

CLINICAL PROFILE OF DENGUE FEVER IN KANYAKUMARI GOVERNMENT MEDICAL COLLEGE- A STUDY FROM KANYAKUMARI, INDIA

Brinda J¹, Sankar Selvaraj², John Christopher Ponnaian³, Chandrashekar Madhu⁴, Benitta Mary Redleene⁵, Lekshmi Reghunath⁶, Kumaran Rajendren⁷

¹Assistant Professor, Department of General Medicine, Kanyakumari Government Medical College, Kanyakumari.

²Associate Professor, Department of General Medicine, Kanyakumari Government Medical College, Kanyakumari.

³Professor, Department of General Medicine, Kanyakumari Government Medical College, Kanyakumari.

⁴Postgraduate Student, Department of General Medicine, Kanyakumari Government Medical College, Kanyakumari.

⁵Postgraduate Student, Department of General Medicine, Kanyakumari Government Medical College, Kanyakumari.

⁶Intern, Department of General Medicine, Kanyakumari Government Medical College, Kanyakumari.

⁷Intern, Department of General Medicine, Kanyakumari Government Medical College, Kanyakumari.

ABSTRACT

BACKGROUND

Dengue infection is viral infection with different clinical presentation. This study was conducted in Kanyakumari Government Medical College Hospital, Asaripallam, Tamil Nadu, to study the various clinical profile and polyserositis involvement in dengue.

MATERIALS AND METHODS

The clinical profile and polyserositis involvement in dengue infection were determined by the retrospective study of all dengue infection in Kanyakumari Government Medical College Hospital, Asaripallam, Nagercoil, Tamilnadu. It was a retrospective study. All probable cases that had high-grade fever, lymphadenopathy, hepatomegaly, features of hock or haemorrhage and so forth and were admitted with provisional diagnosis of dengue fever were taken into account. All patients with positive dengue tests, either NS1 antigen, IgM, IgG antibody rapid serological test kit or ELISA were taken into the study group. As the duration of history of fever might be fallacious, the patients were subjected to all three serological tests. Patients who were positive for malaria, meningitis and enteric fever were excluded from the study. The whole number of patients included in our study was 40 ($n=40$).

RESULTS

In this study, it was found that the bleeding manifestation had no correlation with thrombocytopenia, hepatomegaly and raised SGOT. All 40 patients had fever and they were treated with antipyretics (paracetamol) in appropriate doses. Patients who presented with warning signs and stable vital signs were initially encouraged to take oral fluids; if they were not tolerated, intravenous fluids were started according to the WHO guidelines.

CONCLUSION

Dengue is an important arboviral infection in tropical countries.¹ Global incidence of dengue fever has increased dramatically in the recent decades. There are very few studies based on the revised new dengue classification. In our study, the total number of cases analysed was 40, out of which 28 (70%) were categorised as cases of non-severe dengue, which included both undifferentiated fever and Dengue Fever (DF) (both with and without warning signs) and 12 (30%) were cases of severe dengue (DHF grades 1-4). The maximum numbers of cases were seen in the group 25-34 years of age (32.5%) followed by 15-24 years (27.5%), 35-44 years (25%) and 45-55 years (15%). There was significant difference in male:female ratio in our study (2.3:1). Covered dress used by females may be a cause for the fewer incidences.² Increased admissions in the rainy and winter seasons can be explained by breeding season of mosquitoes, which is similar to previous studies. Duration of hospitalisation was more in case of severe dengue patients.³ Various factors apart from thrombocytopenia lead to bleeding in dengue. They are decreased platelet function, fibrinogen consumption, prolongation of PT/PTT and vasculopathy. In our study, in the majority of the patients, tourniquet test was found to be negative, whereas studies in other countries, especially Southeast Asian countries, report tourniquet test positivity as the commonest bleeding manifestation.⁴ Low proportion of positive tourniquet test in Indian studies maybe due to the darker skin colour in Indians. The most consistent finding was hepatomegaly, which was similar to many other studies.⁵ Among the various clinical findings, hypotension, pleural effusion and respiratory distress were notable and were analogous to other studies.⁶ In our study, thrombocytopenia was seen in 37 (97.5%) of cases. Evidence of haemoconcentration is not seen in our study group. In some DF patients, the rise of PCV could have been due to dehydration as a result of poor intake and vomiting. This differs from the pattern seen in viral hepatitis. Rise in PT/ aPTT also depicts severity of disease. Ascites was the most common presentations. USG of abdomen revealed ascites in 10 (37%) of cases.

KEYWORDS

Dengue, Polyserositis, Clinical Profile.

HOW TO CITE THIS ARTICLE: Brinda J, Selvaraj S, Ponnaian JC, et al. Clinical profile of dengue fever in Kanyakumari Government Medical College- A study from Kanyakumari, India. J. Evid. Based Med. Healthc. 2017; 4(1), 43-45. DOI: 10.18410/jebmh/2017/8

Financial or Other, Competing Interest: None.
 Submission 19-12-2016, Peer Review 20-12-2016,
 Acceptance 27-12-2016, Published 02-01-2017.

