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“STUDY THE NIDAN PANCHAK OF AN ANUKTA VYADHI DENGUE FEVER”

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ABSTRACT

Dengue is the most important mosquito borne viral infection in terms of morbidity and mortality. In recent years it has become a major public health concern. Dengue Fever is not described in *Ayurvedic* classics. So it is an *anuktavyadhi*. *Anuktaliterally* means unsaid, unuttered and unheard of. With specific reference to *Ayurveda*, the entity, which is not directly or specifically mentioned in the *Ayurvedic* texts, is *anukta*. When we study the *anuktavyadhi*, we can understand those *vyadhi* with the help of *rogpariksha*. *Rogpariksha* is done with the help of *nidanpanchak*. Intention of this topic is to establish the *samprapti* of Dengue Fever (to study the steps of pathogenesis, from mosquito bite to clinical manifestation). So that specific treatment will be given with this established *samprapti*. As *sampraptibhanga* is the main part of the *chikitsa*.

KEYWORDS: Dengue fever, *anuktavyadhi*, *rogpariksha*, *nidanpanchak*, *samprapti*, *sampraptibhanga*, *chikitsa*.

INTRODUCTION

Dengue is one of the most important mosquito borne viral infection in terms of morbidity and mortality. In recent years it has become a major public health concern.

Dengue is predominantly found around tropical and subtropical regions of the world. Dengue is endemic in India. In Maharashtra an outbreak of Dengue Fever was noted in 1991 in Parbhani district. Otherwise there were only sporadic cases documented from Maharashtra.

By natural history of Dengue infection, there is a danger that this infection might increase every year in the next few years and currently very little information is available about this disease.

Dengue Fever is not described in *Ayurvedic* classics. So it is an *anuktavyadhi*. *Anuktaliterally* means unsaid, unuttered and unheard of.

With specific reference to *Ayurveda*, the entity, which is not directly or specifically mentioned in the *Ayurvedic* texts, is *anukta*.

विकायेनामाकुशलो न जिह्वियात्

कदाचन ।

नहिसर्वविकारणानामतोऽस्तिध्रुवास्थितिः ॥ (च. सू. 18/44).)

Due to the innumerable diseases, the one who cannot label a disorder with some name should not feel ashamed because all disorders have no established footing by name.

Diseases which are not described in *samhitas* but which are found now days, we can call it as *anuktavyadhi*.

Reasons for *anukta*: The *Ayurvedic* texts are in the *samhita* form. This form accepts the concept 'to be in brief'. It is not possible to mention every minute detail in descriptive form.

It is generally said that "the only constant is change". These changes may be positive or negative but they ultimately affect the health of society. Many new diseases are the gift of uncontrolled urbanization and unprecedented population growth.

So *anuktavyadhivichara* is always an important subject because of the continuous changes that are taking place.

रोगमादौ परीक्षेत ततोऽनन्तरमौषधम् । ततः कर्म भिषक्
पश्चाज्ज्ञानपूर्वं समाचरेत् ॥ (च.सू. 20 / 20)

The physician should study the disease first then the drug and thereafter the management.

When we study the *anuktavyadhi*, we can understand those *vyadhi* with the help of *rogpariksha*. *Rogpariksha* is done with the help of *nidanpanchak*.

Intention of this topic is to establish the *samprapti* of Dengue Fever (to study the steps of pathogenesis, from mosquito bite to clinical manifestation).

So that specific treatment will be given with this established *samprapti*. As *sampraptibhanga* is the main part of the *chikitsa*.

So here an attempt has been made to elaborate *dosha – dushyasammurchana* and *samprapti* of Dengue Fever. This shall definitely help to shed light on not only diagnosis but also the prognosis as well as help to formulate the guideline for the treatment of Dengue Fever as per *Ayurvedic* principles.

Why this disease (Dengue Fever)?

