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RESEARCH ARTICLE

DETAILING DENGUE - A STUDY OF CLINICAL AND LABORATORY PROFILE OF DENGUE PATIENTS IN A TERTIARY CARE CENTRE

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Abstract

Background: Dengue is one of the most rapidly spreading mosquito-borne viral disease with a rapid increase in incidence in recent decades. It is a major public health concern throughout India. The objective of this study is to review the clinical manifestations and laboratory profile of dengue cases admitted in a tertiary care hospital, near Vijayawada, Andhra Pradesh. This data would help us know and compare the inter annual variation in dengue presentation in forthcoming dengue epidemics.

Methods: This is a retrospective study carried out from 1st January 2021 to 31st December 2021 in Dr.Pinnamaneni Siddhartha medical college, Chinoutpally, Andhra Pradesh. Patients above 18 years of age admitted with acute febrile illness and tested positive for NS1Ag or Dengue IgM were taken into study. The required data regarding their clinical presentation, haematological and biochemical profile was collected and analysed.

Results: The most common clinical presentation of dengue in our study was fever (97%) followed by myalgia (70%), headache (69%), arthralgia (45%), rash (29%), diarrhoea (10%), retro-orbital pain (7%), nausea and vomiting (3%). 34% of patients had leucopenia. 25% and 5% of patients had transaminitis and elevated renal parameters respectively.

Conclusions: Dengue commonly affected the male and young population. Fever, headache, myalgia, thrombocytopenia and leukopenia were common presenting features with few patients having transaminitis and elevated renal parameters.

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Introduction:-

Dengue is a mosquito-borne viral disease, which is caused by dengue virus that belongs to the family Flaviviridae and has 4 serotypes. Mosquitoes of genus Aedes, principally Aedes aegypti, are responsible for its spread. Symptomatic dengue virus infections can be grouped into undifferentiated fever, dengue fever, dengue

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hemorrhagic fever. Dengue hemorrhagic fever is further classified into 4 grades with grade III and grade IV being defined as Dengue shock syndrome and expanded dengue syndrome (1). The incidence of Dengue has grown dramatically around the world in recent decades. 70% of the total burden of dengue is shouldered by Asia (2) and it is one of leading cause of hospitalisation and death among children and adults in this region. In India, the number of cases reported increased over 8 fold over last two decades. Although dengue is a notifiable disease in India, studies and modelling estimates suggest that the disease is grossly under-reported (3,4). It is reported that the actual number of cases in the country were 282 times the number reported by the national vector-borne disease control programme (5). A vast majority of cases are asymptomatic or mild and self-managed, and hence the actual number of dengue cases are under reported. Many cases are also misdiagnosed as other febrile illness. With the yearly outbreaks of dengue and changing pattern of the disease every year it is necessary to relook at clinical and biochemical spectrum of dengue for the health care professionals as well as the policy makers to prepare for the control of outbreaks. Thus, this study was conducted to evaluate the clinical features, laboratory abnormalities of dengue cases admitted in 2021 in a tertiary-care hospital in Andhra Pradesh.

