Original Research Paper

Medical Science

Clinicoepdemilogical Study Of Dengue Patients Admitted In Tertiary Care Hospital From Vidharbha Region; Maharashtra

P.A. Hiwarkar	Professor, Dept. of Community Medicine, SVNGMC, Yavatmal, Maharashtra
U.S. Joge	Assistant Professor, Dept. of Community Medicine, SVNGMC, Yavatmal, Maharashtra
U.G. Kawalkar	Assistant Professor, Dept. of Community Medicine, SVNGMC, Yavatmal, Maharashtra
V.R. Malk	Assistant Professor, Dept. of Community Medicine, SVNGMC, Yavatmal, Maharashtra

ABSTRACT   **Introduction** Dengue is the rapidly growing mosquito-borne viral disease all over the globe. In the last five decades, ...ed 30-fold with increasing geographic expansion to new countries. **Material and Methods:** The present study was conducted in Shri Vasantrao Naik Government Medical college and Hospital; Yavatmal. District had some tribal pockets.   The patients were selected were from the admitted patients, a tertiary care centre in the State of Maharashtra. Total 67 patients were included from dengue fever in the study period from Feb. 2016 to January 2017. Serological confirmed cases of dengue were included in the present study. **Results:** The maximum number of cases, 27 (40.2%), was seen in the group above 20 years of age whereas group above 40 years to 60 years 18(26.8%). Fever was present in all 67 100%) cases; followed by Arthralgia 65 (97.01%) were common. In present study 46 (38.5%) were anemic. Thrombocytopenia and Leucopenia was seen in 32 (47.6%) and 25 (37.3%) cases respectively.   **Conclusion:** Dengue fever mostly affect patients from younger age groups, males are more commonly affected. Fever is an universal complain in all patients Lab profile like thrombocytopenia; raised SGOT and SGPT significant finding in dengue fever cases.

KEYWORDS : Dengue, Fever, Maharashtra

Introduction

Dengue is the rapidly growing mosquito-borne viral disease all over the globe. In the last five decades, incidence has increased 30-fold with increasing geographic expansion to new countries. Dengue is endemic in India and cyclic epidemics are increasing in frequency and geographic expansion is occurring.[1]   The dengue virus has antigenically four distinct serotypes which are called DEN-1, DEN-2, DEN-3 and DEN-4. Each serotype of the virus produces a specific, lifelong immunity, but it provides only a short term cross-immunity.[2]

Clinical features of Dengue fever depend on the age of the patient. An undifferentiated febrile disease often with a maculopapular rash was present among children. In adults and older children disease may present as mild clinical from with fever and Myalgia. 3 Classic dengue fever is marked by a rapid onset of high fever, headache, retro-orbital pain, diffuse body pain (both muscle and bone), weakness, vomiting, sore throat, an altered taste sensation, and a centrifugal maculopapular rash, among other manifestations. DHF and DHS are severe potentially fatal complications which are often associated with an infection by a second serotype. 3 Thrombocytopenia and haemoconcentration are constant findings in DHF. In DHF, the white-blood-cell count may be variable at the onset of illness, ranging from leucopenia to mild leukocytosis.

The present study was performed to study clinical and laboratory findings of confirmed adult hospitalized cases of dengue fever during the study period.

Methodology

The present study was conducted in Shri Vasantrao Naik Government Medical college and Hospital; Yavatmal. District had some tribal pockets.   The patients were selected were from the admitted patients, a tertiary care centre in the State of Maharashtra. Total 67 patients were included from dengue fever in the study period from Feb. 2016 to January 2017. Serological confirmed cases of dengue were included in the present study. Pretested questionnaire was used to obtain the clinical history regarding febrile illness including clinical symptoms and signs. The patients were subjected to the routine laboratory tests like Complete Blood Count, Liver function tests, renal function tests, urine routine and

microscopy and peripheral smear for malaria parasite. Descriptive statistics were applied to describe the data.

