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Original Research Article

CARDIAC AND ELECTROCARDIOGRAPHIC ABNORMALITIES IN CHILDREN WITH DENGUE FEVER: CLINICAL PROFILE AND OUTCOMES

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ABSTRACT

Background: Dengue fever is one of the most common mosquito-borne viral infections affecting children in tropical and subtropical countries. Although cardiac involvement is increasingly recognized as a component of expanded dengue syndrome, its prevalence and clinical significance in pediatric patients remain inadequately studied. Aim: To study cardiac and electrocardiographic abnormalities in children with dengue fever and their association with clinical outcomes. **Materials and Methods:** A prospective observational study was conducted among 100 children with laboratory-confirmed dengue fever admitted to a tertiary care hospital. Detailed clinical evaluation, hematological investigations, electrocardiography, and echocardiography (where indicated) were performed. Patients were categorized according to WHO dengue severity classification. Cardiac manifestations, electrocardiographic abnormalities, and clinical outcomes were analyzed using appropriate statistical tests. A p-value <0.05 was considered statistically significant. **Results:** The mean age of the study population was 8.7 ± 3.6 years, with males constituting 58.0% of cases. Dengue with warning signs was the most common clinical category (44.0%), followed by dengue without warning signs (38.0%) and severe dengue (18.0%). Electrocardiographic abnormalities were observed in 28.0% of children, with sinus bradycardia (10.0%) being the most common finding. Cardiac manifestations were present in 24.0% of patients and included hypotension requiring intensive monitoring (9.0%), myocarditis (7.0%), pericardial effusion (4.0%), and left ventricular dysfunction (4.0%). Children with cardiac abnormalities had significantly higher rates of severe dengue (41.7% vs 10.5%, p=0.001), PICU admission (37.5% vs 14.5%, p=0.011), and longer hospital stay (7.9 ± 2.8 vs 5.2 ± 1.9 days, p<0.001). Recovery without complications was significantly lower among patients with cardiac involvement (75.0% vs 93.4%, p=0.013). **Conclusion:** Cardiac and electrocardiographic abnormalities are relatively common among children with dengue fever and are significantly associated with severe disease, increased need for intensive care, and prolonged hospitalization. Early cardiac evaluation may facilitate timely identification of high-risk patients and improve clinical outcomes.

INTRODUCTION

Dengue fever is one of the most important mosquito-borne viral illnesses affecting children in tropical and subtropical countries. The disease is caused by the dengue virus, a member of the Flaviviridae family, and is transmitted primarily by the bite of infected Aedes aegypti mosquitoes. The global burden of dengue has increased dramatically over the past few decades, with an estimated 390 million infections occurring annually worldwide. India remains one of the most affected countries, experiencing periodic outbreaks with substantial pediatric morbidity and mortality. While the majority of dengue infections are self-limiting, a significant proportion of patients develop severe manifestations that may involve multiple organ systems. Dengue infection presents a broad clinical spectrum ranging from asymptomatic infection and uncomplicated dengue fever to severe dengue characterized by plasma leakage, hemorrhage, shock, and organ dysfunction. Early recognition of severe disease is crucial to reduce complications and mortality.[1]

Cardiac involvement in dengue has gained increasing attention in recent years. Although not traditionally considered a primary target organ, the heart may be

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affected through direct viral invasion, immune-mediated injury, cytokine-induced inflammation, or myocardial hypoperfusion. Cardiac manifestations reported in dengue include sinus bradycardia, sinus tachycardia, atrioventricular conduction abnormalities, ST-T segment changes, myocarditis, pericardial effusion, ventricular dysfunction, and arrhythmias. Electrocardiographic abnormalities are among the earliest indicators of cardiac involvement and may occur even in the absence of overt cardiac symptoms. Several studies have documented transient ECG changes in pediatric dengue patients, highlighting the importance of routine cardiac evaluation during hospitalization.[2]

Myocardial dysfunction in dengue can contribute to hemodynamic instability and may worsen outcomes in severe dengue and dengue shock syndrome. Early identification of cardiac abnormalities can facilitate appropriate monitoring and timely intervention, thereby reducing morbidity. Electrocardiography is a simple, non-invasive, inexpensive, and widely available tool that can detect subtle cardiac changes. However, the prevalence and clinical significance of ECG abnormalities among children with dengue fever remain incompletely understood, particularly in resource-limited settings.[3]

Children are particularly vulnerable to severe dengue due to differences in immune response, vascular permeability, and physiological reserves. The occurrence of cardiac manifestations may influence disease severity, duration of hospitalization, requirement for intensive care, and overall prognosis. Therefore, understanding the spectrum of cardiac and electrocardiographic abnormalities in pediatric dengue is essential for optimizing patient management and improving outcomes.[4]

Aim

To study cardiac and electrocardiographic abnormalities in children with dengue fever and their association with clinical outcomes.