Corresponding Author:

Dr. Chandrashekar Madhu,
 Room No. 53, Resident Quarters,
 Kanyakumari Medical College,
 Kanyakumari, Tamil Nadu.

E-mail: doctorchandhujune17@gmail.com

DOI: 10.18410/jebmh/2017/8



BACKGROUND

Globally, 50 million dengue infections are reported annually. The first dengue fever in India was reported during 1956 from Vellore and the first dengue haemorrhagic fever occurred in Calcutta in 1963.⁽⁷⁾ In India, the annual incidence is estimated to be 7.5 to 32.5 million. According to the WHO, the case fatality rate for dengue is roughly 5%. *Aedes albopictus* was found to be the most abundant vector in the areas surveyed, followed by *Aedes aegypti*. DENV-2 is the prevailing serotype.⁽⁸⁾ The case fatality rate in patients with severe dengue infection, which consists of Dengue Haemorrhagic Fever (DHF) and Dengue Shock Syndrome (DSS) can be as high as 44%.⁽⁹⁾ If intervention occurs early, mortality is less than 1%. Dengue fever presents as common viral fever, which causes dangerous complications. Dengue reinfection is observed to be more severe in children due to immunological phenomenon.⁽¹⁰⁾ The objective of this study was to assess the clinical profile of the dengue infection in Kanyakumari Government Medical College and to evaluate the polyserositis involvement among dengue infection.

AIMS AND OBJECTIVES

To study the various clinical profile and the polyserositis involvement in dengue infection among the inpatients in Kanyakumari Government Medical College Hospital, Asaripallam, Tamil Nadu.

RESULTS

The total number of cases was 40, out of which 28 (70%) were cases of non-severe dengue (undifferentiated fever, dengue fever with warning signs and dengue fever without warning signs) and 12 (30%) were cases of severe dengue (DHF and DSS) according to WHO guidelines. There were 28 (70%) males and 12 (30%) females in our study. The male-to-female ratio was 2.3:1. The maximum numbers of cases were seen in the age group 25-34 years (32.5%). Out of the total 40 cases, 13 belonged to this age group. This is followed by 11 cases of 15-24 years (27.5%), 10 cases of 35-44 years (25%) and 6 cases of 45-55 years (15%). The total admissions for diagnosed cases of dengue in adults were 40 in our hospital in the duration of time of our study. The majority of the cases were admitted in the rainy and winter season between the months of July and November. Fever was present in 100% of the cases; myalgia and abdominal pain were common. Hepatomegaly was the most common physical finding. The most common bleeding manifestations 16 (40%) were melaena 11 (68.75%) followed by gum bleeding 2 (12.5%), haemoptysis 2

(12.5%) and haematuria 1 (6.25%). Hypotension (BP <100/60 mmHg) was seen in 12 cases (30%). Elevated liver enzymes were seen in 4 cases (10%). All these patients with high liver enzymes had other severities also. 39 cases (97.5%) presented with thrombocytopenia (platelet <1,00,000). Thrombocytopenia was seen to be more relevant in those with severe dengue. In our study, serositis was seen in 27 cases (67.5%). Among this, ascites 10 (37%) was the most common finding followed by pericardial effusion 9 (33.3%) and pleural effusion 8 (29.6%) (Pie chart 1 and pie chart 2).

