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STUDY OF DENGUE FEVER IN SOUTH EASTERN RAJASTHAN

Sushma Pandey[1], Suresh Pandey[2]

ABSTRACT: Dengue Fever has become a significant resurgent disease in the past 20 years all over the India. Our study outlines the clinical spectrum and prognosis of the disease beyond rural and urban confines. Study conducted on 350 patients admitted in SRG Hospital from the month April 2013 to Oct. 2013 about 7 months. All patients with the febrile illness positive for NS1 antigen, IgM and IgG/IgM antibody for Dengue virus were taken as case. The patients were subjected to clinical examination and baseline investigations so as to conduct study. The study was conducted to know the prevalence of dengue infection, based on laboratory rapid screening tests for NS1, IgM and IgM/IgG antibodies and to study the seasonal variation and the clinical profile in these cases. Dengue causes increased morbidity and mortality and requires prompt diagnosis and treatment for the proper management of these cases, the rapid screening test for NS1, IgM and IgM/IgG antibodies, platelet counts helps clinicians toward achieving this goal. The total number of patients were 350 of whom 180 were male and 170 were female. The most common presentation apart from fever, icterus, bodyache, rash, headache, gastrointestinal symptoms, haemorrhage and shock was present. Investigations revealed thrombocytopenia (<10, 000 in 35), (<25, 000 in 120), (<75, 000 in 155) and (75000/cumm-150000/cumm) normal platelet counts in 40 patients. Leucopenia in 168 cases (<3000) were detected and HB. Values were raised. Case fatality rate is 1.7% in this study. Age group analysis revealed that it affects younger age persons 21-30 years. A febrile patients had rash, myalgia and abdominal pain.

KEYWORDS: Dengue, Dengue Fever, Dengue IgG/IgM.

INTRODUCTION: Dengue Fever has been identified as an emerging infectious disease in Rajasthan state. Sporadic occurrence of dengue fever cases has been reported in Jhalawar district. S. R. G. Hospital & Medical Collage, Jhalawar.

Dengue viruses are mosquito-borne flavi viruses that plagued people for centuries.[1] Immunology of Dengue Fever if characterised by an initial viremic phase which corresponds to the first 3 days of illness. Followed by a critical immune phase spanning from 3rd to 6th day of illness. The phase of dengue beyond 6th day of illness is called recovery phase. A sizable number of patients take longer to recover.

The elucidation of the exact clinical profile is important for patient management and thus crucial for saving life. The present study is an attempt to describe the salient clinical as well as laboratory findings of serologically confirmed hospitalized cases of Dengue Fever during the period April, 2013 to Oct., 2013. Patient treated symptomatically. Platelet transfusion was given in 85 patients.

MATERIAL AND METHODS: Present study conducted in patients admitted in medicine department SRG Hospital Jhalawar from April to Oct.2013. A total 350 cases of Dengue Fever were analysed

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during this period. The data was collected from Dengue Fever cases admitted through emergency or outpatient department, in a detailed proforma as per the history given by patient / attendant, with particular emphasis being given to age, sex, laboratory findings. All data were analysed, documented and interpreted as per the laid down protocol.

All the patients with acute febrile illness underwent serology NS1, IgM, IgG/IgM with rapid kit test. As per WHO criteria dengue haemorrhagic fever defined as an acute febrile illness with minor or major bleeding, thermocytopenia, evidence of plasma leakage patients improved with fluids. Dengue shock syndrome is defined as dengue haemorrhagic fever with sings of circulatory failure, including narrow pulse pressure hypotension, frank shock.[2]

NS1, IgM and IgG/IgM (secondary infection) dengue positive cases were included. These patients were admitted with Dengue fever, Dengue haemorrhagic fever, myalgia, headache, rash, hypotension or bleeding manifestations and shock syndrome. The diagnosis of Dengue Fever, Dengue haemorrhagic fever and dengue shock syndrome was based on clinical ground.[3]

The patients were subjected to thorough clinical examination and laboratory investigation like that complete hemogram, urea, creatinine, liver function test, chest, X-ray, ECG and ultra sound of abdomen. All the patients admitted with dengue had duration of symptoms for 3-4 days and the platelet count was done at the time of admission. The diagnosis of pleural effusion was confirmed by X-chest. In ECG finding tachycardia was present in all the patients of shock and haemorrhage. In lever function test bilirubin was above 2mg% in 18 patients. Increased bilirubin levels may present clinically as jaundice. Jaundice is rarely present in dengue fever patients. No case of fulminant hepatic failure was noted in our study.

OBSERVATIONS:

Total No. of Patients	Male	Female
350	180(51.42%)	170(48.57%)
TABLE 1: Showing sex distribution		

Age Group	No. of Patients
21-30	128 (36.57%)
31-40	107 (30.50%)
41-50	62 (17.71%)
51-60	53 (15.14%)
TABLE 2: According to age groups	

Total No. of Patients	Fever	Headache	Myalgia	Gastro intestinal	Rash	Bleeding manifestaion	Shock
350	280	160	204	282	110	43	05
TABLE 3: Clinical manifestation of patients of dengue fever							

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Total No. of Patients	<10000/cmm	<25000/cmm	<75000/cmm	Between 75000-150000/cumm
350	35(10.00%)	120(34.28%)	155(44.28%)	40(11.42%)
TABLE 4: Showing platelet counts distribution. (Thrombocytopenia)				

Total No. of Patients	NS1	IgM	IgG/IgM
350	120(34.28%)	130(37.14%)	100(28.57%)
TABLE 5: Serological distribution by rapid test			