Observation

There were total 67 patients were studied during the study period. Detailed of results described in following tables subsequently

Table 1: Sociodemographic details of study participants

Variable	No. of study participants	Percentage
Age		
13-20 yrs	16	23.8%
20-40 yrs	27	40.2%
40-60 yrs	18	26.8%
> 60 yrs	06	8.9%
Sex		
Male	42	62.6%
Female	25	37.3%
Socioeconomic status		
BPL card Yes	53	79.1%
BPL card No	14	20.9%
Residence		
Rural	58	86.5%
Urban	09	13.5%

The maximum number of cases, 27 (40.2%), was seen in the group above 20 years of age whereas group above 40 years to 60 years 18(26.8%). In our study there were 42 (62.6%) male. Patients don't having BPL card were 53(79.1%) and residing in rural area was 58 (86.5%).

Table 2: Clinical features of study participants

Symptoms	No. of study participants	Percentage
Fever	67	100%
Arthralgia	65	97.01%
Headache	63	94.0%
Retro orbital Pain	16	23.8%
Vomiting	12	17.9%

Skin rashes	29	43.2%
Bleeding Tendency	24	35.8%
Abdominal Pain	15	22.3%
Altered Mentation	03	4.4%
Anorexia	54	80.5%
Altered Taste	26	38.5%
Cold clammy skin	20	29.8%
Decreased Urine Output	14	20.8%
Loose Motions	02	2.9%

Fever was present in all 67 100%) cases; followed by Arthralgia 65 (97.01%) were common. Other different nonspecific symptoms mentioned in above table.

Table 3: Laboratory profile of study participants

Laboratory profile	No. of study participants	Percentage
Heamoglobin		
≤ 10 gm%	26	38.5%
> 10 gm%	41	61.1%
Platelet Count (cells/cu mm)		
< 50,000	15	22.3%
50,000-1,00,000	17	25.3%
1,00,000	35	52.2%
TLC (cells/mm3)		
< 40000	11	16.4%
4000-11000	14	20.8%
> 11000	42	62.6%
LFT		
Raised SGPT	26	38.8%
Raised SGOT	26	38.8%
KFT		
Raised sr. creatinin	06	8.9%
Raised sr. Urea	04	5.9%

In present study 46 (38.5%) were anemic. Thrombocytopenia and Leucopenia was seen in 32 (47.6%) and 25 (37.3%) cases respectively. Altered SGOT and SGPT seen in 26 (38.8%) patients. Raised sr. creatinin and sr. urea was seen in 06 (8.9%) and 04 (5.9%) cases respectively.

Discussion:

In the present study cases involved from all age groups and mainly adults was consistent with the epidemiological data obtained from other endemic areas. Lucknow, India, the mean age of the patients was 33 with a range from 7 to 65 years [4]. Khanna et al., (2004)[5] reported that in Delhi, the mean age of the patients was 35.5 years (range from 20 -67 years). In Kerala, the adjacent state of Tamil Nadu, the mean age of dengue confirmed patients was 42.6 ± 20 years[6]. In not only in India, in other parts of the world also, was an involvement of all age groups in dengue infection noticed. In our study male outnumbered females similar observation was observed by Jain et al., (2011), in India males were affected three times more than females (2.9:1).[7] Garg et al, (2011)[8] also observed a high prevalence of dengue infection among males in Kanpur, India

Dengue virus infection ranges from a spectrum of illness from in apparent or mild febrile illness to severe and fatal haemorrhagic disease. Typical clinical symptoms noted during outbreaks in India were pyrexia of 3 to 5 days duration which at times prolonged to 10 days, gastro intestinal disorders, Myalgia, Arthralgia and rash. In present study abdominal pain and vomiting were associated with the more serious cases and can be regarded as danger signs. Altered sensorium, cold clammy skin and decreased urine output were uncommon symptoms overall, but when present were more common in dengue hemorrhagic fever and dengue shock syndrome   cases rather than the dengue fever cases. Similar observation was also observed by other Indian studies from Kumar et al [7] and study by Malavige et al [3] ; Parkash et al., (2010) [9]

