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HEPATIC ENZYMES STATUS IN PATIENTS WITH DENGUE INFECTION

General Medicine

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ABSTRACT

One of the most important and frequent changes that is encountered in the dengue is the hepato-splenomegaly. Not only the anatomical changes occur but the biochemical parameters that define the normal physiology are disturbed. The amount of the deviation differs depending on the severity of the infections. In sever dengue infection the hepatic enzymes are disturbed severely reflecting the severity of the infections. Whether this causes or is the reflectors of the mortality and morbidity has always been the question. So an attempt has been made to study the hepatic enzyme values and whether it reflects the prognosis is checked in this study.

KEYWORDS

LFT, SGPT, SGOT, Dengue, Infection.

Introduction:

One of the most important and frequent changes that is encountered in the dengue is the hepato-splenomegaly. Not only the anatomical changes occur but the biochemical parameters that define the normal physiology are disturbed. The amount of the deviation differs depending on the severity of the infections. In sever dengue infection the hepatic enzymes are disturbed severely reflecting the severity of the infections. Whether this causes or is the reflectors of the mortality and morbidity has always been the question.

Mildly elevated liver enzymes have been reported in dengue infection[1,2,3]. Dengue infection destroys the liver tissue and the enzymes are elevated in blood that is absorbed partially or fully in the blood stream. The liver enzymes in dengue are elevated in early dengue infection and it's a rule and natural history of the disease. The enzymes can be used as a predictor for assessing the disease severity and higher the levels of liver enzymes poorer is the prognosis of the disease[4,5]. Most of the studies showed that unlike other viral infections, in dengue the rise of SGOT is usually more than SGPT and is believed to be due to release from the damaged myocytes[5]. In view of this biochemical pattern, it is possible to confuse liver involvement in dengue infection with typical acute viral hepatitis, especially in countries where outbreaks of hepatitis A and E are common[6,7]. However, the presence of thrombocytopenia and persistence of fever with elevated hepatic enzymes should help to make a diagnosis of dengue infection[7,8].

So an attempt has been made to study the hepatic enzyme values and whether it reflects the prognosis is checked in this study.

Aims and Objectives:

Hepatic Enzyme as a prognostic evaluator in Dengue.

Materials and Methods:

METHODOLOGY

The present study was conducted in the Department of Medicine, in Sridevi Medical College, Tumkur between July 2018 to December 2018.

60 patients were chosen for the study.

The study was done in 60 patients who were admitted with Dengue Positive.

Inclusion Criteria:

1. Cases confirmed with Dengue with Antigen antibody reaction test with specificity of more than 90.
2. Cases with elevated liver enzymes.

Exclusion Criteria:

1. Alcoholics
2. Patients on Hepatotoxic drugs
3. Previous Dengue infections.

All the statistical analysis is done using the ANNOVA.

Results:

Table 1: Age

Total	Mean Age	SD
60	42.12 years	± 3.67 years

Table 2: Sex Distribution

Total	Male	Female
60	49	11

Table 3: Spectrum of Dengue

Spectrum	Frequency
Dengue without warning signs	38
Dengue with warning signs	15
Severe Dengue	07

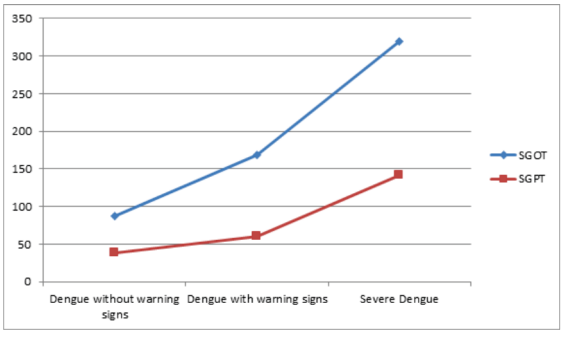
Table 4: Enzyme

Spectrum	SGOT (Mean)	SGPT (Mean)
Dengue with warning signs	81.48	39.5
Dengue without warning signs	180.76	76.68
Severe Dengue	383.47	163.57

Table 5: Significance of rise in enzymes

Value of SGOT	X-Value	Significance
383.47	6.78	0.0037

Graph 1: Enzymes



Discussion:

In the present study the mean age of the population that are studied are 42.12 years and the standard deviation is 3.67 years

The study included 49 males and there were only 11 males. This can be due to the fact that the males actually in our country spend a lot of time outside the house for work and so the infection rate is more in them.

In the present study the dengue without any warning signs accounted

38 cases. With warning cases accounted for 15 cases and severe cases were presented in 7 cases.

In the present study the SGOT and SGPT enzymes were elevated more as the severity of the disease progressed.

Dengue is an Arboviral disease which significantly effects the population of the tropical countries and India being one of the densely populated tropical countries the impact of the disease has a far more consequence. The virus is proved to have a hepato-toxic effect. Mild to moderate elevations of bilirubin, transaminases and derangements of albumin has been noted in a variet of studies all over the world[9,10]. It is known to cause febrile illness and disease and is one of the leading causes of hepatic failue in the world and especially our country. It should be considered as a differential diagnosis in the evaluation of acute hepatic failure cases. It is also called break bone fever. Transmitted by the mosquito is only second common mosquito borne disease after malaria. The disease is known to present in a wide spectrum of disease and this liver enzyme evaluation can be a boon to define the morbidity or mortality in a patient suffering the disease.

This study defines the significance of knowing the values of elevated enzyme levels in different scenarios of the disease and also it may be a more important prognostic factor to determine the morbidity and mortality by the disease.

Conclusion:

Both SGOT and SGPT are significantly elevated in severe dengue cases than SGPT. But the increase of SGOT is significantly higher. Hence hepatic enzymes specifically raised SGOT is really a prognostic evaluator during diagnosis as well as in the course of dengue fever.

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