



CLINICAL PROFILE OF DENGUE FEVER IN OSMANIA GENERAL HOSPITAL

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ABSTRACT **AIM OF THE STUDY:** To study the clinical profile of DENGUE Fever in 50 patients admitted to Osmania Hospital with dengue fever i.e. positive for dengue IgM antibodies.

MATERIAL & METHODS: The study population included 50 patients presenting with Dengue fever was diagnosed and who are tested positive for IgM Dengue antibodies.

RESULTS: A total of 50 subjects are taken into the study who fulfilled the criteria of dengue fever and IgM positive. Both males and females are included. Among them 3 (66) are males and 17 (34) are females accounting for a ratio of M: F of 1.9:1.

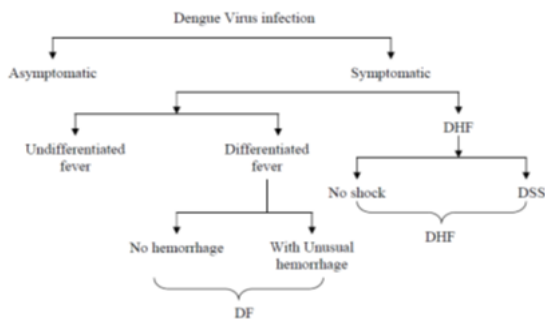
KEYWORDS : Dengue Fever, Dengue Haemorrhagic Fever, Dengue Shock Syndrome

INTRODUCTION

Dengue fever (DF), an acute febrile viral disease is the most common arboviral illness transmitted worldwide, caused by infection with one of the four serotypes of dengue viruses and transmitted by mosquitoes of the genus *Aedes*.¹

Infection with any of the four types of dengue virus can cause dengue fever, Dengue haemorrhagic fever (DHF) or dengue shock syndrome (DSS), characterized by major clinical manifestations: high fever, haemorrhagic phenomena, often with hepatomegaly and, in severe cases, signs of circulatory failure².

Disease is predominant in urban and suburban areas and now in rural areas also. Around 2.5-3 billion people live in areas where dengue virus can be transmitted. Each year approximately 50 million infections occur, with five lakh cases of DHF and at least 12,000 deaths, mainly among children.³



From being a sporadic illness, epidemics of dengue have become a common occurrence worldwide. Dengue fever and dengue hemorrhagic fever is endemic in areas of South East Asia i.e. Bangladesh, India, Indonesia, Maldives, Myanmar, Sri Lanka and Thailand. Dengue is a major cause of hospitalization and death, especially among children in these regions.⁴

India is endemic for DF and DHF. All the four serotypes are found in the country. Case fatality rates in endemic countries are 2.5%. During epidemics of dengue, attack rates among susceptible are 40-90%. The incidence of dengue and global distribution of dengue have greatly increased in recent years.⁵

An increased disease burden has been linked to the resurgence of mosquito vector *Aedes aegypti*, overcrowding, urbanization and increasing travel. Despite its significant health and economic impacts, as of yet there is no specific treatment or therapy for dengue infection and the outcome depends on medical care provided by the doctor to the patient⁶.

AIM & Objectives

To study the clinical profile of Dengue Fever in 50 patients admitted to Osmania Hospital with dengue fever i.e. positive for dengue IgM antibodies, selection of appropriate subjects, Clinical assessment of the patient, Investigate the patient thoroughly.

MATERIALS & METHODS

The study was conducted at the upgraded Department of Medicine, Osmania General Hospital, Hyderabad. The study population included 50 patients presenting with fever. Dengue fever was diagnosed in those clinically suggestive of Dengue fever and who are tested positive for IgM Dengue antibodies.

Inclusion criteria

- All pts admitted with pyrexia
- Males and Females > 12 yrs of age
- Sero positivity for IgM Dengue antibodies

Exclusion criteria

- Pts who are not Sero positive for IgM Dengue antibodies
- Males and Females < 12 yrs
- Pts with fever due to other causes

Investigations

Routine investigations including Hb, TLC, DC, Hematocrit, Platelet count, Coagulation profile, RFT, LFT, Chest x-ray, Ultrasound Abdomen and dengue serology was performed in the above patients to study the biochemical characteristics in different patients and categorize them into DF, DHF & DSS.

OBSERVATIONS & RESULTS

A total of 50 subjects are taken into the study who fulfilled the criteria of dengue fever and IgM positive. Only classical dengue cases are studied and other cases are excluded. Both males and females are included. Among them 3 (66) are males and 17 (34) are females accounting for a ratio of M: F of 1.9:1.

Table 1: Patient Distribution

	No. of Patients	Percentage (%)
MALES	33	66
FEMALES	17	34

Table 2: Age wise Distribution of patients

Age	No Of Patients			Total	Percentage
	Dengue Fever	Dengue Hemorrhagic Fever	Dengue Shock Syndrome		
13 – 19	1	1	0	2	4%
20 – 29	9	4	1	14	28%
30 – 39	9	6	1	16	32%
40 – 49	7	4	1	12	24%
50- 59	2	2	1	5	10%
60 – 69	0	1	0	1	2%
Total	28	18	4	50	100

It is clear that majority of the cases having dengue infection belong to the age group of 30-39 years, wherein 61% belong to 1-10 years group and 24% belong to 11-20 years group. Dengue fever is seen most commonly in 1-20 years group. DHF and DSS are seen most commonly in the 1-10 years.