Thrombocytopenia is peculiar characteristic of dengue patients (Halstead, 1997). It occurs due to decreased production and increased destruction of platelets. The degree of thrombocytopenia appears correlated with the clinical severity of DHF (Edelman et al., 1975). However, a significant fraction of dengue fever patients also develop thrombocytopenia [10]. In present study thrombocytopenia was common and present in 32 (47.6%) cases. Many other studies also showed similar findings   i.e. thrombocytopenia. Viz. By Kalayanarooj et al., (2002)[11]; Shah et al., (2005) [12]and Whichmann et al., (2006)[13] . In present study raised SGOT and SGPT was seen in 26 (38.8%) cases.Studies have proved the multiplication of virus in liver cells. The dengue virus has been isolated from liver of fatal cases. Dengue induced renal injury was a poorly understood complication. In present study an increase in blood urea nitrogen and serum creatinin was seen in 06 (8.9%) and 04 (5.9%) cases. This might be because of renal insufficiency among these patients.

Conclusion

Dengue fever mostly affect patients from younger age groups, males are more commonly affected. Fever is an universal complain in all patients Lab profile like thrombocytopenia; raised SGOT and SGPT significant finding in dengue fever cases.

References

1. World Health Organization, Special Programme for Research, Training in Tropical Diseases, World Health Organization. Department of Control of Neglected Tropical Diseases, World Health Organization. Epidemic PA. Dengue: guidelines for diagnosis, treatment, prevention, and control. World Health Organization. 2009. 147 p.
2. Halstead S. Dengue. Curr Opin Infect Dis. 2002;15(5):471–6.
3. Malavige GN, Fernando S, Fernando DJ, Seneviratne SL. Dengue viral infections. Postgrad Med J. 2004 Oct;80(948):588–601.
4. Itha S, Kashyap R, Krishnani N, Saraswat VA, Choudhuri G, Aggarwal R. Profile of liver involvement in dengue virus infection. Natl Med J India. 2005;18(3):127–30.
5. Khanna S, Vij JC, Kumar A, Singal D, Tandon R. Dengue fever is a differential diagnosis in patients with fever and abdominal pain in an endemic area. Ann Trop Med Parasitol. 2004;98(7):757–60.
6. Daniel R, Rajamohanan, Philip AZ. A study of clinical profile of dengue fever in Kollam, Kerala, India. Dengue Bull. 2005;29:197–202.
7. Kumar SA, Navneet A, Zaki SM. A prospective clinical study of incidence of hepatorenal and hematological complications in dengue fever and management of symptomatic bleed in bundelkhand region of Northern India with fresh whole blood. J Infect Dis Immun. 2011;3(November 2006):124–33.
8. Garg A, Garg J, Rao Y. Prevalence of dengue among clinically suspected febrile episodes at a teaching hospital in North India. J Infect. 2011;3(5):85–90.
9. Parkash O, Almas A, Jafri SM, Hamid S, Akhtar J, Alishah H. Severity of acute hepatitis and its outcome in patients with dengue fever in a tertiary care hospital Karachi, Pakistan (South Asia). BMC Gastroenterol. 2010 Dec 7;10(1):43.
10. Srikiatkhachorn A, Green S. Markers of dengue disease severity. Vol. 338, Current Topics in Microbiology and Immunology. 2009. p. 67–82.
11. Kalayanarooj S, Vaughn DW, Nimmannitya S, Green S, Suntayakorn S, Kunentrasai N, et al. Early clinical and laboratory indicators of acute dengue illness. J Infect Dis. 1997 Aug;176(2):313–21.
12. Shah GS, Islam S, Das BK. Clinical and laboratory profile of dengue infection in children. Kathmandu Univ Med J. 2006;4 NO. 1(13):40–3.
13. Wichmann O, Hongsiriwon S, Bowonwatanuwong C, Chotivanich K, Sukthana Y, Pukrittayakamee S. Risk factors and clinical features associated with severe dengue infection in adults and children during the 2001 epidemic in Chonburi, Thailand. Trop Med Int Heal. 2004 Sep;9(9):1022–9.