Section: Pathology

Original Research Article

LIVER FUNCTION TEST ABNORMALITIES IN DENGUE-POSITIVE PATIENTS IN SHADNAGAR, TELANGANA, INDIA (2024–2026)

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ABSTRACT

Background: Dengue may cause hepatic involvement in addition to thrombocytopenia and other hematological abnormalities. **Aim:** To assess dengue severity and hepatic involvement among dengue-positive patients in a tertiary center in Shadnagar.
Materials and Methods: A cross-sectional observational study of 100 dengue-positive patients was summarized using the demographic, dengue-severity and hepatic-involvement data.
Results: Mild, moderate and severe dengue accounted for 82%, 14% and 4% of the cohort, respectively. Hepatic involvement was reported in 52% of mild, 58% of moderate and 70% of severe cases. Demographic information was available for 100 patients; 68 (68%) were male and 32 (32%) female. The largest age group was 21–45 years (38, 38%), followed by 46–60 years (27, 27%), 13–20 years (24, 24%) and >60 years (11, 11%).
Conclusion: The proportion of hepatic involvement increased with dengue severity, supporting routine liver-function assessment in dengue patients.
Keywords: dengue, liver function test, hepatic involvement, grading.

INTRODUCTION

Dengue is a mosquito-borne viral infection ranging from uncomplicated febrile illness to severe dengue. Hepatic involvement is recognized and may range from mild aminotransferase elevation to severe hepatic dysfunction. Previous studies have reported increasing transaminase abnormalities with increasing disease severity.

2. Aim and Objectives

To study liver function abnormalities and hepatic involvement among dengue-positive patients in Shadnagar during 2024–2026.

Objectives: (1) determine dengue severity distribution; (2) assess hepatic involvement by severity; (3) describe age and sex distribution; and (4) assess relationships between liver enzymes and hematological parameters when patient-level laboratory data are available.

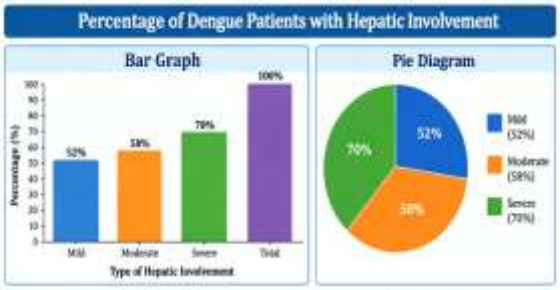
MATERIALS AND METHODS

Design: Cross-sectional retrospective observational study. Location: Shadnagar, Telangana. Period: 2024–2026. Sample: 100 dengue-positive patients. Variables included: dengue severity, hepatic involvement, age and sex; AST/SGOT, ALT/SGPT, Were collected and classified according to WHO classification of 2009 into mild, moderate, severe. The data was tabulated and analyzed.

Modern WHO 2009 grading system: mild: dengue without warning signs. Moderate dengue with warning signs like abdominal pain, persistent vomiting, fluid buildup, mucosal bleeding. Severe dengue is defined by severe plasma leakage or organ impairment.

RESULTS

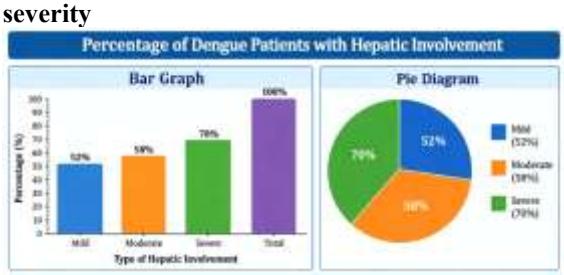
4.1 **Distribution of dengue severity**



Type of Hepatic Involvement	Percentage (%)
Mild	52%
Moderate	58%
Severe	70%
Total	100%

Among the 100 dengue-positive patients, 82 (82%) had mild dengue, 14 (14%) had moderate dengue and 4 (4%) had severe dengue. Mild dengue was therefore the predominant clinical category. This grading was done as per Modern WHO 2009 classification system.

