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Clinical profile and atypical manifestation of dengue fever cases in tertiary care centre in Bangalore

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Abstract- Dengue is the most common arboviral infection in the Southeast Asia. Dengue virus has four related but antigenically distinct serotypes: DENV-1, DENV-2, DENV-3, and DENV-4 [1]. The global burden of dengue has increased in recent decades causing huge impact on both human health and the national economics [1,2,3] . Dengue infection has a diverse clinical presentation ranging from asymptomatic subclinical infection to severe multi-organ involvement [3]. Although, vascular plasma leak is the commonest manifestation, dengue can manifest in multitude of unusual presentations due to organ dysfunction that can carry high mortality [2, 3]. Early detection of such manifestations and prompt action could avert the adverse outcome where clinicians need knowledge and experience. Aim of this case series is to present 10 such unusual dengue cases managed in a single hospital over 1 year period.

Aim of the Study:

A retrospective observational study of clinical profile and atypical manifestations in patients with dengue fever.

Materials and Methods:

Serum samples were collected from clinically suspected cases of dengue fever and it was confirmed by NS1 antigen. Clinical details and atypical manifestations were recorded.

Result : Out of 30 patients,3 patients expired.All 3 patients who expired had fulminant hepatitis,hypoalbuminemia ,AKI and fewer days of fever.Majority of patients with bad prognosis was of female sex.
75% patients with dengue fever had polyserositis.Bleeding manifestation was common among patients coagulopathy than patients with severe thrombocytopenia
Conclusion: During ongoing epidemics, the clinical profile and atypical manifestations in clinically suspected dengue patients should be investigated early so that severe forms can be treated promptly.

Keywords: Dengue,thrombocytopenia,polyserositis

Introduction

Dengue, a common mosquito-borne viral disease, occurs in tropical and subtropical countries especially South and Southeast Asia countries, the Caribbean, Central, and South America, and Africa. Dengue virus (DENV) infection is the most rapidly spreading disease in the world with a 30-fold increase in incidence in the past 50 years.[1] The first dengue fever in India was reported in 1956 from Vellore and the first dengue hemorrhagic fever occurred in Calcutta in 1963.[2] Dengue is caused by one of the four serotypes of DEVN (DENV-1–DENV-4) belonging to the family *Flaviviridae*.[3] All the four serotypes of the virus have been in circulation and documented in Tamil Nadu.[4] Dengue fever is an acute

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febrile illness with frontal headache, retro-ocular pain, muscle pain, joint pain, and rash, even though other signs and symptoms could also be present (such as lymphadenopathy, petechiale, nausea, hepatomegaly, and different types of hemorrhagic manifestations).[5] Atypical manifestations are rare and include encephalopathy, encephalitis, seizures, hepatocellular damage, acalculous cholecystitis, myocarditis, pericardial effusion, and severe gastrointestinal hemorrhage.[67] The clinical presentation in dengue depends on the virus strain, as well as the age and immune status of the host.[3] This study aims to elucidate the salient clinical feature and laboratory findings of serologically confirmed cases of dengue fever. The elucidation of clinical profile is very important for primary care, management, and thus crucial for saving life.

Aim:This study aims to study the clinical profile and atypical manifestations in patients with dengue fever.

Inclusioncriteria:

1) Patients with Dengue fever
2) NS1 positive status

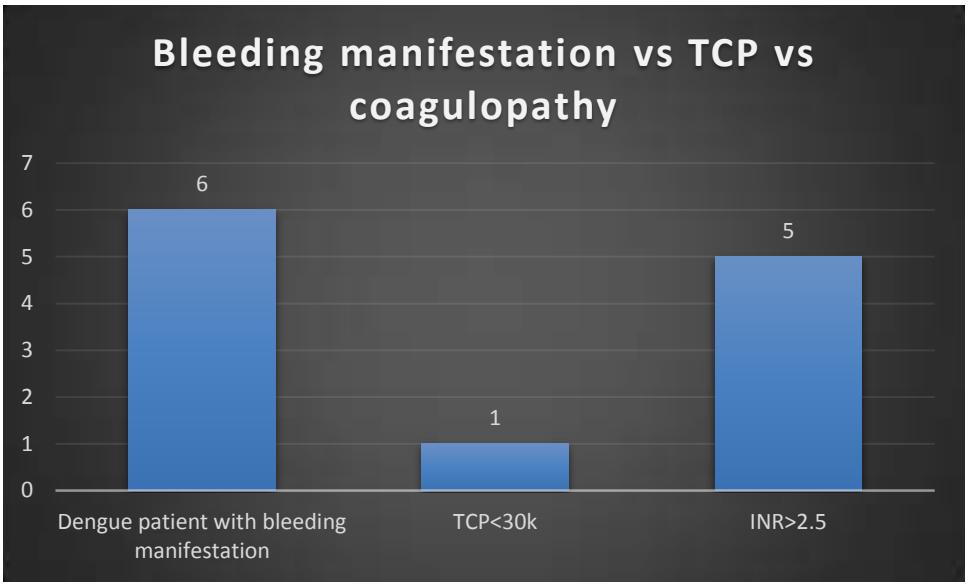
Exclusioncriteria:

1) Patient with other tropical fever cases

Methodology:

Clinical and laboratory data of all consecutive patients with a primary diagnosis of dengue fever during past 1year with NS1 antigen positive status was collected .Clinical and laboratory manifestation was noted.

Results:



Out of 30 patients 6patients had bleeding manifestation during infection phase while 1 patients had severe thrombocytopenia other 5 patients had platelet count level of more than 30,000.Out of 6 patients ,5 patient had coagulopathy.