It is important to select this topic for study because of the following reasons:

- Early diagnosis and treatment can bring the fatality rate down < 1%. Without proper treatment Dengue Hemorrhagic Fever (DHF) case fatality rate > 20%.
- Due to lack of awareness of Dengue in general, with no vaccine available and no effective mosquito control technology available as yet, it is important to collect data for different clinical manifestation, lab investigation, unusual complication and seasonal variability in the incidence, to control and prevent mortality due to Dengue.
- Dengue contributes to economic burden on the society and nation, as the average hospital stay is approximately 5 to 20 days. Intensive Care Unit (ICU) care and plasma, platelet or blood transfusions are required for severely ill patients.

AIM AND OBJECTIVES

Aim

To study the *NidanPanchak* of Dengue Fever.

Objectives

1. To study the Dengue Fever.
2. To study the patients of Dengue Fever in terms of *Ayurvedicsampraptighatak*.

MATERIAL AND METHODS

Study Type

- Observational
- Analytical

Material

The study was carried out in two parts:

1. Conceptual
2. Clinical

1. Conceptual

It includes study of modern literature as well as *Ayurvedic* literature.

- All the references of Dengue Fever were studied from modern text and authorized web site.
- *Ayurvedic* references were studied from *Ayurvedicsamhita* and text book.

Previous Work Done

“Comparative Study of *Vikruti Visham Samavayarabdha Sannipatika Jwara* Described in *Charaka Samhita* With Reference To Dengue Fever” by Dr. Satyendra R.P. Singh in the year June 2011 at College Of Ayurved and Research Centre, Akrudi, Pune.

2. Clinical

55 diagnosed patients of Dengue Fever were selected.

Place of Work

OPD and IPD of Sane Guruji Aarogya Kendra, Hadapsar, Pune.

Selection of Patients

Inclusion Criteria

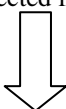
1. Patients were selected irrespective of their age, gender and religion.
2. Confirmed cases of Dengue Fever were selected (As per WHO case definition of Dengue Fever). Confirmation of dengue was done with the help of serological test i.e. dengue NS 1, IgG and IgM. One of three / two of three / all three tests positive was selected.

Exclusion Criteria

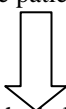
1. Patients suffering from Dengue Fever with any other major illness. i.e. Malaria, Leptospirosis, Chikungunya, Influenza, Infective Hepatitis, Heart Disease.
2. Pregnant women

METHODOLOGY

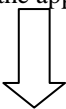
55 patients of Dengue Fever were selected irrespective of their age, gender and religion.



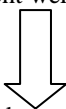
Written informed consent of the patients was taken prior to the case taking.



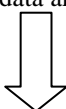
Detailed case history of the patients was taken with the help of specially designed case proforma which is attached in the appendix.



The findings of each patient were recorded in the case proforma.



Collection of all data and references was done.



With the help of all this data and references *hetu*, *purvarupa*, *upashaya* and *samprapti* of Dengue Fever was established.

Nidan Panchak of Dengue Fever**Hetu**

- *Mashakdansha* (mosquito bite) and *bhutapravesha* (entry of virus) are *aagantujahetu* of Dengue Fever. Due to the sting of this mosquito (*mashaka*) virus (*bhuta*) enters in the body. This is an *aagantuja* as well as *vyadhihetu*.
- Immuno-compromised patients (person having less / reduced *vyadhikshmatwa* as compare to others) shows the actual clinical features. This Immuno-compromised condition is due to *aaharaviharadihetu*.
- *Soaahara*, *vihara* and *manashetu* responsible for reduced / less *vyadhikshamatva* are also responsible for Dengue Fever to some extent. These are *doshahetu*.

We can classify these *hetu* in the following way:

Vata Prakopaka Hetu**Aahara Hetu**

- Intake of food predominantly of *Katu*, *Kashaya* and *Tikta Rasa Laghu*, *Ruksha Guna* and *SheetaVeerya*.
- Dried Leafy Vegetables, Roasted Meat.
- Pulses like *Mudga*, *Masura*, *Chavali* (black eyed beans/cow peas), *Harbhara* (Bengal gram) and *Vatane* (green peas).
- Irregular Eating and *Anashana*.
- Wafers, Chiwada, Bhel, Pharasana, Papad, (food items) Toast, Toned Milk.

