



COMPARATIVE STUDY OF VIKRUTIVISHAM SAMVAYARABDHA SANNIPATIK JWARA DESCRIBED IN CHARAK WITH REFERENCE TO DENGUE FEVER

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ABSTRACT

The study was conducted to compare lakshanas of vikrutivisham sannipatik jwara mentioned in Charak (Ch.Chi. 3/103-108) with symptoms of dengue fever and assessment of dhatugatavastha in Dengue fever.

30 diagnosed Dengue positive patients were taken in the present study. Correlation between lakshanas of vikrutivisham samvayarabdha sannipatik jwara and symptoms of dengue fever were observed. Relations between subsequent lakshanas were established by statistical analysis; Chi square test for goodness of fit and result was found insignificant as only 9 out of 30 patients had more than 50% of the symptoms (i.e. more than 13/23 Lakshanas). Significantly less number of patients had more than 50% of symptoms of vikrutivisham samvayarabdha sannipatik jwara and dengue fever. The 9 dengue patients who were having both IgG and IgM positive and having more than 50% of vikrutivisham samvayarabdha sannipatik jwara symptoms were found highly significant (i.e. $\chi^2 = 18.5$, DF = 1, $p < 0.001$). On the basis of observation, mamsadhatugatavastha was found significantly more (i.e. 22/30 patients) as compare to raktadhatugatavastha (i.e. 8/30 patients) [$\chi^2 = 5.63$, DF=1, $p = 0.0176$ Significant].

Keywords: Dengue / Vikrutivisham Samvayarabdha Sannipatik Jwara, Relation between lakshanas of Vikrutivisham Samvayarabdha Sannipatik Jwara and dengue fever, dhatugatavastha in Dengue Fever.

INTRODUCTION

Ayurveda is the most ancient Indian medical science of life. Ayurveda stresses mainly on maintaining a healthy life. It provides measures to prevent diseases.

According to Charak Jwara happens since the birth of an individual and at the time of their death also.

There are mainly 2 types of Jwara – Nija and Agantuja. Nija Jwara includes all doshaja prakara in which Sannipatik Jwara is mentioned. Sannipatik Jwara (Ch.Chi 3/89-108) mentioned in Charak are mainly of 2 types-Prakritisama Smayayarabdha Jwara and Vikrutivishama Samavayarabdha Jwara.

The symptoms of dengue fever resemble with vikrutivishama samayayarabdha lakshanas of sannipatik Jwara mentioned in Charak Samhita. For comparison, other samhitas like Sushrut, Bhel, Harita, Ashtang sangrah, Ashtang Hruday, Madhav Nidan, Sarangdhar, Yogratnakar, Bhavprakash and Kashayap Samhita were also studied and it was found that the symptoms of vikrutivishama samayayarabdha sannipatik jwara is same in every samhitas¹⁻¹¹.

Dengue is one of the most important emerging diseases of Tropical and Urban area. It is estimated that each year 50 million infections occurs with 500000 cases of dengue hemorrhagic fever and at least 12000 deaths mainly among children¹². Over the last 10-15 years, dengue has become a leading cause of hospitalization and deaths. The estimated number of annual dengue cases in region is between 20-30 million and Dengue hemorrhagic fever cases about 200000¹². Due to increase in population in India which is a developing country, poverty is increasing. To overcome this poverty, industrialization is increasing. The people are moving from their villages towards cities and thus population in cities is increasing leading to more poverty. The increasing population and poverty is leading to more slum areas which ultimately resulting in dirty and unhygienic atmosphere. Due to

unhygienic condition mosquitoes like *Aedes aegypti* gets favorable condition and thus spreading dengue fever¹³⁻¹⁵.

The areas under Pimpri-Chinchwad Municipal Corporation are more prevalent of dengue as many cases have been registered till now in various Government and private Hospitals.

Clinical diagnosis and treatment of dengue fever is not easily done by Allopathy and its treatment has many side effects, thus improper or late diagnosis and failure in the treatment leads to death. In the present study, vikrutivisham samvayarabdha sannipatik jwara lakshanas are found similar as symptoms of dengue fever, thus with the help of this study, early diagnosis and alternate method of treatment can be established to prevent death.