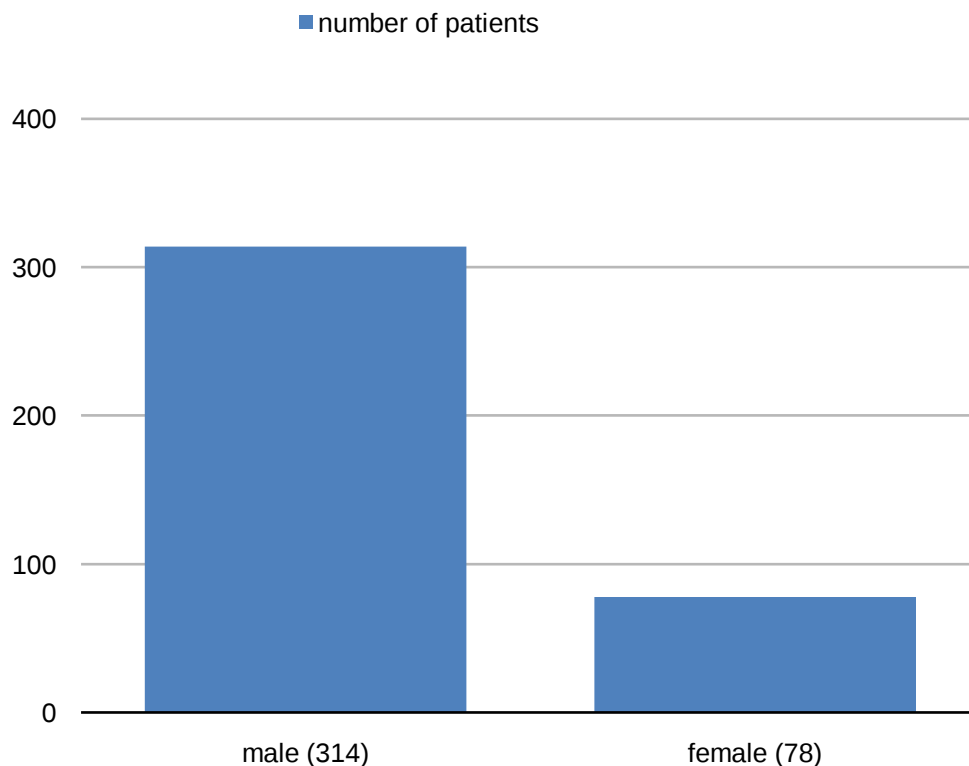
Materials And Methods:-

A hospital based retrospective study was conducted in Dr. Pinnamaneni Siddhartha medical college and research foundation on patients admitted with dengue between 1st January 2021 to 31st December 2021. Patients above 18 years of age, admitted with acute febrile illness and tested positive for NS1Ag or Dengue IgM on rapid diagnostic kits were included in the study. Patients with concomitant diseases like malaria, leptospirosis, scrub typhus were excluded from the study. The required data including clinical presentation, complications, chest X-ray, ultrasound abdomen, Liver function tests, Renal function tests, complete blood picture were retrieved from case records and noted on preformed pro forma. The data was analysed using descriptive statistics.

Results:-

A total of 392 patients were included in the study.

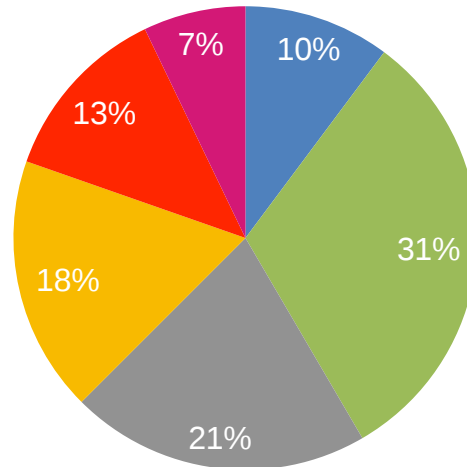
1. Gender distribution.



Among 392 patients 314 (80%) were males, 78 (20%) were females giving a male to female ratio of 4.02:1 .

2. Age distribution of patients with dengue

■ 18-19 ■ 20-29 ■ 30-39 ■ 40-49 ■ 50-59 ■ 60&above



3. Clinical manifestations of patients with dengue fever .

Symptoms	Number of patients	Percentage
Fever	381	97
Headache	270	69
Myalgia	276	70
Arthralgia	175	45
Retro orbital pain	27	7
Diarrhoea	41	10
Rash	114	29
Nausea & vomiting	13	3
Malena	33	8
Hematuria	36	9
Conjunctival congestion	42	11