Viharaja Hetu: *Ativyayam*, *Vegavidharana*, *Ratrigajarana*.

Manas Hetu: *Chinta*.

Pitta Prakopaka Hetu**Aahara Hetu**

- Ingestion of food in which *Katu*, *Amla*, *LavanaRasa* and *Ushna Veerya* are predominant.
- *Aahara* of *Vidahi* (which will cause burning sensation) *guna*.
- *Anashana* (fasting).
- Green Leafy Vegetables, Fish.
- *Toor Dal*, *Peanut*, *Pickle*, *Fermented Food* (*Idli-Dosa*), *Spicy Food*, *Deep Fried Food*, *Butter Milk*, *Sour Fruits* (*Amla Phala*), *Wines and Liquors*, *Gutkha* and *Smoking*.

Vihara Hetu: *Aatap Sevan*, *Ratri Jagarana*

Manas Hetu: *Krodha* (Anger), *Shoka* (Grief) and *Bhaya* (Fright).

Kapha Prakopaka Hetu**Aahara Hetu**

- Ingestion of food substances predominantly of *Madhura*, *Amla*, *Lavana Rasa* and *Snigdha*, *Shita*, *Guru*, *Picchila*, *Abhishyandi Guna*.
- *Milk*, *Curd*, *Payas* (Kheera), *Sugar*, *Sugarcane Juice*, *Sweet Fruit of Climbers* like *Grapes*, *Masha*, *Fish*.
- *Samashana*, *Adhyashana*, *Viruddhashana*.
- *Paneer*, *Potato*, *Cream*, *Ghee*, *Butter*.

Vihara hetu

- *Diwaswap* (day sleep), *SheetaSevana*, *Avyayam*.

Puravarupa

- *ShiraShoola* (Headache)
- *PrushtaShoola* (Backache)
- *SarvangaShoola* (Myalgia)
- *SarvaSandhiShoola* (Arthralgia)

All the patients we have taken for the study were come to hospital in *rupaavastha* or after the appearance of symptoms. So the *purvarupa* which are mentioned here are from the past history of the patient.

All these symptoms patient shows before the fever appear. So we can call it as *purvarupa* (prodromal symptoms).

These *purvarupa* shows the vitiation of *vata*.

Rupa

- *Jwara* (Fever)
- *ShiraShoola* (Headache)
- *Prushtashoola* (Backache)
- *Sarvangashoola* (Myalgia)
- *Sarvasandhishoola* (Arthralgia)
- *Netra PaschatShool* (Retro Orbital Pain)
- *Chhardi* (Vomiting)
- *Udarshoola* (Abdominal Pain)
- *Sarvangadourbalya* (Generalized Weakness)
- *Aarakta mandala* (Hemorrhagic Rash)
- *RaktaStrav* (Bleeding Tendencies): Through Petechiae, Epistaxis, Gum Bleeding, Heamatemesis, Hemoptysis, Sub Conjunctiva, Hematuria, Malena.
- *Na-annabhilasha* (Anorexia)
- *Aruchi* (Altered Taste Sensation)
- *Agnimandya* (Loss Of Appetite)
- *Hrillas* (Nausea)
- *Trushnadhikya* (Thirst)
- *DravaMalaPravrutti* (Loose Motion)
- *Kasa / Pratishaya* (URTI)
- *Manodainya* (Altered Mentation)
- *Bhrama* (Giddiness)
- *Tandra* (Drowsiness)

Upashaya

Aahara

Upashaya: Aahara of *Tikta*, *Madhura Rasa* and *Laghu Gunagave* the *upashaya*.

Anupashaya: Aahara of *Amla*, *Lavana*, *Katu Rasa* and *Ati Ushna*, *Vidahi Gunagaves* the *anupashaya*.