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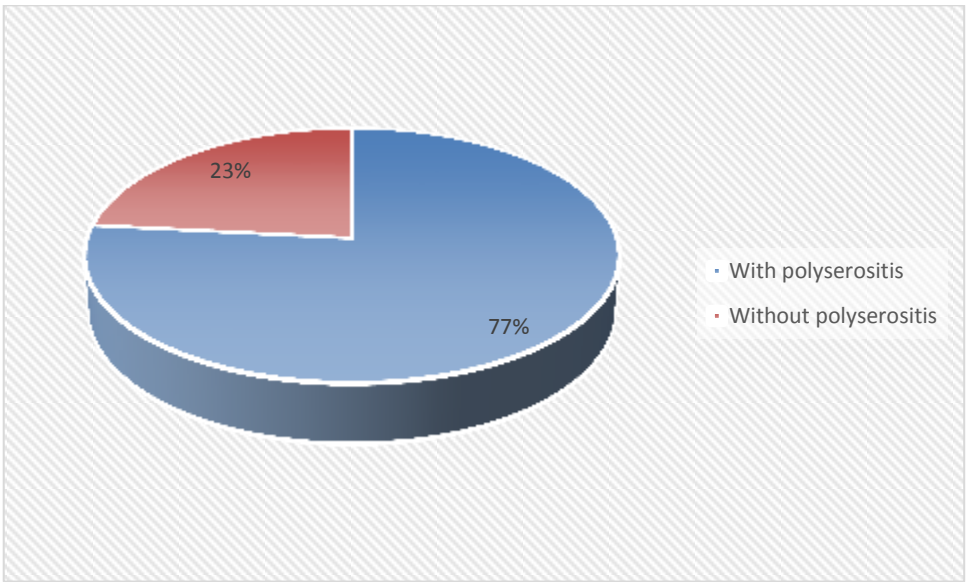
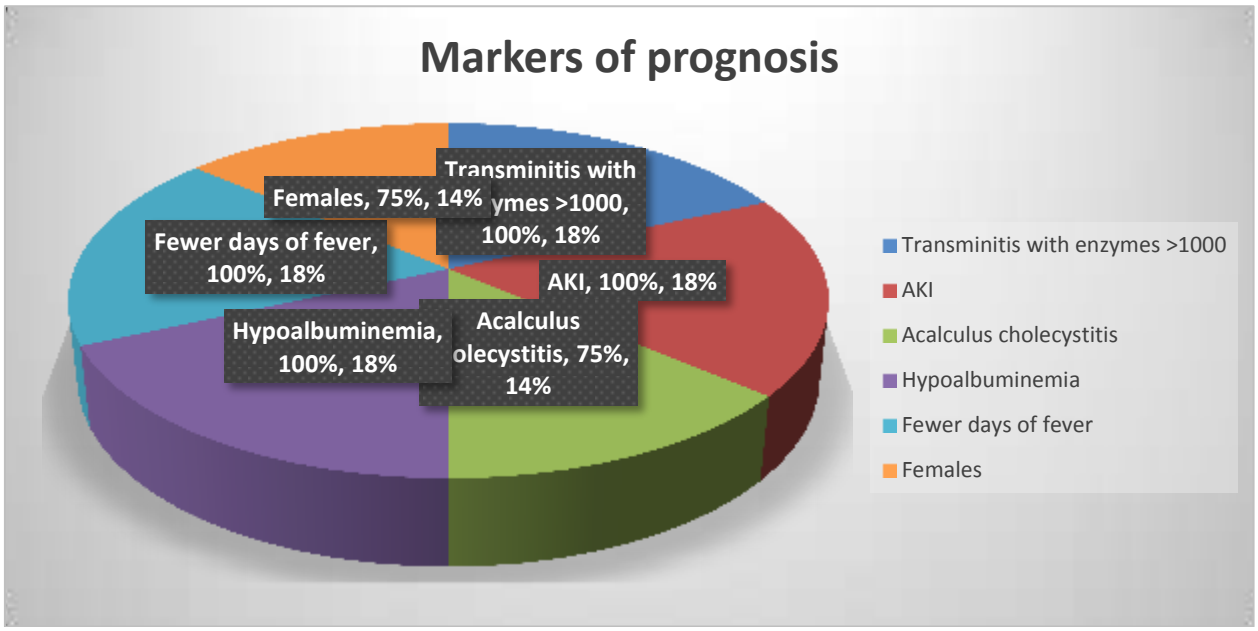


Out of 30 patients ,77% had polyserositis and 23% were without polyserositis.



Out of 30 patients,3 patients expired.All 3 patients who expired had fulminant hepatitis,hypoalbuminemia ,AKI and fewer days of fever.Majority of patients with bad prognosis was of female sex.

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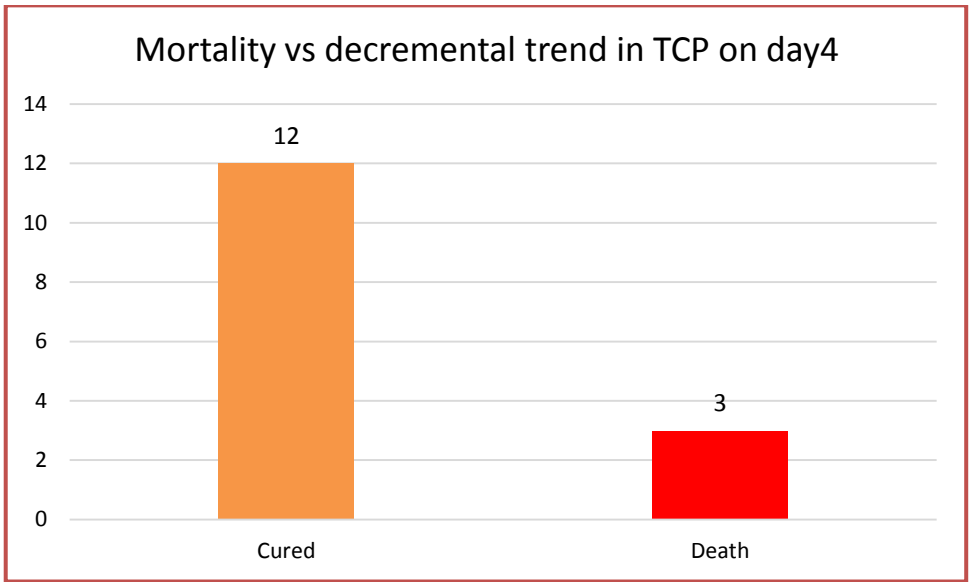