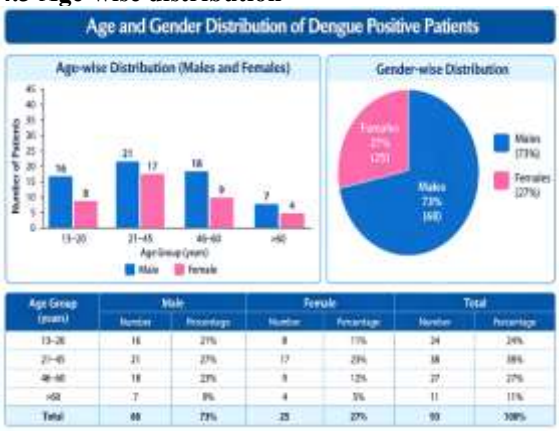
4.2 **Hepatic involvement according to dengue severity**



Type of Hepatic Involvement	Percentage (%)
Mild	52%
Moderate	58%
Severe	70%
Total	100%

Hepatic involvement was reported in 52% of patients with mild dengue, 58% of those with moderate dengue and 870% of those with severe dengue. The proportion increased progressively with dengue severity.

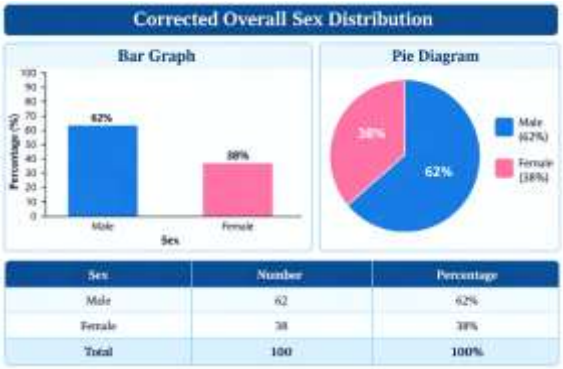
4.3 Age-wise distribution



Age Group (years)	Male		Female		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
13–20	16	27%	8	11%	24	24%
21–45	21	27%	17	23%	38	38%
46–60	18	23%	9	12%	27	27%
>60	7	9%	4	5%	11	11%
Total	68	73%	25	27%	93	100%

Out of 100 patients, 62 were male, 38 were female patients. Data was collected from all age groups starting from 13 years to 60 years. The largest age group was 21–45 years (38%), followed by 46–60 years (27%), 13–20 years (24%) and >60 years (11%).

4.4 Overall sex distribution



Sex	Number	Percentage
Male	62	62%
Female	38	38%
Total	100	100%

The male counts across age groups sum to 62 and the female counts sum to 38, giving the required study total of 100.

4.5 **Age-specific observations**

Among males, the highest number of patients was in the 21–45-year group (21 patients), followed by 46–60 years (18), 13–20 years (16) and >60 years (7). Among females, the corresponding counts were 17, 9, 8 and 4. Overall, the 21–45-year group accounted for 38% of the cohort and represented the largest age category.

4.6 **Consolidated results**

The study cohort consisted of 100 dengue-positive patients. Mild dengue predominated (82%), while moderate and severe dengue accounted for 14% and 4%, respectively. Hepatic involvement increased with increasing dengue severity, from 52% in mild disease to 58% in moderate disease and 70% in severe disease. The age distribution showed a predominance of patients aged 21–45 years (38%). Based on the internally consistent age-group counts, 62% of patients were male and 38% female.

DISCUSSION

The findings indicate that hepatic involvement becomes more frequent as dengue severity increases. The proportion rose from 52% in mild dengue to 58% in moderate dengue and 70% in severe dengue. This pattern is consistent with the recognized spectrum of hepatic involvement in dengue, in which aminotransferase abnormalities may become more prominent in more severe disease. The demographic distribution showed the greatest concentration in the 21–45-year age group. Using the internally consistent age-table counts, males constituted 62% and females 38% of the cohort. These descriptive findings should be interpreted in the context of the study population and do not establish causality.

CONCLUSION

In this 100-patient Shadnagar cohort, mild dengue was predominant (82%), followed by moderate (14%) and severe dengue (4%). Hepatic involvement increased with disease severity, occurring in 52% of mild, 58% of moderate and 70% of severe cases. The largest age group was 21–45 years (38%), and the corrected overall sex distribution was 62% male and 38% female. Routine liver-function assessment may therefore be useful in the clinical evaluation of dengue, particularly in patients with more severe disease.

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