Vihara

Upashaya: Rest and *Anga-mardanagaves* the *upashaya*.

Anupashaya: *Vyayam*, *Vega Vidharana*, *AatapSeva*, *Maithuna* and *Krodhagaves* the *anupashaya*.

Samprapti

Mashakdansha (mosquito bite) and *bhutapravesha* (entry of virus) are *aagantujahetu* of Dengue Fever.

Local redness, itching and mild pain occurs at the site of *mashakdansha*.

Then the patient shows *Shira Shoola* (headache), *prushtashoola* (backache), *sarvangashoola* (myalgia) and *sarvasandhishoola* (arthralgia). All these symptoms

occur before the fever appears. So these are the *purvarupa* (prodromal symptom) of Dengue Fever. These *purvarupa* shows the *prakopa* (vitiating) of *vata*. This *vataprakopa* is *achayapurvaka*.

After some time period of *hetusevan* (*kinchitkalamiti*) vitiation of *pitta* by *ushnaguna* takes place. This *pittaprakopa* is also *achayapurvaka*. This leads to increased body temperature (*jwara*). Here *jwara* is *lakshana* and not a *vyadhi*.

Achayapurvakapittaprakopa is accompanied by *raktadushti* and *raktavahasrotasmulasthanadushti* (*Yakrut/ Liver* and *Pleeha / Spleen*). This results in altered quality of *jeevanakarya* of *raktadhātu*.

Immuno-compromised patients (person having less / reduced *vyadhikshmatwa* / immunity as compared to others) shows the actual clinical features. This Immuno-compromised condition is due to *aaharaviharadihetu*.

Thus *Achayapurvakavata* and *pittaprakopa* due to *aagantujahetu* and *tridoshaprakopa* due to *aaharaviharadihetu* are now responsible for *jwaravyadhi* and other *rupa* (symptoms) of Dengue Fever.

These aggravated *tridoshas* (mainly *vata-pitta*) get collected in the *aamashaya* (stomach).

Due to the accumulation of *tridoshas* in *aamashaya*, *Agnimandya* i.e. *Jatharagnimandya* occurs. Due to the *Agnimandya / Jatharagnimandya* formation of *aam* takes place. These *Agnimandya* and *aam* in turn causes obstruction to the secretion of *PachakaPitta*. So the Secretion of *PachakaPitta* gets hampered.

Samana Vayu and *KledakaKapha* also undergo *prakopa* and *prasara* leading to more and more *Agnimandya*.

Therefore *Pachakapitta* gets mixed up with *aamrasadhātu*, *Agni* located in *aamashaya* also expels out and spreads throughout the body with vitiated *Dosha*. It causes elevation of the body temperature.

Due to *saamdosha* obstruction of *rasavaha* as well as *swedavahasrotas* occurs. Heat accumulates inside the body due to the obstruction of *rasavaha* and *swedavahasrotas*. It raises the temperature of body more and more.

Vataprakopa due to *aagantujahetu* as well as *aaharaviharadihetu* are now responsible for *Shira Shoola* (Headache), *Prushta Shoola* (Backache), *SarvangaShoola* (Myalgia), *Sarva SandhiShoola* (Arthralgia) and *Netra Paschat Shoola* (Retro Orbital Pain) as a *vyadhilakshananiof* Dengue Fever.

Patient shows *Agnimandya* and *aam* formation due to *kaphaprakopa*. Here *kaphaprakopa* occurs due to *aaharaviharadihetu*.

Aam thus formed affects the formation of *rasadhātu* and ultimately affecting its *preenankarya*.

Agantuhetu and *aahara-viharadihetu* are also for *raktadushti* and *raktavahasrotasdushti*. They affect the *jeevankarya* of *raktadhātu* by showing *raktavahasrotasdushtilakshanas* (*raktapitta* like clinical features).

This causes Dengue Fever with or without hemorrhage.

When this fever is not treated in time it becomes '*Nidanarthakara Vyadhi*' and '*RaktapittaVyadhi*' occurs.