Also, there is need of time to interpret diseases found in modern era in terms of Ayurveda and to integrate diagnosis and treatment of anukta vyadhi according to Modern and Ayurveda. Eg. dengue, swine flu, chikungunya etc (Cha. Su. 18/44). Therefore this topic is selected to compare charkokta vikrutivisham sannipatik jwara with dengue fever.

Hypothesis

vikrutivisham samvayarabdha sannipatik jwara lakshanas described in Charak can be interpreted with the symptoms of dengue fever. Samprapti of vikrutivisham samvayarabdha sannipatik jwara and dengue is difficult to interpret. For comparison, correlation of lakshanas can be done for similarities. The diagnosis of vyadhi can be done only when group of symptoms (i.e. lakshansamuha) is seen, because on one lakshana vyadhi vinischaya is not possible (Cha. Ni. 8/40).

MATERIAL AND METHODS

Study Design: It is an analytical observational study.

Materials

Literature review was done from classical Ayurvedic texts¹⁻¹¹, web references¹² and modern literature¹³⁻¹⁵

regarding vikrutivisham samvayarabdha sannipatik jwara and dengue fever. The patients of vikrutivisham samvayarabdha sannipatik jwara were diagnosed with the special case format. Investigation reports of all patients like platelet count (Thrombocytopenia) and IgG or IgM have been collected¹⁶.

Methodology

Selection of patients

Total 30 diagnosed Dengue positive patients were screened for symptoms of vikrutivisham sannipatik jwara mentioned in Charaka.

Study was carried out as per the Ethical committee clearance C.A.R.C/I.E.C.-7/24/08-09. We have taken dengue diagnosed patients for this study and the survey conducted in the Government (Y.C.M. Hospital) and Private Hospitals (Akurdi Ayurved and General Hospital and Aditya Multispeciality Hospital etc.) of Pimpri-Chinchwad area.

Criteria for Inclusion

- Recently diagnosed cases of dengue within one month and all stages like dengue hemorrhagic fever and dengue shock syndrome were taken.

- Dengue patients with its complication like frank shock with low pulse pressure, cyanosis, hepatomegaly, pleural effusions, ascites, and in some cases severe ecchymoses and gastrointestinal bleeding were also taken in the present study.
- Patient with low platelet count ($\leq 100,000$) and IgG or IgM or both Positive cases only.

Criteria for Exclusion

- Patient with adequate platelet count and IgG/IgM negative were excluded from the studies.
- Patient with any other major illness hemophilic disorders, heart diseases etc were excluded from the studies.

Plan of work

The findings of each patient were recorded in the case performa. Collection of all data, references and case papers were done. In this study lakshanas of vikrutivisham sannipatik jwara mentioned in Charak were compared with group of symptoms of 30 dengue diagnosed patients. The study of dhatugatavastha in dengue fever was also done.

Statistical analysis was done for each data and final conclusion was drawn on the basis of observations¹⁷.

Table 1: Comparison of symptoms of Vikrutivisham Samvayarabdha Sannipatika Jwara with dengue fever

SN	Vikrutivisham Samvayarabdha Sannipatika Jwara Symptoms	Dengue Symptoms	No. Of patients
1	Asthishool/Sandhishool/ Shirashool (Sh)	Bone pain/ joint pain/ headache	29
2	Jwara (Jw)	Fever with chills	27
3	Shwas / kasa (Sw)	Upper respiratory symptoms	16
4	Raktamandalotpatti (Rm)	Macular rash/ patechiaecchymoses	18
5	Raktanetrata (Rn)	Red eyes	2
6	Angashaithilya (srastangata) (As)	Generalised asthenia (loss of strength)	28
7	Sthivan-raktapittasya with kapha (Sr-k)	Haemoptysis/ G.I bleed	7
8	Shirsolothanam (Sl)	Sever headache	18
9	Kshanedah-Kshanesheet (Kd-Ks)	Feeling hot and cold at times	15
10	Aruchi (Ar)	Loss of appetite	29
11	Trushna (Tr)	Thirst	16
12	Jivha-Paridagdha-kharsparsha (Jp-k)	Altered taste sensation	1
13	Netra-Srava,Aavil,Nirbhugne (Ns-a-n)	Retro-orbital pain	4
14	Kanthashook (Ks)	Red throat /swollen glands	15
15	Pratat Kanthkujan (Pk)	Rumbling sound	5
16	Nidranash (Nn)	Sleeplessness	11
17	Sweda-Mutra-Purish-chirant and Alpadarshan (SMPC-a)	Sweat,urine,stool appears late and in small quantity	16
18	Tandra (Tn)	Drowsiness	18
19	Moha (Mo)	Unconsciousness	8
20	Pralap (Pr)	Delirium	6
21	Bhram (Bh)	Giddiness	20
22	Krushatwa Natigatranam (K-Ng)	Weakness	0
23	Muktwa (Mu)	Restlessness/lethargy	2
24	Srotas paka (Sp)	Inflammation of channels	0
25	Gurutwa udarasya (Gu)	Heaviness in abdomen	13

