml 10 Pieces of Manuka (Black).
26/09/24	Tandul Peya- 300ml	1 bowl Oats	kiwi, Dates	Mudga Yush- 300ml, 10 soaked Manuka, at bedtime	Dhanyak + Jirak Him-20ml.
27/09/24	Mudga Yush- 300ml, kiwi juice	Khichadi	Papaya, Rajgira Ladu	Khichadi, 15 soaked Manuka, at bedtime	Dhanyak + Jirak Him-20ml.
28/09/24	Oats, Papaya,	Khichadi	Pomegranate, Dates	Khichadi, 20 soaked Manuka, at bedtime	Dhanyak + Jirak Him-20ml.

Apathya:

1. Shital Jal
2. Spicy & oily food
3. Fast food
4. Unhygienic food
5. Use of air condition
6. Avoid to go in unhygienic places
7. Heavy food intake.

Follow-Up and Outcome

Patient got relief with help of this medicines. No further complication seen in this case. Temperature chart, Torniquet test with other clinical symptoms (Table 2) & blood investigation (Table 3) was used for assessment of this case. Patient was monitored daily & blood investigation was done after 2 -2 days.

Table 2: Follow-up & Outcomes

Clinical Features	22/09/24	23/09/24	24/09/24	25/09/24	26/09/24	27/09/24	28/09/24
Fever spike (°F)	103.4	101.2	99.9	-	-	-	-
Blood pressure (mm/hg)	85/66	92/67	104/70	107/75	110/78	113/80	114/78
Pulse Rate	113bpm	109bpm	100bpm	87bpm	84bpm	79bpm	83bpm
Rash (Macular)	Over chest, back & both limbs.	Present on chest & hands, Diminished on legs & back	Small patch over hands, diminished on back, disappeared from legs & chest	Disappeared			
Torniquet test	Positive	Positive	-	-	-	-	-
Vomiting episode	1	-	-	-	-	-	-
Abdominal pain [16]	4	3	2	0	0	0	0
Itching	Intense Present	Present	On & off	-	-	-	-
Active Bleeding spot	-	-	-	-	-	-	-

Table 3: Lab. findings

Date	Haemoglobin	TLC Count	Platelet count
21/09/24	11.7gm/dl	4300mil/cmm	0.44lac/cmm
23/09/24	12.7gm/dl	7900mil/cmm	1.16lac/cmm
29/09/24	11.8gm/dl	4600mil/cmm	4.09lac/cmm

Discussion

The etiological factor for dengue fever is virus (*Gad/Visha*) that transmitted through mosquito bite (*Keeta Dansha*). When viruses entered in human body shows feature like high grade fever, anorexia, rash along with arthralgia & myalgia (Breakbone Fever). According to sign & symptoms it was diagnosed as *Rasgata & Raktagat Jwara*. The *Langhan* (~fasting & detoxification), *Deepan* (~enhancing digestive fire), *Pachan* (~digestion) are main treatment protocol followed in *Jwara Chikitsa*. *Pathya Kalpna* used in this patient was *Peya*, *Yush*, *Him* are *Laghu* (~light) in nature with *Deepan – Pachan* qualities. *Jwaraghna Kashaya*[14] has *Draksha* (*Vitis vinifera* L.), *Madhuk* (*Madhuca longifolia* L.), *Madhuk* (*Glycyrrhiza glabra* L.), *Lodhra* (*Symplocos recemosa* Roxb.), *Kashmarya* (*Gmelina arborea*), *Sariva* (*Hemidesmus indicus* R. Br.), *Musta* (*Cyprus rotundus*), *Aamalak* (*Embllica officinalis* G.), *Hribber* (*Pavonia odorata* W.), *Padmakesar* (*Nelumbo nucifera* G.), *Padmak* (*Prunus cerasoides* W.), *Mrunal* (*Nymphaea stellata*), *Chandan* (*Santalum album* L.), *Ushir* (*Vetiveria zizanioides* L.), *Nilotpal* (*Nymphaea stellata* Wild.), *Parushak* (*Grewia asiatica* L.) having properties of *Vata-Pittashamak*. These are *Laghu* in nature, easily penetrate in *Srotasa* (~channels) and helps to clear channels. Due *Madhur* (~sweet), *Tikta* (~bitter) rasa alleviate *Pitta* and *Vata Dosh*. *Champakadi Agad* is rarely used formulation, mentioned in *Ashtang Hruday* in the reference of *Keetavisha Chikitsa*. [15] This *Agad* contains *Haridra* (*Curcuma longa* L.), *Daruharidra* (*Barberis aristata* Dc.), *Patang* (*Caesalpinia sappan* L.), *Manjishtha* (*Rubia cordifolia* L.), *Tagar* (*Valeriana wallichii* DC), *Kesar* (*Crocus sativus* L.). All ingredients of this *Agad* possess properties of *Raktaprasadak* (~Blood purifier), *Raktastambhak* (~Helps in anticoagulation) & *Vishaghna* (~Antitoxic). In modern science in spite of high technology there is no specific treatment for the complete cure of Dengue fever. They follow symptomatic treatment with prophylactic management.

Conclusion

Vatapittaghna Jwaraghna Kashay & Champakadi Agad helps to correct fluid loss, cures loss of appetite, generalised weakness along with Rashes in this patient.

On basis of results of this study it may be concluded that addition of *Champakadi Agad* to *Jwaraghna Kashay* was significantly effective against Dengue Fever. And there were no further complications seen. So, this type of medication is very effective in management of vector borne diseases mainly dengue along with Chicken guinea, Malaria. Although, all ingredients of these formulation are easily available, cost effective and having no/fewer side effects so can be easy to use in management of various diseases according to their pathogenesis.