Out of 30 patients ,15 patients showed decremental trend of platelet count level even on 5 th day of infection out of which 12 patients recovered and 3 patients expired.

Discussion:

Dengue (including DHF and DSS) is a growing major mosquito-borne disease of immense public-health importance in India. Classical DF is caused by infection with any one serotype of DENV, while DHF and DSS occur in individuals with secondary infections who had prior infection with one or more DENV serotypes. In the majority of infected people, dengue is an auto-limited disease that resolves in 5–7 days. However, approximately 500,000 people develop a severe form, leading to about 20,000 deaths annually [15]. Unusual and rare manifestations of dengue were documented in 115 patients (66 %) in our study.

In the present study, 6 out of 30 patients were without complications. Elevated liver enzymes, AST/ALT 10 times the normal value (8-40 U), were observed in 15(50%) cases of DF, which is suggestive of hepatitis. This is in concordance with a study done by Prakash et al. [21] in which 71 % had developed hepatitis. Elevated transaminases in DF are in concordance with a study done by Bowman et al. [22]. Pulmonary complications in dengue, although rarely seen, include pulmonary infiltration and small pleural effusion. Pleural effusion was observed in 11 % of our cases, and this is in concordance with studies done by Ejaz et al. [23].

Acute renal failure is rare in dengue fever and it mainly presents as shock-induced acute tubular necrosis. It has been observed as a complication of dengue fever in French Guiana by Hommel et al. in 1998 [24] and was found to occur in 0.3 % of cases in a series of 6154 patients with DHF [25]. Acute renal failure was observed in 30% of DHF and DSS cases in our study. Haemodialysis and peritoneal dialysis were done for the management of these patients. Four of the nine expired patients in our study had acute renal failure. Dengue haemorrhagic fever can result in acute respiratory distress syndrome (ARDS). Dengue virus antigen is found in alveolar lining cells of the lung. Atypical respiratory manifestations such as pleural effusion were observed in 25 % of DHF and 75 % of DSS cases, and shortness of breath was observed in 42 % of DHF and 50 % of DSS cases in our study. Shortness of breath may be due to excessive accumulation of fluid in these patients. Heart involvement is infrequent in DENV infection, but atrial-ventricular blocks, atrial fibrillation, and other arrhythmias have been documented [26]. Cardiac involvement was observed in 25 % of DHF and 8.2 % of DF cases in our study.

Of the hospitalized patients, 5.1 % developed unusual manifestations and succumbed to illness due to multiorgan dysfunction. The remaining patients were managed by conservative

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treatment with intravenous fluid therapy and antipyretics, and all patients were stable at the time of discharge from the hospital. Primary infections were predominant in patients with unusual manifestations. Lack of awareness among primary physicians about the revised WHO criteria, which include expanded dengue syndrome, could probably be the reason for the mortality rate in our study.

This report of unusual manifestations may play an important role in better diagnosis, leading to improved treatment and prevention of fatal outcomes in patients with dengue infection.

Conclusion:

Although the WHO classification system includes unusual and rare manifestations of dengue, lack of awareness among primary physicians may jeopardize clinical diagnosis. Since these manifestations are a result of microvascular leaks, they are considered to have an impact on the outcome of the patients. Hence, it is essential to be aware and closely monitor these unusual and rare manifestations for better clinical management and outcome of patients.

