

A Study of Clinical Profile of Dengue Fever in a Tertiary Care Teaching Hospital Bikaner

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ABSTRACT

Background: Dengue infection is a major health problem in our country. Globally the incidence of dengue has increased in the recent years. The WHO estimates that presently about two fifths of the world population is at risk for this viral infection.

Aim: A Study of Clinical Profile of Dengue Fever in a Tertiary Care Teaching Hospital Bikaner.

Material and Methods: The study was undertaken as a hospital-based descriptive study with prospective data collection. The information was collected using a questionnaire developed and based on a review of literature. Hundred patients with confirmed dengue fever admitted to tertiary care hospital during a one year period from Oct. 2014 to Sept. 2015 were selected for this study.

Results: According to presenting complaints, most common complaint was fever followed by vomiting, myalgia, headache and abdominal pain. According to bleeding manifestation, petechiae were most common bleeding manifestation.

Conclusion: Dengue is one of the major causes of undifferentiated fever. It presents as a highly unspecific illness

and is hardly recognized as a clinical entity by primary health care physicians.

Key Words: Fever, Dengue Haemorrhagic Fever, Dengue Shock Syndrome.

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INTRODUCTION

Dengue infection is a major health problem in our country. Globally the incidence of dengue has increased in the recent years. The WHO estimates that presently about two fifths of the world population is at risk for this viral infection¹. Dengue was first reported in 1780, when Benjamin Rush described this condition as "break bone fever". It is a mosquito borne viral infection with four serotypes causing dengue fever (DF), dengue hemorrhagic fever (DHF), and dengue shock syndrome (DSS)².

It is estimated that worldwide nearly 2.5 billion people continue to live at risk of contracting the infection while 50 million cases and 24,000 deaths tend to occur in 100 endemic countries. Risk of mortality in treated cases of DHF/DSS is 1% while mortality rate among untreated cases escalates to 20%³.

India is one of the seven countries in the South-East Asia region regularly reporting incidence of DF/DHF outbreaks due to its high incidence which constantly threatens the health care system. The first confirmed report of dengue infection in India dates back to 1940s, and since then more and more new states have been reporting the disease which mostly strikes in epidemic proportions often inflicting heavy morbidity and mortality⁴.

Several fatal forms of the disease i.e., DHF, DSS have been reported in India from time to time in Kolkata, Delhi & Chennai⁵⁻⁸.

All the four serotypes of the virus have been in circulation and documented in Tamil Nadu⁹. During all these epidemics infection occurred in active adults in the age group of 16-60 years^{10,11}.

The common signs and symptoms observed were fever, headache, myalgia, arthralgia and bleeding manifestations have also been observed.

MATERIALS AND METHODS

The study was undertaken as a hospital-based descriptive study with prospective data collection. The information was collected using a questionnaire developed and based on a review of literature. Hundred patients with confirmed dengue fever admitted to tertiary care hospital during a one year period from Oct. 2014 to Sept. 2015 were selected for this study. NS1 antigen and IgM dengue antibody-positive cases were included. These patients were admitted with fever, myalgia, headache, vomiting, abdominal pain or bleeding manifestations. NS1 antigen and IgM dengue antibody was estimated using capture ELISA. The diagnosis of dengue fever, dengue hemorrhagic fever and dengue shock syndrome was based on the WHO criteria³.

Only those patients were included in the study with classical features of dengue – fever with chills, body ache, headache, rash, bleeding manifestations and thrombocytopenia and had a positive ELISA test. Patients who had malaria and enteric fever were excluded from the study. Detailed history and clinical examinations were done. A complete blood count, liver function tests, renal function tests, chest X-ray and USG abdomen were also done.

RESULTS

According to presenting complaints, most common complaint was fever followed by vomiting, myalgia, headache and abdominal pain. On applying chi square test, the difference was found highly significant in jaundice, rash and respiratory difficulty ($p < 0.001$) for dengue fever, dengue haemorrhagic fever and dengue shock syndrome.

According to bleeding manifestation, petechiae was most common bleeding manifestation. On applying chi square test, the difference was found highly significant in petechiae and epistaxis ($p < 0.001$)

for dengue fever, dengue haemorrhagic fever and dengue shock syndrome. While for melena this difference was found statistically significant ($p < 0.05$).

According to general physical examination, tourniquet test was positive in 57 patients. Edema was present in 13 patients and lymphadenopathy in 6 patients.

Statistically highly significant ($p < 0.001$) difference was found in altered sensorium and tourniquet test while significant difference was found in icterus ($p < 0.05$).