Total No. of Patients	Death	Improved
350	06(1.7%)	344(98.28%)
TABLE 6: Showing prognosis of cases		
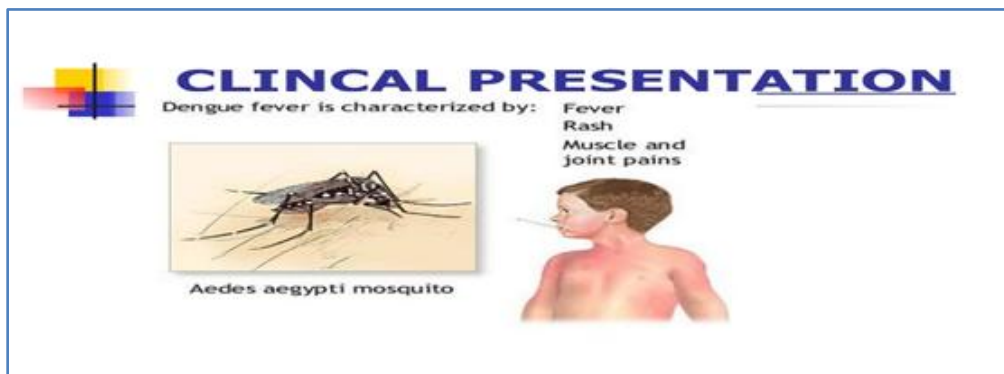
RESULT: Analysis of patients was done by tabulation of data numbers and percentages were enumerated for all categorical variables such as clinical characteristics and biochemical tests. All adult patients of dengue fever admitted in medicine indoor during 7 month period from April to Oct. 2013 with confirmed diagnosis were selected for this study. NS1, IgM and IgG/IgM positive cases were included in this study.

The total no. of patients were 350 of whom 51.42% male and 48.50 female.the difference in prevalence was not statistically significant. The age of patients varied from 21 to 60 years. The maximum no. of patents belongs to 21-30 years (36.57%), followed by 31-40 years (30.50%). Cases positive for dengue NS1 antigen, IgM and IgG/IgM 120(34.28%), 130(37.14%), 100(28.57%). Serologycaly IgG and IgM was present in 49 cases of dengue haemorrhagic fever and 26 were positive in NS1. Only 2 patients of NS1 positive cases had IgG antibody was also positive. In dengue shock syndrome IgM and IgG antibody were present in all the 6 cases.

Clinical Feature: Fever was documented in 280 patients, headache noted in 160 patients, Myalgia in 204 patients, Pain abdomen 105 patients and some of the patient had isolated one symptom or in

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some patients 2-3 symptoms together. Rash was present in 110 patients, in 27 patients Epistaxis was present. Bleeding manifestation as bleeding PV in 9 females. Gastrointestinal bleeding in 11 patients and Disseminated intra vascular coagulation was documented in one case. Ascitis was detected in 15 patients and pleural effusion present in 07 patients.

Total white cells counts was found <4000 in 168(48%), platelet count shows (between 75000/cumm-15000/cumm) normal platelet count in 40(11.42%), <10000/cumm platelet counts in 35(10%), <25000/cumm platelet counts 120(34.28%), <75000/cumm platelet counts in 155(44, .28%). A case fatality rate came out to be 1.71%. the causes of death was because of haemorrhage and shock.

DISCUSSION: The dengue is emerging as a serious public health problem globally. This may be due to climatic changes or due to failure to control to mosquito vector.[4] classical dengue fever was first reported from Egypt in 1779.[5] dengue haemorrhagic fever was first reported in India from Kolkata in 1963-64, 200 people died.[6]

This study describes the clinical profile, laboratory investigation and outcome of dengue fever (77.1%), dengue haemorrhagic fever (21.4%) and dengue shock syndrome (1.7%). The incidence dengue haemorrhagic fever is higher in contrast to the observation 13.5% from Sharma et al.[7] in west Bengal nearly 61% of dengue cases reported between 2005 to 2007 were secondary infection. In our study it revels 28.5% of secondary infection. In this study gender distribution is equal that is 51.6% were male and 49.4% female. This is in contrast to the study of Medeira (Europe) 2012.[8]

In which 41.1% male and 58.9% female. In our series predominant presentation was fever, bleeding of various degree and gastrointestinal symptom were not associtated with thrombo-cytopenia. Similar to study in Kerala[6] and Sharma et al. Hypotension recorded in 14 patients responded as in the study of Nandani Chatterjee to IV fluids. Laboratory investigation in our series shows thrombocytopenia, leucopenia and increase in Haemoglobin level. Therapy in most cases involved antipyretic and fluids and platelet transfusion was given in patients with platelet count below 25000/cumm. According to WHO mortality in untreated cases is 20% in our study. Case fatality rate is 1.7%.

6 patients died. One of the patient had severe gastrointestinal bleeding, and 5 patient died of dengue shock syndrome of which one patient developed disseminated intravascular coagulation defect. All the patients died of multi organ failure.

Therefore to conclude, the incidence of Dengue Fever was predominantly affecting the younger age group. Mostly a febrile illness with myalgia, mild bleeding and gastrointestinal symptoms. Proper conformation of diagnosis, early institution of therapy, public awareness and vector control are important factors to be taken into consideration in order to form policies on dengue prevention and management.

The incidence of dengue was predominantly affecting the younger age group in both these gender. Mostly febrile illness with myalgia, headache, abdominal pain, rash, mild bleeding and gastrointestinal symptoms. Mostly responding to conserative therapy. Proper conformation if diagnosis early institutional therapy, public awareness and vector control are important factor to be taken in consideration in order to form policies on dengue prevention and management.

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