All 25 symptoms of Vikrutivisham Samvayarabdha Sannipatika Jwara mentioned in Charaka were exactly correlated as all the 3 types of Dengue fever according to modern text and is found, 13 symptoms out of 25 Symptoms were more than 50% , in 30 patients which is statistically significant. So correlation between these two Vyadhi's can be done.

Table 2: Dhatugatavastha wise Distribution

SN	Dhatugatavastha	Symptoms
1.	Rasadhatu (30/30)	Heaviness, anxiety, vomiting, anorexia, increase in external temp, malaise, yawning
2.	Raktadhatu (8/30)	Increase in temp, thirst, frequent spitting of blood, burning sensation, discolouration, giddiness, Mada, delirium
3.	Mamsadhatu (22/30)	Burning inside body, thirst, unconsciousness, Glani, diarrrohea, foul smell, Gatravikshepa

Rasadhatugatavastha was observed in all patients, Mamsadhatugatavastha was observed in 74.23% and Raktadhatugatavastha were observed in 20% of patients.

Table 3: Statistical Analysis - χ^2 test for goodness of fit

Symptoms	Total no. of patients	Percentage
$\geq 50\%$ of symptoms	9	33%
$< 50\%$ of symptoms	21	67%

Only in 9 out of 30 patients had more than 50% of the symptoms i.e. significantly less number of patients had more than 50% of symptoms of Vikrutivisham Samvayarabdha Sannipatik Jwara found in dengue. [$\chi^2 = 4.03, p=0.044$ Significant].

Table 4: Statistical Analysis - χ^2 test

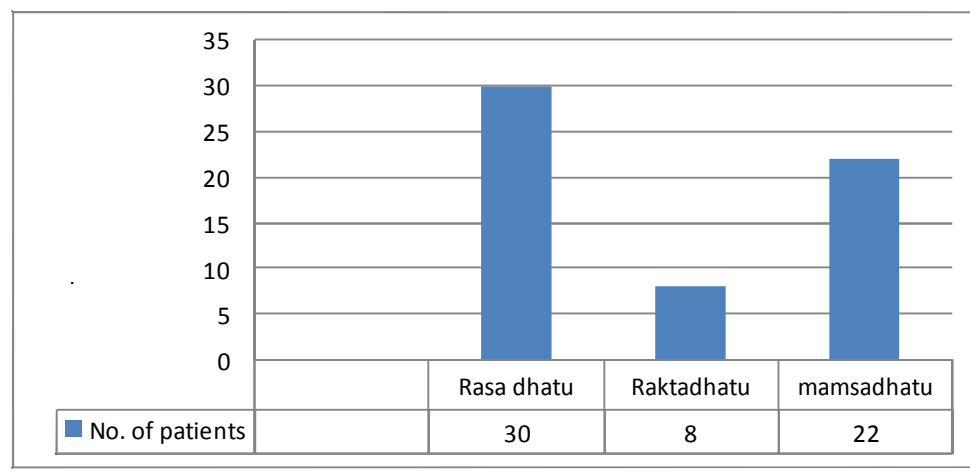
Type of infection	≥ 50% of symptoms	< 50% of symptoms	Total
IgG and IgM both positive	9	2	11
IgG or IgM positive	0	19	19

9 out of 11 patients of both IgG and IgM Positive had more than 50% of Vikrutivisham Samvayarabdha Sannipatik Jwara symptoms where as none of the IgG or IgM positive had more than 50% Of symptoms. This difference was highly significant. [$\chi^2 = 18.5$, DF=1, $p < 0.001$ H.S.]

