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Original Research Paper

Medicine

A STUDY OF CLINICAL AND LABORATORY PROFILE OF DENGUE FEVER:

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ABSTRACT Dengue is a major health problem in many parts of India and Karnataka. Chitradurga which was previously not a known endemic area for dengue presently is contributing to the national statistics. Infection with dengue virus can cause a spectrum of three clinical syndromes, classic dengue fever (DF), dengue hemorrhagic fever (DHF) and dengue shock syndrome (DSS). The present study was undertaken to determine the disease profile of dengue virus infection in hospitalized patients.

KEYWORDS : Dengue, Haemorrhage, Fever, Clinical, Laboratory

INTRODUCTION:

Dengue is a major health problem in many parts of India and Karnataka. Chitradurga which was previously not a known endemic area for dengue presently is contributing to the national statistics. Infection with dengue virus can cause a spectrum of three clinical syndromes, classic dengue fever (DF), dengue hemorrhagic fever (DHF) and dengue shock syndrome (DSS).

The word dengue came from denga or dyengo which in Africa means hemorrhage. The first definite clinical report of Dengue is attributed to Benjamin Rush in 1789.[1] He coined the term "break-bone fever" because of the symptoms of myalgia and arthralgia.[2] Dengue fever is distributed world-wide, involving nearly all tropical and subtropical countries, and hence has many names like-dandy fever, Denguero, denga, dunga, break-bone fever, bouguet, seven day fever, bonon, chapenonada, Knieueble, Tokkive- ana, Mal de genoux, homamguu, and coup-d-barre.[3] Dengue virus (DENV) is an arthropod-borne single stranded RNA virus of genus Flavivirus.It is comprised of 4 closely related but antigenically distinct serotypes, DENV-1, - 2, -3, and -4. Presently no specific therapies or vaccines are available to treat diseases or to prevent DENV transmission. Illnesses caused by DENV infection include undifferentiated fever, dengue fever (DF), dengue hemorrhagic fever (DHF), and dengue shock syndrome (DSS).[4] Dengue ranks as the most important mosquito-borne viral disease in the world. Current estimates report that, at least 112 countries are endemic for Dengue and about 40% of the world populations (2.5-3 billion people) are at risk in tropics and sub-tropics. Annually 100 million cases of dengue fever and half a million cases of dengue haemorrhagic fever occurs worldwide.[5] In India, the first major epidemic illness clinically compatible with dengue was reported from Madras in 1780, which later spread all over the country. Later, an outbreak of dengue like illness was reported in 1956 from Vellore, Tamil Nadu and since then, it has persisted in various parts of the country.[6,7]

The present study was undertaken to determine the disease profile of dengue virus infection in hospitalized patients.

AIMS AND OBJECTIVES:

To study the clinical and laboratory profile of dengue fever

MATERIALS AND METHODS:

This study was done in Basaweshwara Medical College, Chitradurga
This study was done from May 2006 to April 2007.
A total number of 30 patients were selected.

The following investigations were done- total blood counts, ECG and IgM dengue using rapid chromatographic strip test and confirmed by Panbio Dengue IgM capture ELISA. The diagnosis of dengue fever, dengue haemorrhagic fever and dengue shock syndrome will be based on WHO criteria. The patient was evaluated for signs and symptoms of plasma leak, bleeding manifestation and outcome in terms of mortality and number of days of stay in hospital. Lab Profile included checking thrombocytopenia.

Reports were noted and the detailed follow up was done until the patient was discharged.

RESULTS:

TABLE 1: Mean Distribution:

Number of Patients	Mean Age	Standard Deviation
30	51.76 years	**± 19.02 years**

TABLE 2: Sex Distribution:

Number of Patients	Male	Female
30	23	**07**

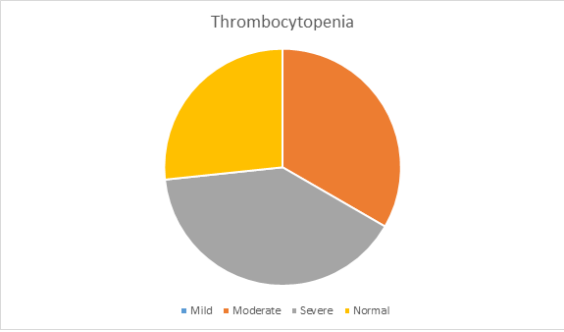
TABLE 3: Clinical Signs and Symptoms:

Signs and Symptoms	Frequency
Fever	30
Joint Pain/Myalgia	30
Headache/Retro-orbital Pain	28
Rash	21
Bleeding	05
Shock	02
Organo-megaly	17
Plasma Leak	05
Hess-Test	15

TABLE 4: Clinical Spectrum

Clinical Spectrum	Frequency
DF	23
DHF	5
DSS	2

TABLE 3: Incidence of Thrombocytopenia:



DISCUSSION:

Dengue fever virus (DENV) is an RNA virus of the family *Flaviviridae*; genus *Flavivirus*. Other members of the same genus include yellow fever virus, West Nile virus, Zika virus, St. Louis encephalitis virus, Japanese encephalitis virus, tick-borne encephalitis virus, Kyasanur forest disease virus, and Omsk hemorrhagic fever virus. Most are transmitted by arthropods(mosquitoes or ticks), and are therefore also referred to as arboviruses (*ar*thropod-*bo*rne viruses).

The dengue virus genome (genetic material) contains about 11,000 nucleotide bases, which code for the three different types of protein molecules (C, prM and E) that form the virus particle and seven other non-structural protein molecules (NS1, NS2a, NS2b, NS3, NS4a, NS4b,

NS5) that are found in infected host cells only and are required for replication of the virus.There are five strains of the virus, called serotypes, of which the first four are referred to as DENV-1, DENV-2, DENV-3 and DENV-4. The fifth type was announced in 2013.The distinctions between the serotypes are based on their antigenicity.

In this study 22 subjects out of dengue cases had thrombocy topenia. Incidence of thrombocytopenia being 73.34%. Bleeding tendencies should be closely watched for. When features of plasma leakage such as pedal edema, pleural effusion, ascites, are present, patient should be closely watched for and should be immediately managed. A positive Hess test should prompt close observation and early hospital referral, but a negative test does not exclude dengue infection. The treatment of dengue is mainly supportive. However appropriate fluid management plays a major role in outcome of the disease. Dengue serosurveillance studies may give some idea about advent, intensity, transmission season, seasonal incidence, waxing and waning, and impending epidemic of dengue and DHF. A large-scale active longitudinal serosurvey along with the study of vector capacity and vector competence would provide more correct information. When compared to the other studies we are in agreement with them[4,5,6].

CONCLUSION:

Bleeding tendencies should be closely watched for. When features of plasma leakage such as pedal edema, pleural effusion, ascites, are present, patient should be closely watched for and should be immediately managed.

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