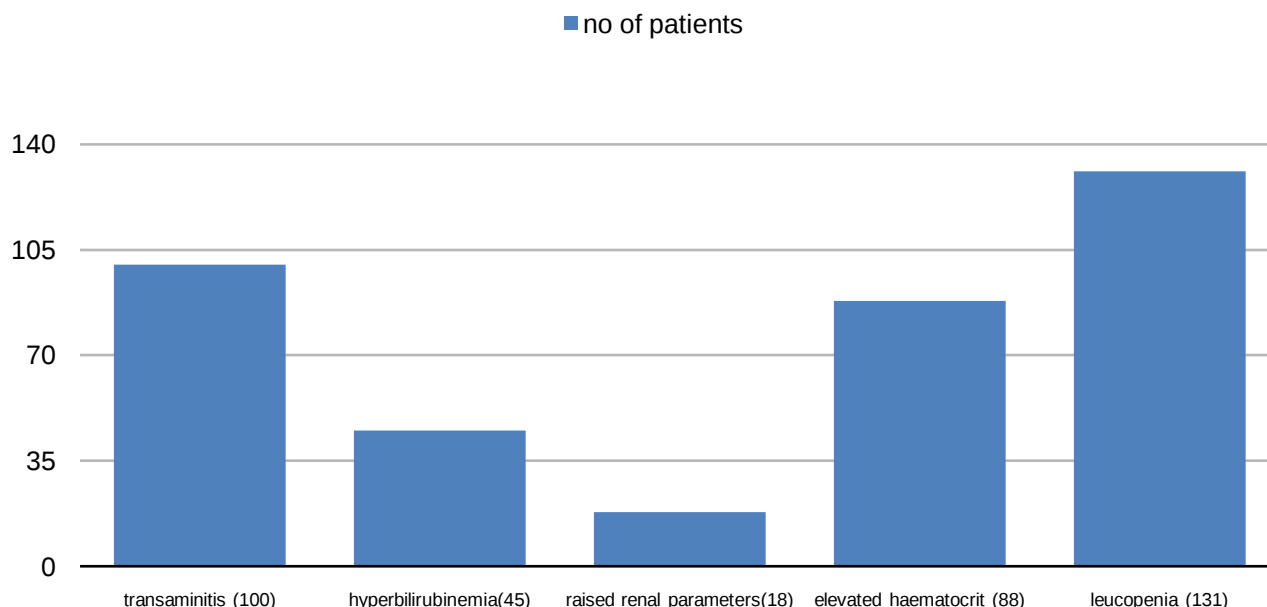
4. Thrombocytopenia.

The most common haematological abnormalities was thrombocytopenia

Platelet count/cumm	No of cases	Percentage
>1lakh	235	60
50000-1lakh	84	21
20000-50000	58	15
10000-20000	10	3
< 10000	6	2

5. Biochemical and haematological profile

Liver enzymes, Aspartate aminotransferase [AST] and Alanine aminotransferase [ALT] were raised in 100 patients. Hyperbilirubinemia was seen in 45 patients. Renal parameters were raised in 18 patients. Hematocrit was elevated in 88 cases. Leucopenia was seen in 131 patients



Discussion:-

In our study conducted among 392 patients, 314 patients were men (80%) and only 78 (20%) were women. various other studies conducted in India(8,9) showed male preponderance but our male:female ratio was about 4:1 which is much higher than those in other studies. The reason for this gender variation is not well understood but could be due to variability in the low health care seeking tendency among Indian women in various regions. This can be further confirmed by simultaneously studying the male female ratio of inpatients admitted with other diseases.

There are higher number of patients i.e 31% in the age group 20-29 years which is similar to the finding in other studies(6,7)

Fever was the most common clinical presentation (97%) in our patients followed by myalgia (70%), headache (69%) arthralgia (45%), rash (29%), diarrhoea (10%) retro-orbital pain (7%), nausea(3%).

The self limiting clinical course of dengue infection can be prolonged when the liver is involved (8,9) . Transaminitis is seen in 25% of patients of our patients

Acute renal failure is a potential complication of severe dengue infection .AKI may be due to hypotension, rhabdomyolysis, or hemolysis. Acute renal failure complicates severe dengue infection in 2-5% of the cases and carries a high mortality(10). In our study, elevated renal parameters were seen in 5% of patients, but the renal dysfunction was transient and was corrected with proper fluid management.

Limitations of study

1. Dengue serotype was not identified in our study
2. The results were not compared to those of previous years.

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