Table 5: Statistical Analysis - χ^2 test for goodness of fit:

Dhatugatavastha	No. of patients	percentage
Mamsadhatugatavastha	22	73.3%
Raktadhatugatavastha	08	26.7%

Mamsadhatugatavastha was found significantly more (i.e. 22) as compare to Raktadhatugatavastha (i.e. 8) [$\chi^2 = 5.63$, DF=1, $p = 0.0176$ Significant]



Graph 1: Dhatugatavastha wise Distribution

DISCUSSION

Total 30 dengue diagnosed patients were taken for the present study. According to pilot study the common symptoms are 25, in dengue and sannipatik jwara.

The study showed that symptoms like ashtishool, sandhishool, shirashlool, moderate type of jwara, shwasa/kasa, raktamandalopatti, raktanetrata (in case of dengue hemorrhagic fever), angashaithilya, shirsolothanam, aruchi, trushna, kanthshook, nidranash, tandra, moha, pralap and bhram were commonly found symptoms in sannipatik jwara and in dengue fever. Thus comparison can be done in vikrutivisham samvayarabdha sannipatik jwara and dengue.

Symptoms of vikrutivisham samvayarabdha sannipatik jwara like shool, jwara, shwasa, raktamandalopatti, angashaithilya, shirsolothanam, kshanedah- kshanesheet, aruchi, trushna, kanthashook, bhrama and tandra, sweda-mutra-purish-chirat and alpadarshan, were found in more than 50% of patients where as other symptoms are less than 50%. The diagnosis of vyadhi can be done only when group of symptoms (i.e. lakshansamuha) is seen, because on one lakshana vyadhi vinischaya is not possible.

Among 25 symptoms of sannipatika jwara mentioned in Charak and dengue fever only 13 symptoms were commonly found more than 50% which is moderately significant [Table 1].

Only 9 patients were having more than 50% of common symptoms of vikruti visham samvayarabdha sannipatika jwara and dengue fever.

Rasadhatugatavastha was observed in all patients, symptoms of simple dengue fever are seems to be like mamsadhatugatavastha symptoms and symptoms of dengue haemorrhagic fever are seems to be like raktadhatugatavastha symptoms in the patients. Mamsadhatugatavastha was found significantly more (i.e. 22/30 patients) as compare to raktadhatugatavastha (i.e. 8/30 patients). Agnivikruti seen in both diseases were similar. agnivikruti leads to jatharagnimandya which further leads to dhatwagnimandya. Therefore rasa, rakta, mamsa dhatu gets affected and hence we see dhatugatavastha in dengue Fever [Table 2 Graph 1].

9 dengue patients who were having both IgG and IgM positive had more than 50% of vikruti visham samvayarabdha sannipatika jwara symptoms and were found highly significant (i.e. $\chi^2 = 18.5$, DF = 1, $p < 0.001$) [Table 3-5]

Hetu in dengue is aagntu i.e *Aedes aegypti* mosquito but in sannipatik jwara vitiation of tridosha is found but according to Cha. Chi 3/128, aagntuj hetu vitiates tridosha and then only produces vyadhi, thus can be correlated.

CONCLUSION

Total 30 patients of vikrutivisham samvayarabdha sannipatik jwara / dengue were taken in which 25 symptoms are common in both according to pilot study.

By comparison, groups of 13 and more than 13 symptoms out of 25, of vikrutivisham samvayarabdha sannipatik jwara and dengue are commonly found in only 9 out of 30 patients which is statistically less significant [Table 1].

According to this study, mamsadhatugatavastha found significantly more i.e. 22 patients out of 30, as compare to raktadhatugatavastha i.e. 8 patients out of 30, so it is less significant [Table 2, Graph 1].

Nine dengue diagnosed patients who were having both IgG and IgM positive can be correlated entirely with vikrutivisham samvayarabdha sannipatik jwara as it was found highly significant statistically [Table 3-5].

A further study with various aspects and more number of patients is required for correlation between vikrutivisham samvayarabdha sannipatik jwara and dengue fever to have significant results.

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