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Original Research Article

A study of clinical profile of patients with Dengue fever at a tertiary care hospital

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ABSTRACT

Background: Dengue is the most common fever. Among all flavi-viruses, it is the most common. It can cause around 50-100 million infections. Every year 2-5 lakh cases of Dengue hemorrhagic fever occur. The objective of the research was to study clinical profile of patients with Dengue fever at a tertiary care hospital.
Methods: Present study was cross sectional study. The patients were interviewed and examined at one point of time and later they were never followed which is similar to the cross-sectional study design. Present study was carried out in the hospital. This was done in the department of General Medicine of a tertiary care hospital. Present study was carried out over a period of one year.
Results: In the present study, there were 78 males and 22 females. The sex ratio was 3.5:1. Maximum number of males (29.5%) was in the age group of 15-25. Among females, the maximum (40.9%) were in the age group of 26-35 years and 46-55 years (9%). The most common presenting symptom was fever in all cases followed by headache in 90%. Among bleeding manifestations, epistaxis, gum bleeding and hematuria (15%) were the common symptoms. Most patients presented with generalized lymphadenopathy in 52%. 56 patients showed only hepatomegaly and 46 splenomegaly, and 30 patients showed hepato splenomegaly. 99 showed leucopenia and 10 were anemic and 25 showed platelet count less than 1,50,000cells/cumm.
Conclusions: Males were commonly affected. Younger age group of 15-25 was most commonly affected and fever and headache were the most common presenting symptoms. These findings help physicians in early diagnosis of dengue by suspecting these features as of dengue and can prevent morbidity and mortality associated with dengue.

Keywords: Fever, Headache, Lymphadenopathy, Profile

INTRODUCTION

Dengue fever outbreak in India reported from June 1 to 28 October 1923. Laboratory confirmed cases of dengue fever have been reported in Delhi and surrounding areas. Four deaths among laboratory confirmed cases have been reported on 28th October. Dengue is now an escalating problem and is an emerging or re-emerging as a major health problem in Southern India. Increase in probable secondary infection is a point of concern such an increase especially in countries like ours, where multiple serotypes are prevalent raises concern over probable increase in incidence of more serious DHF/DSS.

The sudden shifting and dominance of dengue virus serotype-3 replaces earlier circulating serotypes is a point of major concern and attributed to increased incidence of DHF/DSS in India.[1]

Dengue is the most common fever. Among all flavi-viruses, it is the most common. It can cause around 50-100 million infections. Every year 2-5 lakh cases of Dengue hemorrhagic fever occur.[2]

Usually rainy and humid season favors dengue transmission. This is due to plenty of mosquitoes breed.[3,4] South East Asia reports maximum cases of dengue hemorrhagic fever all tropical countries, the incidence is common. The mortality rate due to dengue is around 5%.[5]

Maximum patients present with fever and some directly present with bleeding manifestations. In dengue it is rare to see the oral manifestations. For reduction of morbidity and mortality early diagnosis and prompt treatment is essential.[6]

Present study was carried out to study the profile of dengue patients to understand how they present to the general out patient department and how to suspect early that it is a case of dengue.

METHODS

Present study was cross sectional study. The patients were interviewed and examined at one point of time and later they were never followed which is similar to the cross-sectional study design. Present study was carried out in the hospital. This was done in the department of General Medicine of a tertiary care hospital. Present study was carried out over a period of one year.

Patients were explained the nature of the study and were asked their willingness to get included in the present study. On their acceptance of the willingness only they were included in the present study.

Only dengue cases confirmed by the physician were included in the present study. Only those confirmed dengue cases who gave consent to participate in the study were only included in the present study. Classical dengue fever, dengue hemorrhagic fever and dengue shock syndrome cases were also included in the present study. Doubtful cases of dengue were excluded from the present study.

History included age and sex, fever, headache, myalgia, arthralgia, retro-orbital pain, nausea, vomiting, jaundice, breathlessness, sore throat, bleeding from nose, bleeding from gum, blood in vomiting, blood in stools, blood in urine and blood in sputum.

The patient was examined in detail for various clinical signs like pallor, icterus, cyanosis, lymphadenopathy, edema feet, edema face, and signs of dehydration like weak and thready pulse, sunken eyes etc, conjunctival congestion, and detailed examination of pharynx, toxic look, and presence of rashes over the body. Detailed examination was also done for search of signs of bleeding manifestations like Purpura, Petechiae, ecchymoses, low blood pressure i.e. hypotension, cold and clammy peripherals, etc. other clinical examination included looking for hepatomegaly, splenomegaly, pleural effusion and presence or absence of acute respiratory distress syndrome.