REFERENCES:

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Halstead SB (2007) Dengue. Lancet 370:1644–1652

Article PubMed Google Scholar

Kabra SK, Jain Y, Pandey RM, Madhulika, Singhal T, Tripathi P, Broor S, Seth P, Seth V (1999) Dengue hemorrhagic fever in children in the 1996 Delhi epidemic. Trans R Soc Trop Med Hyg 3:435–440

Google Scholar

Arunachalam N, Murty US, Kabilan L, Balasubramaniyam A, Thenmozhi V, Narhari D, Ravi A, Satyanarayana K (2004) Studies on dengue in rural areas of Kurnool District, Andhra Pradesh, India. J Am Mosq Control Assoc 20:87–90

CAS PubMed Google Scholar

Gulati S, Maheshwari A (2007) Atypical manifestations of dengue. Trop Med Int Health 12:1087–1095

Article PubMed Google Scholar

Misra UK, Kalita J, Syam UK, Dhole TN (2006) Neurological manifestations of dengue virus infection. J Neurol Sci 244:117–122

Article CAS PubMed Google Scholar

World Health Organization (1997) Dengue hemorrhagic fever: diagnosis, treatment prevention and control. WHO Geneva 2:12–23

ISSN: 0975-3583, 0976-2833 VOL15, ISSUE1, 2024

Google Scholar

WHO: Dengue (2009) Guidelines for diagnosis, treatment, prevention and control. WHO, Geneva (New edition)

.

Google Scholar

WHO Regional Office for South-East Asia (2011) Comprehensive guidelines for prevention and control of dengue and dengue hemorrhagic fever. WHO, Regional Office for South-East Asia

CDC case definition—Dengue. http://www.cdc.gov/dengue/clinicalLab/laboratory.html. Accessed 28 Oct 2013

Viswanathan S, Muthu V, Iqbal N, Remalayam B, George T (2013) Scrub typhus meningitis in South India—a retrospective study. PLoS One 8(6):e66595

Article CAS PubMed Central PubMed Google Scholar

Porter KR, Widjaja S, Lohita HD, Hadiwijaya SH, Maroef CN, Suharyono W et al (1999) Evaluation of a commercially available immunoglobulin M capture enzyme-linked immunosorbent assay kit for diagnostic acute dengue infections. Clin Diagn labImmunol 6:741–744

CAS Google Scholar

Neeraja M, Lakshmi V, Teja VD, Umabala P, Subbalakshmi MV (2006) Serodiagnosis of dengue virus infection in patients presenting to a tertiary care hospital. Indian J Med Microbiol 24:280–282

Article CAS PubMed Google Scholar

Lanciotti RS, Calisher CH, Gubler DJ, Chang GJ, Vordam AV (1992) Rapid detection and typing of dengue viruses from clinical samples by using reverse transcriptase polymerase chain reaction. J Clin Microbiol 30:545–551

CAS PubMed Central PubMed Google Scholar

Chien LJ, Liao TL, Shu PY, Huang JH, Gubler DJ, Chang GJJ (2006) Development of real time reverse transcriptase PCR assays to detect and serotype dengue viruses. J Clin Microbiol 44:1295–1304

Article CAS PubMed Central PubMed Google Scholar

Simmons CP, Farrar JJ, Nguyen V et al (2012) Dengue. N Engl J Med 366:1423–1432

ISSN: 0975-3583, 0976-2833 VOL15, ISSUE1, 2024

Article CAS PubMed Google Scholar

Lum LC, Lam SK, Choy YS, George R, Harun F (1996) Dengue encephalitis: a true reality? Am J Trop Med Hyg 54:256–259

CAS PubMed Google Scholar

Leão RN, Oikawa T, Rosa ES, Yamaki JT, Rodrigues SG, Vasconcelos HB, Sousa MR, Tsukimata JK, Azevedo RS, Vasconcelos PF (2002) Isolation of dengue 2 virus from a patient with central nervous system involvement (transverse myelitis). Rev Soc Braz Med Trop 35:401–404

Article Google Scholar

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