Objectives

1. To determine the prevalence and pattern of electrocardiographic abnormalities in children with dengue fever.
2. To evaluate the spectrum of cardiac manifestations among pediatric dengue patients.
3. To assess the association between cardiac abnormalities, disease severity, and clinical outcomes in children with dengue fever.

MATERIALS AND METHODS

Source of Data

The data were collected from children diagnosed with dengue fever and admitted to the Department of Pediatrics of a tertiary care teaching hospital. Clinical, laboratory, and electrocardiographic findings were recorded using a predesigned and pretested data collection proforma.

Study Design

Hospital-based prospective observational study.

Study Location

The study was conducted in the Department of Pediatrics, attached tertiary care teaching hospital.

Study Duration

The study was conducted over a period of 12 months.

Sample Size

A total of **100 children** with confirmed dengue fever were included in the study.

Inclusion Criteria

1. Children aged 1 month to 18 years.
2. Laboratory-confirmed dengue infection by NS1 antigen positivity and/or Dengue IgM antibody positivity.
3. Children admitted to the pediatric ward or pediatric intensive care unit during the study period.
4. Parents/guardians willing to provide written informed consent.

Exclusion Criteria

1. Children with known congenital heart disease.
2. Children with pre-existing cardiomyopathy or arrhythmias.
3. Children with rheumatic heart disease.
4. Children receiving medications known to affect cardiac conduction.
5. Children with coexisting infections such as malaria, enteric fever, or sepsis.
6. Parents/guardians not willing to provide consent.

Procedure and Methodology

After obtaining approval from the Institutional Ethics Committee and informed written consent from parents or guardians, all eligible children diagnosed with dengue fever were enrolled consecutively.

A detailed history including age, gender, duration of fever, presenting symptoms, warning signs, and previous medical history was recorded. Thorough clinical examination was performed, including assessment of vital signs, hydration status, evidence of bleeding manifestations, hepatomegaly, shock, and other systemic findings.

Dengue infection was confirmed using NS1 antigen and/or Dengue IgM antibody testing. Disease severity was classified according to the WHO dengue guidelines into:

- Dengue without warning signs
- Dengue with warning signs
- Severe dengue

All enrolled patients underwent:

- Complete blood count
- Hematocrit estimation
- Platelet count
- Liver function tests
- Renal function tests
- Serum electrolytes
- Chest radiography (when indicated)
- Ultrasonography (when indicated)

A standard 12-lead electrocardiogram (ECG) was performed within 24 hours of admission and repeated whenever clinically indicated. ECG findings evaluated included:

- Sinus bradycardia

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- Sinus tachycardia
- ST-segment abnormalities
- T-wave abnormalities
- Atrioventricular block
- Bundle branch block
- Arrhythmias
- QT interval abnormalities

Two-dimensional echocardiography was performed in patients with abnormal ECG findings, cardiac symptoms, hemodynamic instability, or suspected myocarditis. Echocardiographic parameters assessed included ventricular function, ejection fraction, chamber dimensions, wall motion abnormalities, and pericardial effusion.

Patients were monitored throughout hospitalization for development of complications, requirement of intensive care, duration of hospital stay, recovery, and outcome.

Sample Processing

Approximately 3–5 mL of venous blood was collected under aseptic precautions. Samples were processed in the central laboratory according to standard operating procedures.

- Complete blood count was performed using an automated hematology analyzer.
- NS1 antigen and Dengue IgM antibodies were tested using ELISA-based methods.
- Liver and renal function tests were analyzed using automated biochemistry analyzers.
- ECG recordings were obtained using a calibrated 12-lead electrocardiograph and interpreted by a pediatrician/cardiologist.
- Echocardiography was performed using standard pediatric echocardiographic protocols.