Complete blood picture was done for all included patients. Hemoglobin less than 12gm/dl was taken as cut off for anemia. White blood cell count and platelet count was also done.

All this data was recorded and entered in the pre-designed, pre tested, and semi structured questionnaire.

RESULTS

In the present study, there were 78 males and 22 females. The sex ratio was 3.5:1. It can be observed that maximum number of males (29.5%) were in the age group of 15-25 years followed by in the age group of 26-35years (28.2%) and minimum were in the age group of 65years and above (5.1%). Among females, the maximum (40.9%) were in the age group of 26-35years and 46-55years (9%).

Table 1: Age and sex distribution of cases.

Age (years)	Male	%	Female	%	Total	%
15-25	23	29.5	6	27.3	29	29
26-35	22	28.2	9	40.9	31	31
36-45	18	23.1	2	9.1	20	20
46-55	6	7.7	2	9.1	8	8
56-65	5	6.4	3	13.6	8	8
65 and above	4	5.1	0	0	0	4
Total	78	100	22	100	100	100

Table 2 shows the most common presenting symptom was fever in all cases followed by headache in 90%, sore throat in 71%, myalgia inn 63%, arthralgia in 63%, retro-orbital pain and nausea and vomiting in 50% of the cases.

The jaundice and dyspnoea were the least recorded symptoms. Among bleeding manifestations, epistaxis, gum bleeding and hematuria (15%) were the common symptoms followed by malena and hematemesis in 50% of the cases. There was no hemoptysis observed in any of the cases in the present study. Nine patients had developed breathlessness. Among them, three patients showed features of acute respiratory distress syndrome (ARDS) and they were on ventilators and ultimately died despite optimum therapy.

Table 2: Distribution of study subjects as per clinical features.

Symptoms	Males	%	Females	%	Total	%	P value	Inference
Fever	78	100	22	100	100	100	< 0.05	HS
Headache	70	89	20	90	90	90	< 0.05	HS
Myalgia	47	60	16	73	63	63	< 0.05	S
Arthralgia	51	65	12	55	63	63	< 0.05	S
Retro orbital pain	42	54	8	36	50	53	< 0.05	S
Nausea and vomiting	43	55	9	41	52	52	< 0.05	S
Jaundice	14	18	1	4	15	50	> 0.05	NS
Dyspnoea	9	11	0	0	9	9	> 0.05	NS
Sore throat	55	70	16	73	71	71	< 0.05	HS
Epistaxis	14	18	1	4	15	15	> 0.05	NS
Gum bleeding	14	18	1	4	15	15	> 0.05	NS
Hematemesis	14	18	1	4	15	15	> 0.05	NS
Malena	5	6	1	4	6	6	> 0.05	NS
Hematuria	5	6	1	4	6	6	> 0.05	NS

Table 3: Distribution of study subjects as per clinical signs.

Signs	Males	%	Females	%	Total	%	P value	Inference
Pallor	10	13	3	14	13	13	> 0.05	NS
Icterus	12	15	3	13	15	15	> 0.05	NS
Cyanosis	2	2	0	0	2	2	> 0.05	NS
Lymphadenopathy	41	53	11	50	52	52	< 0.05	HS
Edema	5	7	0	0	5	5	> 0.05	NS
Dehydration	40	51	12	54	52	52	< 0.05	HS
Conjunctival congestion	24	30	9	41	33	33	< 0.05	HS
Infected pharynx	58	74	16	72	74	74	< 0.05	HS
Toxic	15	20	7	32	22	22	> 0.05	NS
Rashes	32	41	7	32	41	41	< 0.05	HS
Purpura	27	35	7	32	34	34	< 0.05	HS
Petechiae	17	22	2	9	19	19	> 0.05	NS
Ecchymoses	12	15	1	4	13	13	> 0.05	NS
Hypotension	5	6	0	0	5	5	> 0.05	NS
Cold and clammy peripherals	11	14	1	4	12	12	> 0.05	NS
Free fluid	9	11	1	4	10	10	> 0.05	NS
Hepatomegaly	50	64	6	27	56	56	< 0.05	HS
Splenomegaly	35	49	11	50	46	46	< 0.05	HS
Hepato splenomegaly	20	26	10	45	30	30	< 0.05	HS
Pleural effusion	4	5	2	9	6	6	> 0.05	NS
ARDS	3	4	1	4	4	4	> 0.05	NS

