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CLINICAL EPIDEMIOLOGICAL PROFILE OF PATIENTS IN TERTIARY CARE CENTER HAMIDIA HOSPITAL BHOPAL MADHYA PRADESH

Medicine

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ABSTRACT

introduction: Dengue fever (DF) is a common mosquito borne disease caused by dengue virus and is transmitted by Aedes mosquito. In recent years one of the major public health problems in India .

Aim and objectives: The present study is aimed to assess the incidence, signs, symptoms, and epidemiological characteristics

Materials and Methods: A cross-sectional study was conducted in hamidia hospital from 1st September to 31st december over period of 4month. serological positive cases NS1 positive, IgM , IgG positive cases enrolled in this study and preformed proforma was filled to collect information.

Results: 494 patients were tested serologically positive for DF NS1, IgM and IgG. Maximum number of dengue cases reported were males in 14-30 yr age group from urban area. Fever was the main complaint in all the cases followed by, headache and joint pain .

Conclusion: Dengue is serious health problems in India. Most of cases are in the month of September and October. Measures can be taken both at personal and government level to reduce morbidity and mortality from dengue.

KEYWORDS

dengue fever, seropositive, urban.

Dengue fever (DF) is a common mosquito borne disease caused by dengue virus (DENV) family Flaviviridae and is transmitted by Aedes mosquito. Predominance in urban area of A. aegypti mosquito has occurred due to biodiversity, increase in population, global warming, and climate change There are four serotypes of virus na DENV-1, DENV-2, DENV-3, and DENV-4.(1) All four serotypes can cause subclinical infection to a mild self-limiting disease, the DF, a severe disease that may be fatal, and the dengue hemorrhagic fever (DHF)/dengue shock syndrome. Each DENV is an encapsulated RNA virus which has seven structural proteins (nonstructural protein 1 [NS1], NS2a, NS2b, NS3, NS4, NS4b, and NS5) and three structural protein genes which encode the nucleocapsid or core (C) protein, a membrane-associated (M) protein, and an enveloped (E) glycoprotein. (brett et al) lifelong immunity develops with infection of one type of DENV but There is no cross protective immunity . More severe signs and symptoms develop in patients infected with DEN-2 as compared to DEN-1, DEN-3 and DEN-4. DEN-2 and DEN-3 have been mostly linked with dengue hemorrhagic fever.

A study on dengue outbreak in Kolkata in 2012 found that maximum cases of DF occurs during August-November month indicating increased vector transmission in the monsoon and post-monsoon periods. Maximum number of cases were from 14 to 30 years age group with male preponderance.(3) Another study in Faisalabad, Pakistan showed that there are various other factors also found to be associated with DF like excessive travelling, travelling during epidemic, presence of disease in the family or neighboring

houses, people living near watery areas, immunocompromised persons and low level of awareness.(2)(4)

Dengue is the serious public health condition in India. In the last 4-5 decade epidemics becomes more frequent and severe. Disease burden is higher in poor people who live crowded condition.(2) The World Health Organization estimates that 50-100 million infections occur every year, including 500,000 DHF cases and 22,000 deaths mostly affecting children.

A study in KEM hospital, Mumbai revealed that there is relation between platelet counts and treatment response. Severity in signs and symptoms lead to complication and death in dengue cases.(5)

Study conducted in North Karnataka Stated that possibility of dengue in all cases presenting with symptoms such as fever, vomiting, and headache. Serologically positive cases detected by positive results for NS1, IgM/IgG on Rapid immunochromatographic card test (RICT) . it helps in early diagnosis and treatment to prevent complications.(6)

Material and methods

Cross-sectional study conducted at hamidia hospital bhopal . required clearance was taken from Ethical Committee.

Total 494 seropositive cases presented with fever or dengue like illness enrolled from 1st September 2017 to 31st December 2017.patients positive for al least one of NS1, IgM, IgG considered as seropositive. Informed consent was taken and pre formed proforma filled to get information regarding social status , clinical manifestation , investigational findings.