If Dengue Fever is not treated in time, vitiated *pittadosha* in turn vitiates *raktadhātu* due to '*aashraya-aasharaisambandha*' between *pitta* and *rakta*. In *raktapittavyadhi*, sometimes there is an *anubandha* of *vata* or *kapha* or both.

In *raktapitta*, *pitta* is mainly vitiated due to its *ushna* and *vidahiguna*. Due to the *ushnaguna* of the *pitta*, more and more liquids exudates from *dhatu*. These liquids get

mixed up with *pitta* as a result of which *pitta* gets exceedingly aggravated or increased in quantity.

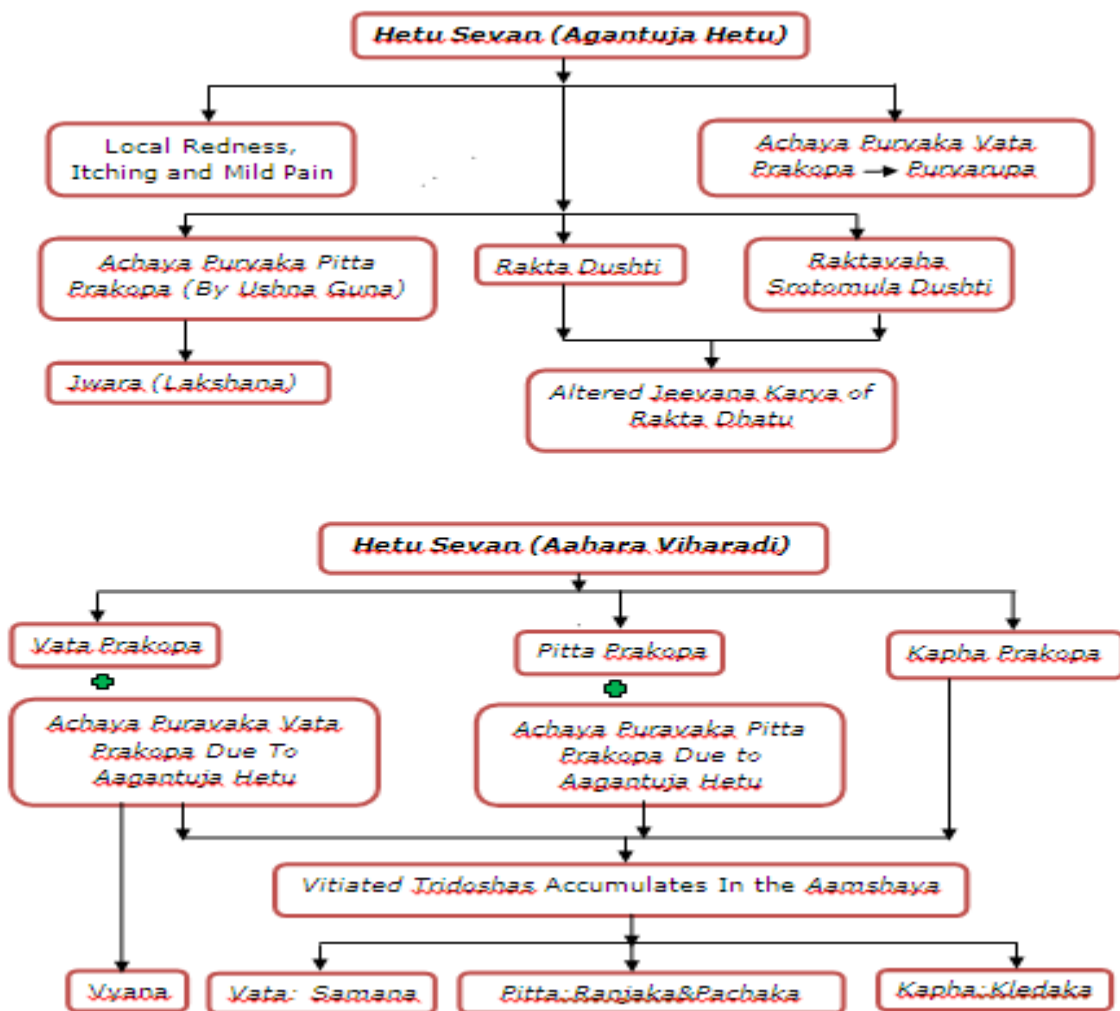
When *pitta* and *rakta* gets mixed with each other Quantity of *rakta* also increases at the same time *laghu*, *vistra* and *saraguna* of *pitta* comes into *rakta* and *pitta* gets the colour and smell of *rakta*.

