Syndromic Approach to Diagnosis of Viral Thrombocytopenic Fever

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Introduction

- Acute febrile illness with thrombocytopenia is quite common in the tropics. Most of them have a benign course with nonspecific symptoms.
- Dengue is the most prevalent mosquito-borne viral disease.
- It is estimated that over 390 million dengue virus infections occur each year throughout the world.

- The clinical manifestations of dengue range from self-limited dengue fever (DF) to dengue hemorrhagic fever (DHF) with shock syndrome.
- CDC classifies dengue into
  - Dengue fever without warning signs
  - Dengue fever with warning signs
  - Dengue shock syndrome

Prevalence

Aims and Objectives

▶ To evaluate the diagnostic utility of syndromic approach in the management of milder forms of dengue fever, as defined by CDC 2009.

Materials and Methods

▶ A total of 83 patients, admitted to our hospital during August 2019 to November 2019

▶ With history of fever (>98.8 F)

▶ Body ache & thrombocytopenia (plt<1.5 lakhs/cumm), were enrolled in our study.

▶ According to CDC 2009 definition of dengue. They were divided into two groups –

1. Group 1- patients without warning signs
2. Group 2- patients with the warning signs

Exclusion Criteria

▶ Patients who were tested positive for

1. Malarial parasite, malarial antigen test
2. Chikungunya IgM antibody
3. Leptospira IgM antibody
4. Sepsis
5. Dengue shock syndrome

Results

Clinical features of the patients at presentation

SYMPTOMS	NUMBER OF PATIENTS
Fever	80 (96.38%)
Arthralgia	75 (90.36%)
Headache	63 (75.9%)
Vomiting	56 (67.46%)
Pain Abdomen	35 (42.16%)
Bleeding Manifestations	06 (7.22%)
Diarrhea	10 (12%)
Lab Parameter	Mean
Leucocyte count	3500/mm^3
Lowest platelet count	22,000/mm^3
Hematocrit	48

Comparison of clinical profile between dengue seropositive and seronegative groups

Clinical Parameter	Dengue Seropositive (N=53)	Dengue Seronegative (N=30)	P value
Vomiting	42 (79%)	28 (93%)	0.12
Pain Abdomen	20 (38%)	15 (50%)	0.11
Headache	34 (64%)	29 (97%)	0.091
Hypotension	2 (4%)	3 (10%)	0.21
Bleeding Manifestation	4 (7.5%)	2 (6.7%)	0.35
Lowest Platelet Count	18,000/ mm^3	21,000/ mm^3	0.98
Hematocrit	48	46	0.76