Table 3: Association of platelet count with dengue positive cases

Platelet Count	No Of Patients				Percentage
	Dengue Fever	Dengue Hemorrhagic Fever	Dengue Shock Syndrome	Total	
<10,000	0	2	3	5	10
10,000-1 lakh	26	16	1	43	86
>1 lakh	2	0	0	2	4

It is clear that, thrombocytopenia<10,000 is seen in 10% of cases, 10,000-1 lakh in 43% of cases and >1 lakh in 86% of cases.

ANALYSIS OF COMPLICATIONS:

Out of 50 patients 11 (22%) patients developed complications, 2 (4%) had ARDS, 11 (22%) had pleural effusion, 3 (6%) had pneumonia, 3 (6%) had renal failure, 2 (4%) had encephalopathy and 3(6%) had multi organ failure.

TABLE 4: Complications

Complications	No Of Patients				Percentage
	DF	DHF	DSS	Total	
Dengue with ARDS	0	0	2	2	4%
Dengue with pleural effusion	1	8	2	11	22%
Dengue with pneumonia	0	2	1	3	6%
Dengue with renal failure	0	0	3	3	6%
Dengue encephalopathy	0	0	2	2	4%
Dengue with multi organ failure	0	0	3	3	6%

Table 5: INVESTIGATIONS

Investigations	No Of Patients				Percentage
	DF	DHF	DSS	Total	
Hb<12 gm%	5	4	2	11	22%
Hb 12-14 gm%	11	8	1	20	40%
Hb>14 gm%	12	6	1	19	38%
TLC 4000-11,000	15	7	1	23	46%
TLC>11,000	3	4	1	8	16%
TLC<4,000	10	7	2	19	38%
SGOT>45	2	6	3	11	22%
SGPT>45	2	5	3	10	20%
Bilirubin>2	0	2	1	3	6%
Hematocrit>45	1	9	3	13	26%
Platelets<10,000/cu mm	0	2	3	5	10%
Platelets 10,000-1 lakh/cu mm	26	16	1	43	86%
Platelets>1,00,000/cu mm	2	0	0	2	4%

The haemoglobin ranges from 4-16 with a mean value of 10.4 gm%. WBC counts ranged from 3,600-22,400 with a mean value of 8,600. The mean hematocrit value of dengue positive cases in this study. Is 36.4 with a wide range of 28.2-48.4. These values fall within the normal range of hematocrit. In DHF and DSS, an increase in hematocrit levels were noted.

Hemconcentration i.e., hematocrit increase by greater than 20% signifies one of the criteria for diagnosing DHF/DSS. In our study not much variation of hematocrit was observed. This may be due to the non availability of pre-illness hematocrit, modification of hematocrit by treatment (blood transfusion, colloid transfusion, etc.).

SGOT and SGPT ranged from 21-456 with a mean value of 64.6. (Normal 5-45 IU/l)

TABLE 6: FINAL DIAGNOSIS AND OUTCOME

GRADE	No.of cases	Percentage	Recovered cases	expired
DF	28	56%	28	0
DHF	18	36%	17	1
DSS	4	8%	2	2
TOTAL	50	100%	47	3

Out of 50 patients 47(94%) recovered completely and 3 (6%) patients who presented with complications expired.

DISCUSSION

The study was conducted at the Upgraded Department of Medicine, Osmania general hospital, Hyderabad. The study population included 50 patients satisfying the criteria of dengue fever. Only IgM positive cases are taken into study.

The commonest age group of the patients was 30 -39 years with a range of 14-60 years. This was comparable to other studies of Priyadarshini et al⁷

The disease shows seasonal distribution. It is observed that disease was more seen during the months of August, September, October, and November, which corresponded to the monsoon and post –monsoon season. Most of the other studies have similar observation.

In our study dengue illness manifested as DF (56%), DHF (36%) and DSS(4%). This corresponds to a study by Priyadarshni et al. A study by Malavige et al⁴ showed more number of DHF cases than DF cases⁸.

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The various clinical features in our study included fever (100%), Headache (56%), joint pain (36%), jaundice (6%), myalgia (42%), backache (25%), rash (26%), hemorrhage (44%), CNS symptoms (4%), respiratory distress (4%) and splenomegaly (8.3%).

In our study 5/50(10%) had thrombocytopenia <10,000, 86(43%) of the cases had platelet counts between 10,000-1 lakh and 2(4%) had more than 1 lakh platelet count. This corresponds to observations of Rachel Daniel et al¹⁰

In this study out of 50 patients 47(94%) recovered completely and mortality was seen in 3(6%) of patients who presented with complications which correlates with Neeraja et al¹¹.

CONCLUSION

- Most common age group affected was 30-39 years Disease was more common in males than females.
- Disease was more common in the months of August-November, i.e., monsoon and post monsoon season DF was seen in 56% of cases, DHF was seen in 36% of cases and DSS was seen in 8% of cases.
- The various symptoms associated were fever (100%), headache (56%) joint pain (36%), myalgia (42%), jaundice (6%), rash (26%), hemorrhage (44%), CNS symptoms (4%), hepatomegaly (8%) and splenomegaly (10%).
- Thrombocytopenia <10,000 is seen in 10% of cases, 10,000-1 lakh in 43% of cases and >1 lakh in 86% of cases.
- Bleeding manifestations and severe thrombocytopenia <1 lakh was associated more with DHF and DSS than with DF cases.
- Out of 50 patients 11 (22%) patients developed complications. Among them 2 (4%) had ARDS, 11(22%) had pleural effusion, 3 (6%) had pneumonia, 3 (6%) had renal failure, 2(4%) had encephalopathy and 3(6%) had multi organ failure.
- There was an association between thrombocytopenia and bleeding.
- Out of 50 patients 47(94%) recovered completely and 3(6%)patients who presented with complications expired.

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