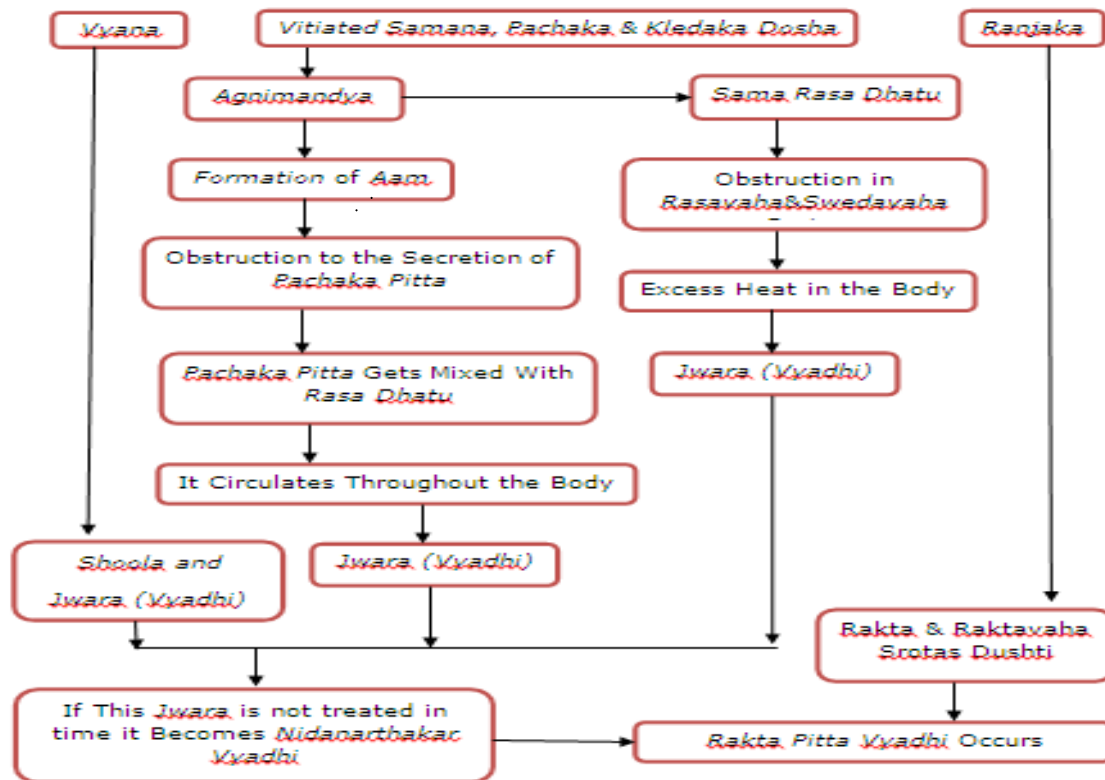
Due to the vitiated *pitta* and *rakta*, pressure on the blood vessels increases and the blood vessels in the body get eroded, causing the blood to flow out of the body from different orifices like nose, mouth, rectum etc.

When *kaphadosha* is accompanied with *pitta Dosha*, the *raktapravrutti* will be in upward direction. This is due to the fact that upper part of the human body is more *shlaishmika*. When *vata* becomes *anubandhadosha*, *raktapravrutti* occurs in downward direction, as the lower part of the body is *vata* predominant. When *srotorodha* is more and both *vata* and *kapha* are vitiated with *pitta*, *raktapravrutti* occur in both upward and downward direction as well as through the hair follicles.

