A STUDY OF CLINICAL PROFILE OF DENGUE FEVER IN CHILDREN AT A TERTIARY CARE HOSPITAL

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ABSTRACT

Background: Dengue, a viral disease transmitted by mosquitoes, is the fastest spreading mosquito-borne illnessin human history, with its global incidence increasing 30-times over the past fifty years. Dengue fever remains a significant public health concern, particularly in tropical regions. The present was conducted to study the clinical profile of patients with Dengue fever at a tertiary care hospital

Materials and Methods: The present cross-sectional study was conducted in the department of Paediatrics at a tertiary care hospital. A total of 50 children who are diagnosed with Dengue were enrolled in this study. All such patients who were admitted in the hospital underwent detailed clinical examination and investigation.All the data was recorded and entered in the pre-designed, pre tested, and semi structured questionnaire

Results: In the present study, there were 28 males and 22 females. Mostly commonly affected children were between 6 to 10 years of age group. The majority of cases were presented with fever (96%) followed by myalgia (68%), Headache (48%), vomiting (42%) and abdominal pain (32%). Thrombocytopenia was observed in 92% of patients.Leukocytopenia was observed in 62% of patients. Among the liver enzymes examined, SGOT demonstrated elevated levels in a larger proportion of patients (58%) compared to alanine aminotransferase (SGPT) (42%), signifying itsspecificity as a marker for dengue

Conclusion: Dengue fever is a self-limiting viral illness with a tiny number of cases progressing to severe disease. The most frequent symptoms were fever, vomiting, lack of appetite, stomach discomfort, body ache, and rash. These results assist clinicians in early identification of dengue by suspecting these symptoms as dengue, reducing morbidity and death associated with dengue.

Keywords: Dengue fever, Children, Clinical profile, Thrombocytopenia, Leukocytopenia, SGOT, Paediatrics, Tertiary care hospital.

INTRODUCTION

Dengue fever, a viral illness carried by mosquitos, has quickly become the most common and fastest increasing disease in humans. Over the last five decades, its worldwide prevalence has surged by a stunning 30 times. Dengue fever is a major public health concern in tropical and subtropical areas of the globe, with over half of the world's population living in nations where the illness is prevalent. The World Health Organization (WHO) estimates that 50-100 million new dengue infections occur each year in over 100 endemic countries, with the number of nations reporting the illness constantly increasing. [1]

Dengue viruses (DVs) belong to the Flaviviridae family and are divided into four serotypes: DV-1, DV-2, DV-3, and DV-4. DVs are positive-stranded, enveloped RNA viruses having three structural protein genes that encode the nucleocapsid (C) protein, a membrane-associated (M) protein, and an enveloped (E)

glycoprotein, as well as seven non-structural (NS) proteins. DVs are typically spread via the bite of the Aedesaegypti mosquito, however Aedesalbopictus may also transmit the virus. [2,3]

Dengue fever has reached epidemic proportions in India, with outbreaks affecting both urban and rural populations [4]. Dengue infections may range from flu-like, self-limiting disease to life-threatening dengue hemorrhagic fever (DHF) and dengue shock syndrome (DSS), which can be deadly if not treated. Dengue fever has been associated with death rates of up to 20%. Dengue is caused by one of four dengue virus serotypes (DEN-1 to DEN-4) that belong to the Flaviviridae family. Dengue reinfection is more severe in children owing to an immune phenomena [5,6]. Infection with one serotype of dengue virus (DEN) confers lifetime immunity to that specific serotype, but only gives limited and transitory protection against recurrent infection by the other three serotypes.

There is presently no particular therapy for dengue illness, however various possible vaccines are being developed; so, vector (mosquito) management is the only way to prevent Dengue transmission [7-9]. In recent years, there have been reports of various dengue manifestations. Many unusual appearances have resulted in delayed suspicion and diagnosis of dengue. Some presentations were entirely distinct from any of the dengue traits previously documented in literature [10-11].

The present was conducted to study the clinical profile of patients with Dengue fever at a tertiary care hospital

MATERIALS AND METHODS

This is a prospective observational study conducted in the Department of Pediatrics at a Tertiary care hospital for one year after receiving clearance from Institutional Ethics Committee. A total of 50 cases were included in the study. Informed consent wastaken from parents of all the patients in the study.