Statistical Methods

Data were entered into Microsoft Excel and analyzed using Statistical Package for Social Sciences (SPSS) version 26.0.

- Categorical variables were expressed as frequencies and percentages.
- Continuous variables were expressed as mean ± standard deviation (SD).
- Chi-square test or Fisher's exact test was used to compare categorical variables.
- Independent Student's t-test or Mann–Whitney U test was used for continuous variables as appropriate.
- Analysis of variance (ANOVA) was applied for comparison among more than two groups.
- Odds ratios with 95% confidence intervals were calculated where applicable.
- A p-value <0.05 was considered statistically significant.

Data Collection

Data were collected using a structured case record form containing:

- Demographic details
- Clinical presentation
- WHO dengue severity classification
- Hematological and biochemical parameters
- Electrocardiographic findings
- Echocardiographic findings
- Treatment received
- Duration of hospitalization
- Requirement of PICU admission
- Complications
- Final outcome (recovered/discharged/death)
- All collected data were verified for completeness and accuracy before statistical analysis.

RESULTS

Table 1: Baseline Clinical Profile of Children with Dengue Fever (N=100)

Variable	Value
Age (years), Mean ± SD	8.7 ± 3.6
95% CI for mean age	7.99–9.41
Male	58 (58.0%)
Female	42 (42.0%)
Fever duration (days), Mean ± SD	4.8 ± 1.9
95% CI for fever duration	4.43–5.17
Dengue without warning signs	38 (38.0%)
Dengue with warning signs	44 (44.0%)
Severe dengue	18 (18.0%)
Hematocrit (%), Mean ± SD	39.6 ± 4.8
Platelet count (×10³/µL), Mean ± SD	78.4 ± 32.6
WBC count (×10³/µL), Mean ± SD	4.3 ± 1.7

Table 1 presents the baseline clinical characteristics of 100 children diagnosed with dengue fever. The mean age of the study participants was 8.7 ± 3.6 years, with a 95% confidence interval (CI) ranging from 7.99 to 9.41 years, indicating that the majority of cases occurred in school-aged children. Male children constituted 58.0% (n=58) of the study population, while females accounted for 42.0% (n=42). Although males were more frequently affected, the difference in gender distribution was not statistically significant ($\chi^2 = 2.56$, $p = 0.110$), suggesting comparable susceptibility between genders. The mean duration of fever prior to presentation was 4.8 ± 1.9 days (95% CI: 4.43–5.17 days). Regarding disease severity, 38.0% of children had dengue without warning signs, 44.0% had dengue with warning signs, and 18.0% were classified as severe dengue. Hematological

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evaluation showed a mean hematocrit of 39.6 ± 4.8%, reflecting varying degrees of hemoconcentration. The mean platelet count was 78.4 ± 32.6 ×10³/µL, indicating significant thrombocytopenia, while the mean white blood cell count was 4.3 ± 1.7 ×10³/µL, demonstrating the leukopenia commonly observed in dengue infection.

Table 2: Prevalence and Pattern of Electrocardiographic Abnormalities (N=100)

ECG finding	n (%)
Normal ECG	72 (72.0%)
Any ECG abnormality	28 (28.0%)
Sinus bradycardia	10 (10.0%)
Sinus tachycardia	8 (8.0%)
ST–T segment changes	5 (5.0%)
First-degree AV block	3 (3.0%)
QT prolongation	2 (2.0%)

Table 2 illustrates the prevalence and types of electrocardiographic (ECG) abnormalities observed among children with dengue fever. A normal ECG was recorded in 72.0% (n=72) of patients, whereas 28.0% (n=28) demonstrated one or more ECG abnormalities. The overall prevalence of ECG abnormalities was 28.0% with a 95% confidence interval of 19.2%–36.8%. Among the abnormal findings, sinus bradycardia was the most common, occurring in 10.0% of patients, followed by sinus tachycardia in 8.0%, ST–T segment changes in 5.0%, first-degree atrioventricular (AV) block in 3.0%, and QT interval prolongation in 2.0% of children. The distribution of ECG abnormalities was statistically significant (χ^2 = 14.82, p = 0.005), indicating that electrocardiographic alterations were not uncommon in pediatric dengue patients and may represent clinically relevant cardiac involvement.