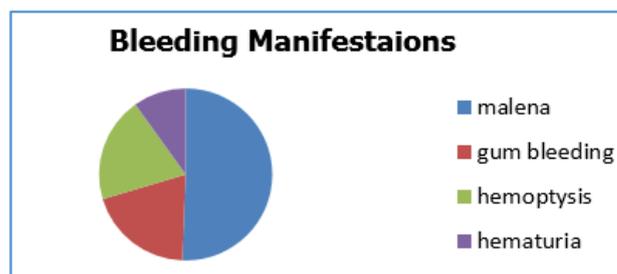


Figure 1

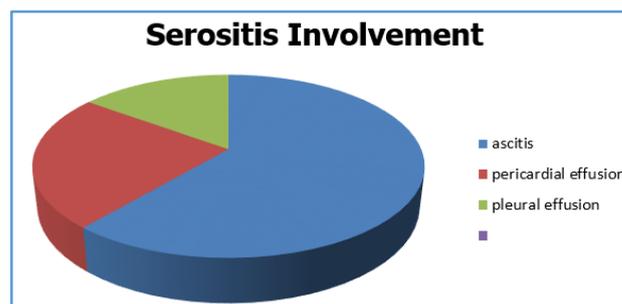


Figure 2

DISCUSSION

The total number of cases was 40, out of which 28 (70%) were cases of non-severe dengue (undifferentiated fever, dengue fever with warning signs and dengue fever without warning signs) and 12 (30%) were cases of severe dengue (DHF and DSS) according to WHO guidelines. There were 28 (70%) males and 12 (30%) females in our study. The male-to-female ratio was 2.3:1. The maximum numbers of cases were seen in the age group 25-34 years (32.5%). Out of the total 40 cases, 13 belonged to this age group. This is followed by 11 cases of 15-24 years (27.5%), 10 cases of 35-44 years (25%) and 6 cases of 45-55 years (15%). The total admissions for diagnosed cases of dengue in adults were 40 in our hospital in the duration of time of our study. The majority of the cases were admitted in the rainy and winter season between the months of July and November.⁷ Fever was present in 100% of the cases; myalgia and abdominal pain were common. Hepatomegaly was the most common physical finding. The most common bleeding manifestations 16 (40%) were melaena 11 (68.75%) followed by gum bleeding 2 (12.5%), haemoptysis 2 (12.5%) and haematuria 1 (6.25%). Hypotension (BP <100/60 mmHg) was seen in 12 cases (30%). Elevated liver enzymes were seen in 4 cases (10%). All these patients with

high liver enzymes had other severities also. 39 cases (97.5%) presented with thrombocytopenia (platelet <1,00,000). Thrombocytopenia was seen to be more relevant in those with severe dengue. In our study, serositis was seen in 27 cases (67.5%). Among this, ascites 10 (37%) was the most common finding followed by pericardial effusion 9 (33.3%) and pleural effusion 8 (29.6%). Ultrasound of the abdomen detected ascites in 10 cases (37%), which is the most common finding. Echocardiogram done in patients detected pericardial effusion in 9 cases (33.3%). 29.6% of the cases were detected to have pleural effusion by chest x-ray (PA view and oblique view in right lateral decubitus). In our study, the majority of the patients were positive for NS1 followed by a large number of patients presented within 4 days of fever. Tourniquet test was found to be negative in the majority of the patients.

Kanyakumari Government Medical College as a tertiary care centre depicts the various clinical profile in dengue infection, polyserositis involvement in dengue. Early diagnosis, monitoring the vitals and appropriate fluid management shows excellent outcome among the dengue infection.

CONCLUSION

In this study, we see that the most common bleeding manifestations in both severe and non-severe dengue were melaena. Gastrointestinal bleeding was significantly seen in severe dengue cases. Haematemesis was the most common bleeding manifestation reported in other Indian studies. Convulsion due to infection is very rare. There was no correlation between platelet counts and bleeding manifestations in our study.

This study also concludes the various clinical profile among dengue infection depicts about the involvement of polyserositis in dengue infection. No relationship between platelet count and polyserositis involvement. High index of suspicion, early diagnosis, careful monitoring of vitals daily and adequate fluid management shows excellent outcome among the dengue infection.

REFERENCES

- [1] WHO. Dengue and dengue haemorrhagic fever. Factsheet no. 117. Geneva, Switzerland: WHO 2008. <http://www.who.int/mediacentre/factsheets/fs117/en/>
- [2] Special Programme for Research, Training in Tropical Diseases, World Health Organization. Dengue: guidelines for diagnosis, treatment, prevention and control. Geneva, Switzerland: World Health Organization 2009.
- [3] Ahmed S, Arif F, Yahya Y, et al. Dengue fever outbreak in Karachi 2006-a study of profile and outcome of children under 15 years of age. *Journal of the Pakistan Medical Association* 2008;58(1):4-8.
- [4] Das B, Das M, Dwibedi B, et al. Molecular investigations of dengue virus during outbreaks in Orissa state, Eastern India from 2010 to 2011. *Infect Genet and Evol* 2013;16:401-410.
- [5] Rigau-Pérez JG, Clark GG, Gubler DJ, et al. Dengue and dengue haemorrhagic fever. *The Lancet* 1998;352(9132):971-977.
- [6] Wichmann O, Hongsiriwon S, Bowonwatanuwong C, et al. Risk factors and clinical features associated with severe dengue infection in adults and children during the 2001 epidemic in Chonburi, Thailand. *Tropical Medicine & International Health* 2004;9(9):1022-1029.
- [7] Gupta N, Srivastava S, Jain A, et al. Dengue in India. *Indian J Med Res* 2012;136(3):373-390.
- [8] Basuki PS, Budiyo, Puspitasari D, et al. Application of revised dengue classification criteria as a severity marker of dengue viral infection in Indonesia. *Southeast Asian Journal of Tropical Medicine and Public Health* 2010;41(5):1088-1094.
- [9] World Health Organization. WHO report on global surveillance of Epidemic prone infectious diseases. http://apps.who.int/iris/bitstream/10665/66485/1/WHO_CDS_CSR_ISR_2000.1.pdf.
- [10] Padhi S, Dash M, Panda P, et al. A three year retrospective study on the increasing trend in seroprevalence of dengue infection from southern Odisha, India. *The Indian Journal of Medical Research* 2014;140(5):660-664.