Inclusion criteria

All laboratories confirmed cases of dengue fever(Dengue NS1 or Dengue IgM Positive) between theage group of 01 month to 18 years of either sex.

Exclusion Criteria

All the patients above 18 years, patients with onlyclinical diagnosis, but not backed up with laboratory reports, and all patients who refused forblood investigations were excluded from the study.

All patients who were admitted to the hospital got a thorough clinical evaluation and investigation. A platelet transfusion was administered when the platelet count went below 20,000/cu.mm. All data was collected and put into a pre-designed, pre-tested, and semi-structured questionnaire. SPSS version 20 was used to analyze the data. Qualitative data was recorded as percentages.

RESULTS

In the present study, there were 28 males and 22 females. Mostly commonly affected children were between 6 to 10 years of age group followed by 1 to 5 years of age as shown in Table 1

TABLE 1: DEMOGRAPHIC DISTRIBUTION OF PATIENTS

Parameter	variable	Number of cases (n=50)	Percentage
Age distribution	0-1 year	5	10 %
	2-5 year	18	36 %
	6-10 year	19	38 %
	11-18 year	8	16 %
sex	male	28	56%

female	22	44%

The majority of cases were presented with fever (100%) followed by myalgia (68%), Headache (48%), vomiting (42%) and abdominal pain (32%), as shown in Table 2

TABLE 2: CLINICAL MANIFESTATIONS IN DENGUE CASES

Criteria	Number of cases	Percentage
Fever	50	100 %
myalgia	34	68 %
headache	24	48 %
Skin rashes	13	26 %
Icterus	5	10 %
diarrhea	8	16 %
vomiting	21	42 %
Abdominal pain	16	32 %
Ascites	3	6 %
hepatomegaly	7	14 %

Thrombocytopenia was observed in 92% of patients.Leukocytopenia was observed in 62% of patients.Among the liver enzymes examined, SGOTdemonstrated elevated levels in a larger proportionof patients (58%) compared to alanineaminotransferase (SGPT) (42%), signifying itsspecificity as a marker for dengue as shown in Table 3

TABLE 3: HEMATOLOGICAL AND BIOCHEMICAL FINDINGS

Findings	Number of cases	percentage
Leukocytopenia	31	62 %
Thrombocytopenia	46	92 %
Elevated SGOT Levels	29	58 %
Elevated SGPT Levels	21	42 %

DISCUSSION

This study was conductedamong dengue fever patients in a prospective observational study in the Department of Pediatrics. This study included 50 participants, offering insight on the epidemiology and clinical features of dengue fever in the area. In this research, the most prevalent age group afflicted was 6-10 years, which was consistent with previous Indian investigations. [12]. In our analysis, the male-to-female ratio was 1.27:1, but Sahana et al. and Kabilan et al. reported an overall male preponderance [13-14].

The majority of patients (96%) presented with fever, followed by myalgia (68%), headache (48%), vomiting (42%), and stomach pain (32%). Laul A et al noticed that fever was present in all instances, which is consistent with the current study's findings [15]. Tamil Selvam et al. A comparable research found that fever was the most prevalent symptom in more than 90% of cases [16].

Laboratory studies indicated typical hematological and biochemical abnormalities associated with dengue infection. Leukocytopenia and thrombocytopenia were in line with the changes in blood cells that are often seen during dengue infection, which is comparable to what Gomber S et al. [9] found. Notably, the platelet count distribution within specified ranges offers information on illness severity, supporting the use of these

parameters as indicators for disease progression and therapy. The presence of increased liver enzymes, such as SGOT and SGPT, suggests hepatic involvement in dengue infection. These findings are comparable to those of prior investigations. [10]. The various patterns of increase in these enzymes may suggest varied degrees of hepatocellular damage, necessitating additional investigation into their clinical significance and applicability in disease monitoring

CONCLUSION

Dengue fever is a self-limiting viral illness with a tiny number of cases progressing to severe disease. The most frequent symptoms were fever, vomiting, stomach discomfort, body ache, and rash. These results assist clinicians in early identification of dengue by suspecting these symptoms as dengue, reducing morbidity and death associated with dengue.

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