

# Dengue and liver function test

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## Abstract

Dengue has emerged as an important arboviral disease with significant impact on the disease burden in population residing in tropical countries. Affliction of liver in form of derangements in the liver function tests is common and may include mild elevations in serum bilirubin, elevated transaminases. Although asymptomatic in most cases, clinical manifestations like jaundice, and acute liver failure (ALF) may occasionally complicate the clinical picture. The present review focuses on the hepatic manifestations and the pathogenesis of the liver injury in dengue.


**Keywords:** Paravertebral block, general anaesthesia, analgesia, complications.

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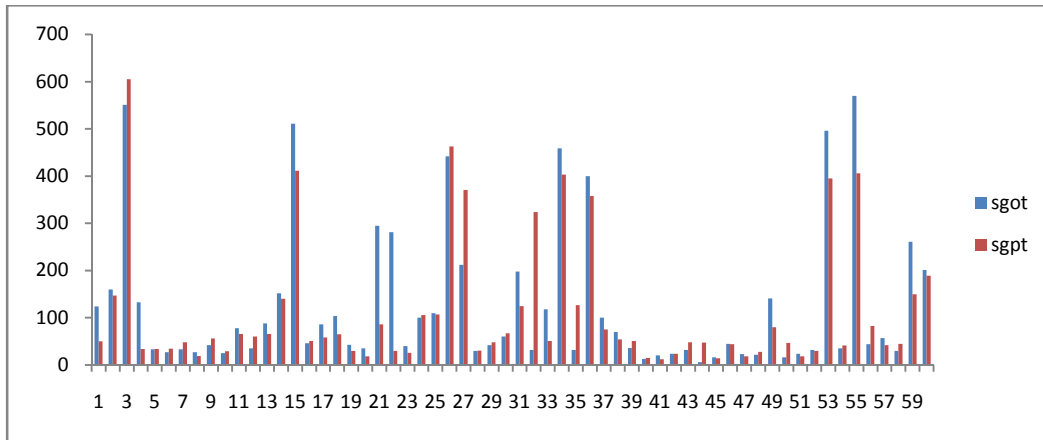
## INTRODUCTION

dengue is a common mosquito-transmitted disease, and currently, it is the most common cause of arboviral disease globally. This disease has been found to have profound effect on multiple organ systems, the commonest being the liver. With DENV infection, high level of viremia is associated with involvement of different organs (liver, brain) in the severe form of the disease. The liver is the commonest organ to be involved in dengue. Hepatic manifestations are either a result of direct viral toxicity or dysregulated immunologic injury

in response to the virus. Hepatic dysfunction is a well recognized feature of dengue infections, often demonstrated by hepatomegaly and mild-to-moderate increases in transaminase levels although jaundice and acute liver failure are generally uncommon.

## CASE REPORT

The impact of dengue on liver function was studied by biochemical tests on 60 patients (30 male and 30 female) diagnosed with this disease during August 2016. 52 cases were classified as classic dengue and 8 were classified as severe dengue. Abnormal levels of aspartate aminotransferase (AST), alanine aminotransferase (ALT), bilirubin, alkaline phosphatase, were observed in 76.6%, 70%, 36.6% and 8.33% of the patients, respectively. The elevation of transaminases was mild to moderate in most cases, but was 10-fold greater than the normal upper limit for AST and ALT in 10% and 8.33% of the patients, respectively. Initially, the level of AST was greater than that of ALT. No acute liver failure and no mortality was observed in my study.



## DISCUSSION

Liver involvement may be characterized by manifestations such as pain in the right hypochondrium, hepatomegalia, varying degrees of jaundice, choluria and an increase in liver markers, principally ALT and AST, similar to those found in acute hepatitis caused by the A, B, C, D and E viruses. approximately 76.6% of the patients in that study had abnormal AST levels, while abnormal levels of ALT, bilirubin were found in 70%, 36.6% respectively, of patients with classic dengue. 75% patient with 10 fold rise in AST and 62.5% patients with 10 fold rise in ALT had severe dengue. Greater rise in AST compared to ALT was due to injury multiple organs including musculoskeletal system leading to release of AST from inflamed muscle cells. It is important to emphasize that none of the patients included in the study had previous active liver disease and the abnormal aminotransferase levels attributed to the dengue infection returned to normal within 45 days following the onset of symptoms. Liver function tests showed that the most severely ill patients had higher levels of aminotransferases AST, ALT are valuable parameters for the evaluation of the severity of the infection.

## CONCLUSION

Dengue is normally associated with a moderate increase in aminotransferases and, less frequently, acute hepatitis. Thus use of liver tests to evaluate the degree of liver

damage is of great importance, and markers such as AST and ALT may be used as parameters to evaluate severity.

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