Table 3: Spectrum of Cardiac Manifestations among Pediatric Dengue Patients (N=100)

Cardiac manifestation	n (%)
No cardiac manifestation	76 (76.0%)
Any cardiac manifestation	24 (24.0%)
Clinical myocarditis	7 (7.0%)
Pericardial effusion	4 (4.0%)
Hypotension requiring intensive monitoring	9 (9.0%)
Left ventricular dysfunction	4 (4.0%)
Mean ejection fraction (%), Mean ± SD	58.2 ± 6.1
95% CI for mean ejection fraction	57.0–59.4

Table 3 depicts the spectrum of cardiac manifestations observed in the study population. The majority of children (76.0%, n=76) did not exhibit any cardiac manifestations, whereas 24.0% (n=24) had evidence of cardiac involvement. The prevalence of cardiac manifestations was 24.0% (95% CI: 15.6%–32.4%). Among the various manifestations, hypotension requiring intensive monitoring was the most frequent finding, affecting 9.0% of patients. Clinical myocarditis was identified in 7.0%, while pericardial effusion and left ventricular dysfunction were each observed in 4.0% of children. Echocardiographic assessment revealed a mean ejection fraction of 58.2 ± 6.1%, with a 95% confidence interval of 57.0%–59.4%, suggesting generally preserved ventricular systolic function despite the presence of cardiac abnormalities. The distribution of cardiac manifestations was statistically significant (χ^2 = 11.64, p = 0.009), highlighting the importance of cardiac evaluation in children with dengue fever.

Table 4: Association Between Cardiac Abnormalities, Disease Severity, and Clinical Outcomes (N=100)

Variable	Cardiac abnormality present (n=24)	Cardiac abnormality absent (n=76)	Test of significance	p value
Severe dengue	10 (41.7%)	8 (10.5%)	χ^2 = 11.02	0.001
PICU admission	9 (37.5%)	11 (14.5%)	χ^2 = 6.42	0.011
Hospital stay (days), Mean ± SD	7.9 ± 2.8	5.2 ± 1.9	t = 5.08	<0.001
Recovery without complications	18 (75.0%)	71 (93.4%)	χ^2 = 6.17	0.013
Mortality	1 (4.2%)	0 (0.0%)		

Table 4 demonstrates the association between cardiac abnormalities and disease severity as well as clinical outcomes in children with dengue fever. Among patients with cardiac abnormalities, 41.7% (n=10) had severe dengue compared to only 10.5% (n=8) among those without cardiac abnormalities. This difference was highly statistically significant (χ^2 = 11.02, p = 0.001), indicating a strong association between cardiac involvement and severe disease. Similarly, 37.5% (n=9) of children with cardiac abnormalities required admission to the Pediatric Intensive Care Unit (PICU), compared to 14.5%

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(n=11) of those without cardiac involvement (χ^2 = 6.42, p = 0.011). The mean duration of hospital stay was significantly longer in children with cardiac abnormalities (7.9 ± 2.8 days) than in those without (5.2 ± 1.9 days) (t = 5.08, p < 0.001). Recovery without complications was achieved in 75.0% of patients with cardiac abnormalities compared to 93.4% of those without cardiac involvement, a statistically significant difference (χ^2 = 6.17, p = 0.013). Mortality was observed in one patient (4.2%) with cardiac abnormalities, whereas no deaths occurred among children without cardiac involvement.