SUKHAARTHA PATHOLOGY LABORATORY
ISO 9001:2015

REG NO. :
NAME :
REF BY :
LOCATION : Main Branch

AGE : 22 Years
SEX : Female
DATE : 21/09/2024

COMPLETE BLOOD COUNT (CBC)

TESTS	RESULTS	UNIT	REFERENCE RANGE
Hemoglobin	11.7	gm/dl	12.0 - 16.0
Total Leucocytes (WBC) Count	1900	/ cmm	4000 - 11000
(RBC) Red blood cell count	4.33	mil/cmm	3.8 - 5.8
(HCT/PCV) Packed Cell Volume	35.6	%	35 - 47
(MCV) Mean Corpuscular Volume	82.1	cu micron	76 - 96
(MCH) Mean Corpuscular Hb	27.1	picograms	27 - 32
(MCHC) Mean Corpuscular Hb	33.0	g/dl	32 - 36
Crit (RDW-CV) Red Cell Distribution Width	12.5	%	11 - 16

DIFFERENTIAL COUNT

	RESULTS	%	REFERENCE RANGE
Neutrophils	65	%	40 - 70
Lymphocytes	27	%	20 - 40
Monocytes	06	%	02 - 08
Eosinophil	02	%	01 - 04
Basophils	00	%	00 - 01

PERIPHERAL SMEAR EXAMINATION

RBC Morphology : Mild hypochromic Normocytic
WBC Abnormality : Not Detected
Platelets : Reduced
Platelet count : 0.44 Lakhs/cmm 1.5 - 4.5

Checked by: [Signature]
DR. R A SALUNKHE MBBS (DPB)

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SUKHAARTHA PATHOLOGY LABORATORY
ISO 9001:2015

REG NO. :
NAME :
REF BY :
LOCATION : Main Branch

AGE : 22 Years
SEX : Female
DATE : 23/09/2024

SPECIAL TEST

DENGUE COMBI CHECK (DENGUE ANTIGEN IGM, IGG)

Dengue NSI Antigen : **REACTIVE**
Dengue IgM Antibodies : Non Reactive
Dengue IgG Antibodies : Non Reactive
Method : Immunochromatography

Checked by: [Signature]
DR. R A SALUNKHE MBBS (DPB)

Prop. Gurav Parth R (B.Sc. Micro) PGDMLT (Please Correlate with Clinical Conditions)-End Of Report-

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SUKHAKARTA
PATHOLOGY LABORATORY

REG NO. : 5431 NAME : AGE : 22 Years SEX : Female
REF BY : LOCATION : DATE : 23/09/2024

COMPLETE BLOOD COUNT (CBC)

TESTS	RESULTS	UNIT	REFERENCE RANGE
Haemoglobin	12.7	gm/dl	12.0 - 16.0
Total Leucocytes (WBC) Count	7900	/cmm	4000 - 11000
(RBC) Red blood cell count	4.65	million	3.8 - 5.8
(HCT/PCV) Packed Cell Volume	38.5	%	35 - 47
(MCV) Mean Corpuscular Volume	82.8	cu micron	76 - 96
(MCH) Mean Corpuscular Hb	27.3	picograms	27 - 32
(MCHC) Mean Corpuscular Hb Conc	33.0	g/dl	32 - 36
(RDW-CV) Red Cell Distribution Width	12.7	%	11 - 16

DIFFERENTIAL COUNT

Neutrophils	62	%	40 - 70
Lymphocytes	29	%	20 - 40
Monocytes	07	%	02 - 08
Eosinophil	02	%	01 - 04
Basophils	00	%	00 - 01

PERIPHERAL SMEAR EXAMINATION

RBC Morphology : Normochromic Normocytic
WBC Abnormality : Not Detected
Platelets : Adequate
Platelet count : 1.16 Lakhs/cmm 1.5 - 4.5

Checked by: DR. R A SALUNKHE MBBS (DPM)

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(Home Collection Available on Appointments)
Email : sukhakartab1@gmail.com

REG NO. : 5814 NAME : AGE : 22 Years SEX : Female
REF BY : LOCATION : DATE : 29/09/2024

COMPLETE BLOOD COUNT (CBC)

TESTS	RESULTS	UNIT	REFERENCE RANGE
Haemoglobin	11.8	gm/dl	12.0 - 16.0
Total Leucocytes (WBC) Count	4600	/cmm	4000 - 11000
(RBC) Red blood cell count	4.40	million	3.8 - 5.8
(HCT/PCV) Packed Cell Volume	37.0	%	35 - 47
(MCV) Mean Corpuscular Volume	84.2	cu micron	76 - 96
(MCH) Mean Corpuscular Hb	26.9	picograms	27 - 32
(MCHC) Mean Corpuscular Hb	31.9	g/dl	32 - 36
(RDW-CV) Red Cell Distribution Width	12.7	%	11 - 16

DIFFERENTIAL COUNT

Neutrophils	60	%	40 - 70
Lymphocytes	33	%	20 - 40
Monocytes	05	%	02 - 08
Eosinophil	02	%	01 - 04
Basophils	00	%	00 - 01

PERIPHERAL SMEAR EXAMINATION

RBC Morphology : Mild hypochromic Normocytic
WBC Abnormality : Not Detected
Platelets : Adequate
Platelet count : 4.09 Lakhs/cmm 1.5 - 4.5

Checked by: DR. R A SALUNKHE MBBS (DPM)

Prop. Garav Parth R (B.Sc. Micro) PGDMLT (Please Correlate with Clinical Conditions)-End Of Report-

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