This is the Dengue Hemorrhagic Fever.

Flow Chart of the Samprapti





Dosha, Dushya and Srotas Involved In the Samprapti of Dengue Fever Are

1. Dosha

- *Vata*: Samana Vayu, Vyana Vayu
- *Pitta*: Pachaka Pitta, Ranjaka Pitta
- *Kapha*: Kledaka Kapha

2. Dushya

- *Dhatu*: Rasa, Rakta
- *Mala*: Sweda

3. Srotas

- *Rasavaha Srotas, Swedavaha Srotas, Raktavaha Srotas, Annavaha Srotas*
- **Roga Marga / Vyadhi Marga**
 - Dengue Fever and Dengue Hemorrhagic Fever: *Abhyantar Roga Marga* as well as *Bahya Roga Marga*.
 - Dengue Shock Syndrome: *Aabhyantar, Bahya and Madhyam Roga Marga*.
- **Vyadhi Swabhav**: Aashukari
- **Vyadhi Avastha**: Nava Avastha.
- **Udbhav Sthana / Samuthana**: Aamashaya.
- **Sanchara**: Through *Rasavahi Dhamani / Dash Dhamani*.
- **Adhithana**: *Deha, Indriya and Mana*.
- **Vyakti Sthana**: *Twacha / Skin*
- **Saadhya-Asaadhyatwa**: *Kashtasaadhya*.
- **Samprapti in terms of aavarana**
 - Dengue Fever: *Pittavritta Vyana*
 - Dengue Hemorrhagic Fever: *Raktavritta Vata*

CONCLUSION

From the above observation and discussion we can conclude that

- Dengue Fever is an *Aagantuja* type of *jwara* (fever).
- Mosquito bite (*mashakdansa*) and entry of the virus (*bhutapraवेशa*) in the body are the main *hetu* of Dengue Fever. This is *avyadhi hetu*.
- *Purvarupa* includes *Shirashoola* (Headache), *Prushtashoola* (Backache), *Sarvangashoola* (Myalgia) and *Sarvasandhishoola* (Arthralgia). They indicate the vitiation of *vata*.
- All *purvarupalakshana* with increased severity, Fever, Retro Orbital Pain, Hemorrhagic Rash and Bleeding Tendency are the main *rupa* (symptoms). They indicate vitiation of *tridosha*.
- Though it is an *aagantujavyadhi* after some time period it becomes *nija* and *Doshajalakshana* appears.
- *Upashaya*: *Aahara of Tikta, Madhura Rasa* and *Laghu Guna*.

Vihara- Rest and *Anga-Mardana*.

➤ Anupashaya

Aahara- *Amla, Lavana, Katu Rasa* and *Ushna, Vidahi Guna*.
Vihara- *Vyayam, Vega Vidharana, Aatapa Sevan* and *Krodha*.

- *Achayapurvakavata* and *pittaprakopa, raktadushti* and *raktavahastrotomuladushti* due to *aagantujahetu* are the unique steps in the *samprapti* of Dengue Fever.

- Immuno-compromised patients (person having less / reduced *vyadhikshmatwa* as compare to others) shows the actual clinical features. This Immuno-compromised condition is due to *aaharaviharadihetu*.
- When Dengue Fever is not treated in time it becomes '*Nidanarthakaravyadhi*' and Dengue Hemorrhagic Fever (*RaktapittaVyadhi*) occurs.

Scope for Further Study / Research

- Study should be done with more sample size.
- Seasonal variation in symptoms should be observed.
- *Prakruti* wise changes in symptoms and severity of symptoms should be examined.
- Instead of cross – sectional study, a patient should be examined multiple times, so that minute details regarding symptoms can be observed.
- Study should be done in those patients who have second time dengue infection, so that changes in symptoms and severity of symptoms can be observed.

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