Table 1 Distribution of cases according to Presenting Complaints

Presenting Complaints	Dengue Fever						Total	χ^2	P	
	Dengue Fever (n=41)		Dengue Haemorrhagic Fever (n=53)		Dengue Shock Syndrome (n=6)					
	No.	%	No.	%	No.	%				
Fever	41	100	53	100	6	100	100	100	-	-
Abdominal Pain	19	46.3	23	43.4	5	83.3	47	47.0	3.463	0.177
Vomiting	24	58.5	34	64.2	4	66.7	62	62.0	0.368	0.832
Myalgia	23	56.1	28	52.8	4	66.7	55	55.0	0.451	0.798
Headache	25	61.0	28	52.8	1	16.7	54	54.0	4.199	0.123
Backache	8	19.5	7	13.2	2	33.3	17	17.0	1.858	0.395
Retroorbital Pain	1	2.4	5	9.4	1	16.7	7	7.0	2.654	0.265
Jaundice	0	-	0	-	2	33.3	2	2.0	31.973	<0.001
Pruritis	8	19.5	10	18.9	2	33.3	20	20.0	0.715	0.699
Rash	2	4.9	27	50.9	0	-	29	29.0	26.432	<0.001
Respiratory Difficulty	1	2.4	3	5.7	5	83.3	9	9.0	43.356	<0.001

Table 2: Distribution of cases according to Bleeding Manifestation

Bleeding Manifestation	Dengue Fever						Total	χ^2	p	
	Dengue Fever (n=41)		Dengue Haemorrhagic Fever (n=53)		Dengue Shock Syndrome (n=6)					
	No.	%	No.	%	No.	%				
Petechiae	0	-	32	60.4	4	66.7	36	36.0	39.182	<0.001
Epistaxis	0	-	17	32.1	1	16.7	18	18.0	16.121	<0.001
Melena	0	-	9	17.0	1	16.7	10	10.0	7.722	0.021

Table 3: Distribution of cases according to General Physical Examination

General Physical Examination	Dengue Fever						Total	χ^2	p	
	Dengue Fever (n=41)		Dengue Haemorrhagic Fever (n=53)		Dengue Shock Syndrome (n=6)					
	No.	%	No.	%	No.	%				
Altered Sensorium	0	-	0	-	2	33.3	2	2.0	31.973	<0.001
Pallor	1	2.4	1	1.9	1	16.7	3	3.0	4.121	0.127
Icterus	0	-	1	1.9	1	16.7	2	2.0	7.425	0.024
Lymphadenopathy	2	4.9	3	5.7	1	16.7	6	6.0	1.313	0.519
Edema	2	4.9	10	18.9	1	16.7	13	13.0	4.076	0.130
Tourniquet Test	9	21.9	44	83.0	4	66.7	57	57.0	35.416	<0.001

DISCUSSION

Study was done at P.B.M. Children Hospital, Bikaner. Total 100 patients were admitted from 1st October 2014 to 30th September 2015 with serological diagnosis of dengue infection.

According to presenting complaints, all the patients had fever, vomiting was present in 62 patients, myalgia was present in 55 patients, headache in 54 patients, abdominal pain was present in 47 patients. Rash, pruritis, backache, respiratory difficulty, retroorbital pain and jaundice 29, 20, 17, 9, 7 and 2 patients respectively. Highly significant association was found in jaundice,

rash and respiratory difficulty with dengue shock syndrome ($p < 0.001$). While all other presenting complaints had statistically insignificant difference ($p > 0.05$). In a study by Batra et al¹² fever was present in 100% cases, vomiting in 72%, abdominal pain in 52%, rash in 24% and bodyache in 8% patients.

Petechiae was most common bleeding manifestation, present in 36 patients and out of them 32 and 4 had dengue haemorrhagic fever and dengue shock syndrome and the difference was found statistically highly significant ($p < 0.001$). Epistaxis was present in 18 patients and out of them 17 and 1 patients had dengue

haemorrhagic fever and dengue shock syndrome and this difference was also found statistically highly significant ($p < 0.001$) while gastrointestinal bleeding was present in only 10 patients and out of them 9 and 1 patients had dengue haemorrhagic fever and dengue shock syndrome respectively and this difference was found statistically significant ($p < 0.05$). Previously Kashinkunti et al¹³ also found petechiae as most common bleeding manifestation. According to general physical examination, tourniquet test was positive in 57 patients and out of them 9, 44 and 4 patients had dengue fever, dengue haemorrhagic fever and dengue shock fever respectively, edema present in 13 patients and of them 2, 10 and 1 patient had dengue fever, dengue haemorrhagic fever and dengue shock syndrome respectively, lymphadenopathy in 6 patients and out of them 2, 3 and 1 patients had dengue fever, dengue haemorrhagic fever and dengue shock syndrome, pallor was present in 3 patients and out of them 1 each had all the three type of fever, icterus was present in 2 patients and out of them 1 each had dengue haemorrhagic fever and dengue shock fever, altered sensorium was present in 2 patients and they had dengue shock syndrome. Statistically highly significant ($p < 0.001$) difference was found in altered sensorium and tourniquet test while significant difference was found in icterus ($p < 0.05$). Shah et al¹⁴ in their study found tourniquet test was positive in 61% cases and concluded that tourniquet test does not correlate well with other bleeding manifestations.

CONCLUSION

Dengue is one of the major causes of undifferentiated fever. It presents as a highly unspecific illness and is hardly recognized as a clinical entity by primary health care physicians. This study support further studies on applying intervention measures to improve the diagnostic accuracy and precision at the primary healthcare level in dengue endemic regions. This study highlights the clinician the importance of dengue fever to clinicians in the areas of epidemiology and manifestations.

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