Mean duration of illness and dengue NS-1 and IgM positivity

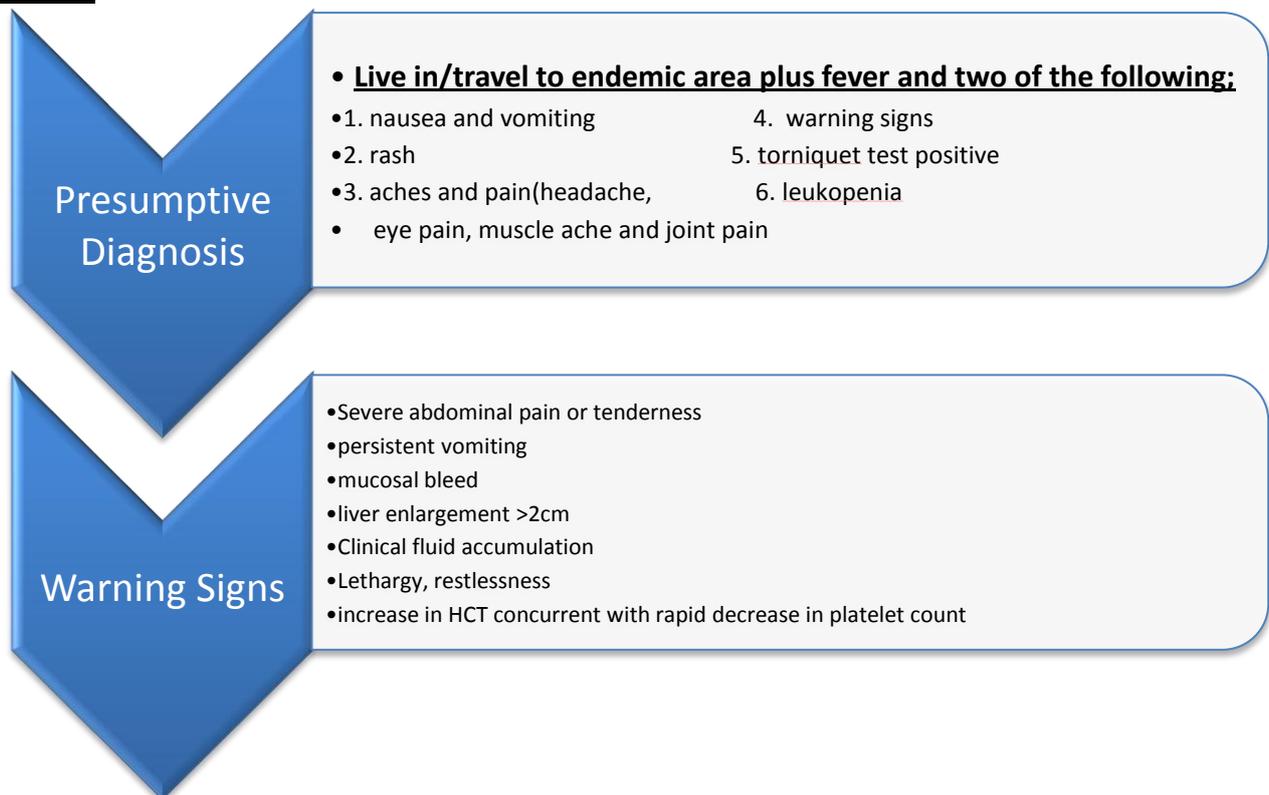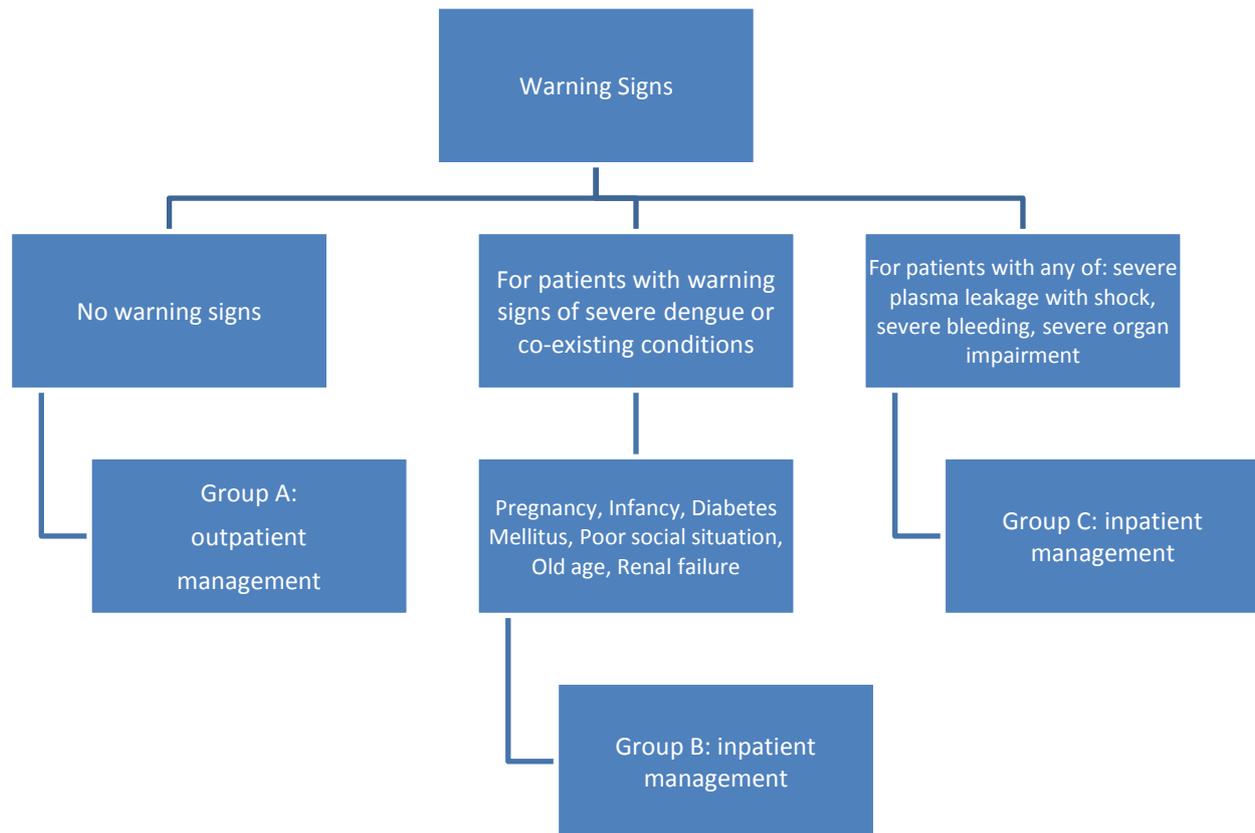|	Mean duration of illness (days)	NS-1 positive	IgM Positive
Dengue fever without warning signs	3.20	18 (40%)	3 (6.8%)
Dengue fever with warning signs	6.50	14 (35.5%)	15 (38.4%)

Discussion

▶ Clinical features, duration of hospital stay, the lowest platelet count and hematocrit values were compared between the seropositive and seronegative groups, no significant difference was found.

▶ Complications were similar in the two groups.

• The specificity and sensitivity of the serological tests do not seem to be uniform across various studies.

• Based on the results of these serological tests, patients should not be missed in the setting of dengue epidemics in resource limited areas.

• Supportive treatment as per CDC recommendations is sufficient, and with which majority of patients recover.

Dengue Case Management

Assessment

Presumptive Diagnosis

• **Live in/travel to endemic area plus fever and two of the following;**
•1. nausea and vomiting   4. warning signs
•2. rash   5. torniquet test positive
•3. aches and pain(headache,   6. leukopenia
•   eye pain, muscle ache and joint pain

Warning Signs

•Severe abdominal pain or tenderness
•persistent vomiting
•mucosal bleed
•liver enlargement >2cm
•Clinical fluid accumulation
•Lethargy, restlessness
•increase in HCT concurrent with rapid decrease in platelet count

Conclusion

▶ The clinical diagnosis based on syndromic approach is more appropriate in milder forms of thrombocytopenic fevers rather than trying to establish an exact guideline based diagnosis in appropriate geographical location.

▶ The unusually high prevalence of vomiting persisting for 2-3 days is probably related to the consumption of herbal treatments like papaya leaf extracts in the local population.