RESULTS

total 494 cases admitted in hamidia hospital diagnosed as seropositive for dengue . incidence of dengue high in September 276 case. Table 1

Table 1 Month wise distribution of case

month	Number	%
September	276	55.8%
October	108	21.8%
November	54	10.9%
december	56	11.3%

Highest number of cases was seen in 14-30 year age group (51.4%). Cases in 31-45 year and 46-60 year were 36.4% and 9.1% respectively. Patients above 60 year constitutes 3 %.(Table 2)

Table 2 Distribution of patients according to age

Age group	Number	%
14-30	254	51.4%
31-45	180	36.4%
46-60	45	9.1%
Above 60	15	3%

Males were commonly affected 65.3% and 34.7% were female. (Table 3) 54.2% cases from urban area and 45.7% from rural area. (Table 4)

Table 3 Distribution according to gender

Gender	Number	%
Male	323	65.3%
Female	171	34.7%

Table 4 Distribution according to area

Area	Number	%
Urban	268	54.2%
Rural	226	45.7%

Fever was the most common finding present in all patients followed by headache in 77.7% patients, jaint pain in 60% patients and other findings listed below. Table 5

Table 5 clinical menifestation

Manifestations	Number	%
Fever	494	100
Headache	384	77.7
Joint pain	298	60.3

Vomiting	82	16.5
Rashes	92	18.6
Abdominal pain	84	17
hepatomegaly	69	13.9
Icterus	63	12.7
bleeding	9	1.8
Loose stool	3	0.6

Table 6 Distribution according to investigation

Investigation	Number	%
hemoglobin		
>10gm%	379	76.7
<10gm%	115	23.2
WBC count		
<4000	267	54%
4000-11000	189	38.2%
>11000	38	7.6%
Platelet count		
>100000	97	19.6%
100000-50000	271	54.8%
<50000	126	25,5%
Liver enzyme		
Raised	63	12.7%
normal	431	87.2%
Serum albumin		
Normal	471	95.3%
< 3gmldl	23	4.6%
Ultrasound evidence of serositis		
Serositis	31	6.2%

In this study 23.2% were anemic , leucopenia seen in 54% and thrombocytopenia in 80.3%. 12.7% have raised liver enzyme ,hypoalbuminemia was in 4.6%. patients with hypoalbuminemia develops serositis in 6.2%

DISCUSSION

Total 494 seropositive cases enrolled in our study. on Month wise distribution of case we found maximum number of cases(276)in September month. study conducted by Bandyopadhyay et al., in Kolkata, India (2012) also showed that a maximum number of cases are reported from 1stweek of September to almost mid October.(3) This is because of increased vector transmission in the monsoon and post-monsoon periods. A study conducted Nasreen et al., stated that relative incidence was the highest in the month of October.

In this study 65.3% cases were male and 34.7% were female patient. Male preponderance of dengue cases was also reported in studies by Kumar et al., in North Karnataka6and Bandyopadhyay et al., in Kolkata, India.3 madan etal., in his study in jaipur rajasthan, also reported similar finding. Relative incidence of DF was significantly higher in males (70%) than in females (29.9%).

maximum number of cases was reported in 14-30 years age group (51.4%). Although , dengue cases in 31-45 years, 46-60 and >60 years age group were reported to be36.4%,9.1% and 3% respectively. Pardeshi et al., in KEM hospital, Mumbai revealed that maximum number of dengue cases were in the age group of 21-30 years.5 Nasreen et al., also reported maximum cases in 21-30 years group in Faisalabad, Pakistan.4 Bandyopadhyay et al., reported maximum cases in age group 11-30 years.3Kumar et al., in their study in North Karnataka reported a higher number of cases of DF in 14-30 years age group.(6)

In this study 54.2%% of dengue case from urban area while 45.7% from rural area. Similar findings were reported by study conducted by Nasreen et al., in Faisalabad, Pakistan.

Fever was the main complaint in all the cases followed by headache and joint pain in 77.7%and 60.3% respectively. Nausea vomiting in 16 % ,rashes in 18.6% ,abdominal pain was in 17 % cases, hepatomegaly in 13.9% cases,icterus in 12.7% ,bleeding manifestation was present in 12.7%.

Kumar et al., in North Karnataka stated that Fever was the presenting symptom in all the cases followed by vomiting and headache. (6)

Similar study conducted by Kashinkunti et al.(,7) Kumar et al.,(6) in Udupi, Karnataka8 and Khan et al., in Karachi, Pakistan(9)also found that fever, vomiting and abdominal pain were the most common symptoms.

bleeding manifestations were present in only 1.8% which is very as compaired other study. Kashinkunti et al.(,7) Kumar et al.,(6)21% and 19.5% bleeding manifestation, respectively, in their study.In present study serositis in 6.2% and hypoalbuminemia in 4.6%.patients with raised liver enzyme and hypoalbuminemia had advanced disease .

CONCLUSION

Dengue is the serious health problem in india. Most of the cases found in mansoon and post mansoon time in September and October month .young and adult age group commonly affected .most common presentation are fever headache and joint pain. Raised liver enzyme , hypoalbuminemia , and serositis indicates severity of illness and requires prolong hospitalization.

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