In the present study, the most patients presented with generalized lymphadenopathy in 52% with signs of dehydration inn 52%, conjunctival congestion in 33% and infected pharynx in 79% with hemorrhagic skin manifestation such as maculo popular rashes in 41%, purpura in 34%, Petechiae in 19% and ecchymoses in 13% of the cases. Among 100 cases, 5 patients presented with hypotension with narrow pulse pressure (<20 mmHg) with cold and clammy peripherals. Among 100 cases, 56 patients showed only hepatomegaly and 46

splenomegaly and 30 patients showed hepato splenomegaly. Only 10 patients showed free fluid, 6 patients showed signs of pleural effusion and 4 with signs of ARDS among them 3 patients died despite of all possible treatment as shown in Table 3.

In the present study, out of 100 patients, 99 showed leucopenia and 10 were anemic and 25 showed platelet count less than 1,50,000cells/cumm as shown in Table 4.

Table 4: Hematological observation among the patients.

Hematological observations	Male	Female	Total	%
Anemia	10	3	13	15
Leucopenia	98	1	99	99
Thrombocytopenia	24	1	25	25

DISCUSSION

In the present study, there were 78 males and 22 females. The sex ratio was 3.5:1. It can be observed that maximum number of males (29.5%) were in the age group of 15-25years followed by in the age group of 26-35years (28.2%) and minimum were in the age group of 65 years and above (5.1%). Among females, the maximum (40.9%) were in the age group of 26-35years and 46-55years (9%).

The most common presenting symptom was fever in all cases followed by headache in 90%, sore throat in 71%, myalgia inn 63%, arthralgia in 63%, retro-orbital pain and nausea and vomiting in 50% of the cases. The jaundice and dyspnoea were the least recorded symptoms. Among bleeding manifestations, epistaxis, gum bleeding and hematuria (15%) were the common symptoms followed by malena and hematemesis in 50% of the cases. There was no hemoptysis observed in any of the cases in the present study. Nine patients had developed breathlessness. Among them, three patients showed features of acute respiratory distress syndrome (ARDS) and they were on ventilators and ultimately died despite optimum therapy.

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Mishra S et al carried out a study among 97 dengue cases. Among them majority were found to be mild illness cases.[7] They found that 11years and above was the most commonly affected age group. We also observed that the dengue was more common in the 15-25years of age. The author found that all cases presented with fever. This is in agreement with the findings of the present study. We found that 64% of the cases were having hepatomegaly. The author also found hepatomegaly in 43.8% of the cases. They noted that thrombocytopenia was seen in 27.5% of the cases and we also observed similar rates of 25%.

Pothapregada S et al observed that males were more than females which is similar to the findings of the present study.[8] They found fever in 94.6% of the cases and we found in 100% of the cases. They found myalgia in more proportion than the finding of the present study. Their finding of headache was less compared to the finding of the present study. In relation to retro orbital pain, their finding and our finding was similar i.e. present in 50% of the cases. They observed hepatomegaly in 60% of the cases while we observed it in 56% of the cases.

Hasan SR et al found that mostly 13 years and above were affected by dengue in their study and we also had similar observation.[9] This study and the present study both reported fever in all cases. Both the studies noted vomiting in 50% of the cases. Myalgia was seen in 34.4% of the cases by the author compared to 63% in the present study. The author reported headache in only 10% of the cases while we reported in 90% of the cases.

Laul A et al noted that fever was present in all cases which is similar to the finding of the present study.[10] Headache was seen in 87% of the cases which matches the 90% figure of the present study. Body ache was seen in 86% of the cases which is higher than that reported in the present study. Retro orbital pain was observed in 41% of the cases while we observed it in 53% of the cases in our study. Bleeding manifestations contributed to 21% of the cases which is lower than that we reported in the present study.

Sharma SK et al studied five patients with dengue who were already having some hematological disease.[11] The author did not observe any deaths in these cases. In their study recovery was 100% with excellent results. And the already present hematological disease status was not affected.

CONCLUSION

Males were commonly affected. Younger age group of 15-25 was most commonly affected and fever and headache were the most common presenting symptoms. These findings help physicians in early diagnosis of

dengue by suspecting these features as of dengue and can prevent morbidity and mortality associated with dengue.

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