

A Prospective Observational Study on Clinical Profile of Dengue in a Tertiary Care Hospital

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Abstract: *Dengue fever is one of the most common tropical disease also known as Break bone fever which spreads Arthropod borne. 75% of global cases have been seen in Southeast Asia and Western Pacific region collectively. Clinical presentation varies widely from mere influenza like illness to life threatening Dengue Hemorrhagic fever/ Dengue Shock syndrome. This study aims at various clinical presentations of dengue fever which helps in guiding the timely intervention in future.*

Keywords: Thrombocytopenia, NS-1- Non Structural antigen, Dengue Hemorrhagic fever, Dengue Shock Syndrome

1. Introduction

Dengue virus also previously known as Break bone virus is one of the most common tropical viruses known to mankind. Usually four genetically related four serotypes cause Dengue fever. These strains belong genus Flavivirus and family Flaviviridae. Transmitted by Arthropod borne spread usually of mosquitoes *Aedes Aegypti* and sometimes *Aedes albopictus* which a usually day time breeders and breeds in stored water. Dengue outbreaks usually seen in rainy season especially during July-November.

Incubation period 4-6 days followed by fever, chills and rigors fever usually takes a biphasic course. Haematological findings usually includes Thrombocytopenia, leucopenia, neutropenia with reactive lymphocytosis in 15% of cases. Hepatic and Renal dysfunction is seen in severe cases. Diagnosed by serologically NS1 antigen, IgM, IgG rising titres.

Severity usually ranges from mild Influenza like illness to severe infection forms like Dengue hemorrhagic fever and dengue shock syndrome which usually account for 5% mortality if left untreated. This study aims at various clinical presentations of dengue fever including the atypical which helps in guiding the timely intervention in future.

2. Aims and Objectives

The aim of the present study is to evaluate the clinical profile and various typical and atypical presentations in Dengue patients whose diagnosis is confirmed serologically(NS1/IgM/IgG)

3. Materials and Methods

Study Area

The study is conducted in the Dept of General Medicine ASRAM Hospital, ELURU.

Period of Study

The study was conducted between December 2017 to December 2018.

Design of Study

Prospective study

Sample Size

The study population included 132 Dengue patients admitted to this hospital with clinical and laboratory evidence.

Selection Criteria

Inclusion Criteria

Patients with clinical picture of dengue fever confirmed serologically by NS1/IgM/IgG

Exclusion Criteria

Patients with other co-infections such as leptospirosis, malaria etc,

Chronic renal failure,

Chronic liver disease.

Consent

Informed consent is obtained from the patients.

Statistical Analysis

The collected data was analyzed using SPSS software.

4. Results

Out of the total 132 patients, 89 were males and 43 were females with a male to female ratio of 2.1 and mean age distribution of 37 years.

Of 89 Male patients 64 cases (72.7%) were of dengue fever, 21 cases (23.8%) were Dengue hemorrhagic fever and 3 cases (3.4%) were of Dengue shock syndrome.

Of Female patients 31 cases(70.4%) were of dengue fever and 13 cases are of Dengue Hemorrhagic fever.

95 cases (71.9%) are dengue fever, 34 cases (25.7%) are dengue hemorrhagic fever and 3 cases (2.2%) are of dengue shock syndrome.

Age and Sex distribution of Dengue cases are as follows.

Age Group	Male	Female	Total
18-45yrs	54(61.3%)	32(72.72%)	86
45-60yrs	26(29.5%)	10(22.7%)	36
>60yrs	9(10.2%)	1(2.2%)	10
Total	89	43	132

Clinical features

Fever was the most common finding (100%) along with myalgia (100%).

Other common symptoms in chronological order included - joint pains (86.3%), headache (70.4%), vomiting (58.3%), bleeding manifestations (28%), retro-orbital pain (13.6%), skin rash 15(11.3%), and shock (2.2%). Pruritus was found in 21 cases (15.9%) which had significant difference between DF and severe dengue (p value <0.05).

Hepatomegaly was seen in 19 cases(14.3%) of which 14 cases(13.5%) were of DF and 5 cases (13.5%) were of severe dengue. Pleural effusion was seen in 4 cases (3%), of which 3 cases belong to severe dengue and 1 case belong to DSS.

Clinical feature	Total No. (n=132) % (n)	DF (n=95) % (n)	DHF&DSS (n=37) % (n)	P value
Fever	100(132)	100(95)	100(37)	-
Myalgia	100(132)	100(95)	100(37)	-
Headache	70.4(93)	67.3(64)	78.3(29)	0.21
Arthralgia	86.3(114)	85.2(81)	89.1(33)	0.46
Retro-orbital pain	20.4(27)	18.9(18)	24.3(9)	0.49
Vomiting	58.3(77)	58.9(56)	56.7(21)	0.81
Pruritus	16(21)	5.2(5)	43.2(16)	0.00*
Hepatomegaly	14.3(19)	14.7(14)	13.5(5)	0.85
Pleural effusion	3.0(4)	-	10.8(4)	-

5. Discussion

Age and Sex distribution

The epidemio-clinical profile of dengue has been changing progressively in last few years. In our study, 89 cases (67.4%) were males and 43 cases (32.5%) were females and male to female ratio was 2:1. Mean age of presentation was 37years. In a study done by Anuradha M et al mean age was 30 years, which was more than Sharma S et al (26.3 years) and Singh NP et al (26 years).

Male to female ratio in our study was very similar to study of Kumar A et al in which the male-female ratio was 1.82:1, but in study by Singh NP et al, it was 3:1.

Clinical Spectrum of Dengue Infection

Out of the total cases, 95 cases were of DF and 37 cases were of DHF & DSS. These findings were in concordance with study by Ritu Karoli et al and Rachel Daniel et al. Among male patients admitted, 64 cases (72.7%) had DF, 21 cases (23.8%) had DHF, 3 cases(3.4%) had DSS. Among females 31 cases (70.4%) and 13 cases (29.5%) had DF and DHF

respectively.

Clinical Manifestations

Commonest clinical manifestations were fever and myalgia(100%) followed by joint pains (86.3%) and headache (70.4%), vomiting (58.3%). Analogous findings were observed by Mandal SK et al in their study. In our study, headache was found in 70.4% cases as compared to findings by Singh NP et al (61.6%) and Singh VK et al(54%). Retro-orbital pain was found in only 20% cases as contrast to some of the other studies, where it was one of the common presentation.

Pruritus was found in 21 cases (15.9%) ,in variance with study done by Tewari KN et al, in which 5% cases were involved. In our study, Pruritus was a significant finding in patients of severe dengue as compared to DF(p <0.05).

Bleeding manifestations were found in 37(28%) cases, occurrence being comparable to other studies.

Hepatomegaly was found in 13.3% cases, similar to that of study of Singh NP et al(10.8%) and Sharma SK et al (20.4%).

Pleural effusion was found in 4(3%) cases in contrast with studies by Tewari KN et al and Mandal SK et al in which, pleural effusion was found in 16.5 % and 19.0 % respectively.

6. Conclusion

In last few years, protean manifestations of the dengue fever have been noted in the different parts of the world and more so over in same geographical area and in same time.

It is important to recognize the signs and symptoms at the earliest, alteration in biochemical parameters and multisystem involvement pattern in dengue to reduce the mortality.

A focused history, detailed clinical examination and appropriate relevant investigations can aid for early diagnosis and treatment.

Apart from typical manifestations, atypical presentations are on rise, which makes the diagnosis even more challenging and interesting for researchers. Continuous surveillance and timely interventions will minimize the complications, outbreak and mortality.

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