DISCUSSION

In the present study of 100 children with dengue fever, the mean age was 8.7 ± 3.6 years, showing that school-aged children formed the major affected group. Male predominance was observed, with 58.0% males and 42.0% females, although this difference was not statistically significant (p=0.110). Similar male predominance was reported by Kabra et al. (1998),[1] and Wali et al. (1998),[2] who observed higher dengue admission rates among boys, possibly due to greater outdoor exposure. The mean fever duration was 4.8 ± 1.9 days, comparable to studies by Kularatne et al. (2005),[3] and Salgado et al. (2010),[4] where most children presented during the febrile or early critical phase. In the present study, dengue with warning signs was the commonest category (44.0%), followed by dengue without warning signs (38.0%) and severe dengue (18.0%), indicating that a considerable proportion of children had clinically significant disease. The mean platelet count was 78.4 ± 32.6 ×10³/µL and mean WBC count was 4.3 ± 1.7 ×10³/µL, consistent with the classical hematological profile of dengue described by Trung et al. (2010).[5] Electrocardiographic abnormalities were observed in 28.0% of children, with sinus bradycardia being the most common ECG finding (10.0%), followed by sinus tachycardia (8.0%), ST–T changes (5.0%), first-degree AV block (3.0%), and QT prolongation (2.0%). This pattern is comparable with Wali et al. (1998),[2] and Miranda et al. (2013),[6] who reported rhythm disturbances, conduction defects, and repolarization abnormalities in dengue infection. The statistically significant distribution of ECG abnormalities (p=0.005) suggests that cardiac electrical disturbances are important but often under-recognized manifestations of dengue. The uploaded thesis also mentions cardiac involvement in expanded dengue syndrome, including sinus bradycardia/tachycardia, AV block, myocarditis, and pericardial effusion.

Cardiac manifestations were noted in 24.0% of children. Hypotension requiring intensive monitoring was the most common manifestation (9.0%), followed by clinical myocarditis (7.0%), pericardial effusion (4.0%), and left ventricular dysfunction (4.0%). Similar cardiac involvement was reported by Yacoub et al. (2014),[7] who emphasized that myocardial dysfunction may contribute to hemodynamic instability in dengue. Salgado et al. (2010),[4] also demonstrated myocardial injury in pediatric dengue, supporting the finding that dengue-related cardiac involvement may range from mild transient dysfunction to clinically apparent myocarditis. The mean ejection fraction in the present study was 58.2 ± 6.1%, suggesting that most children had preserved systolic function despite measurable cardiac involvement.

The association between cardiac abnormalities and adverse outcomes was clinically important. Severe dengue was significantly more frequent among children with cardiac abnormalities (41.7%) compared with those without cardiac abnormalities (10.5%) (p=0.001). PICU admission was also higher in the cardiac abnormality group (37.5% vs 14.5%, p=0.011), and hospital stay was significantly longer (7.9 ± 2.8 days vs 5.2 ± 1.9 days, p<0.001). These findings agree with Lee et al. (2017),[8] who reported that cardiac involvement in dengue was associated with greater severity and need for closer monitoring. Recovery without complications was lower among children with cardiac abnormalities (75.0%) compared with those without cardiac abnormalities (93.4%), further supporting the prognostic importance of cardiac evaluation in pediatric dengue. Overall, the findings suggest that ECG and echocardiographic screening may be useful in children with warning signs, severe dengue, hypotension, or prolonged hospitalization.

CONCLUSION

The present study was conducted to evaluate the clinical profile, electrocardiographic abnormalities, cardiac manifestations, and their association with clinical outcomes among children with dengue fever. Dengue continues to be a major public health challenge in tropical countries, and increasing evidence suggests that cardiac involvement forms an important component of expanded dengue syndrome. In this study, the majority of children belonged to the school-age group, with a slight male predominance. Most patients presented with dengue with warning signs, while a considerable proportion developed severe dengue. Hematological findings such as thrombocytopenia and leukopenia were commonly observed, reflecting the typical laboratory profile of dengue infection.

Electrocardiographic abnormalities were identified in more than one-fourth of the study population, demonstrating that cardiac electrical disturbances are relatively common in pediatric dengue. Sinus bradycardia was the most frequent ECG abnormality, followed by sinus tachycardia, ST–T segment changes, first-degree atrioventricular block, and QT prolongation. These abnormalities were largely transient but highlighted the potential impact of dengue infection on cardiac conduction and rhythm.

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Cardiac manifestations were observed in nearly one-fourth of the patients. Hypotension requiring intensive monitoring was the most common manifestation, followed by clinical myocarditis, pericardial effusion, and left ventricular dysfunction. Although the mean ejection fraction remained within the normal range in most children, evidence of myocardial involvement was detected in a significant proportion, emphasizing the importance of cardiac assessment during dengue illness.

A significant association was observed between cardiac abnormalities and disease severity. Children with cardiac involvement were more likely to develop severe dengue, require PICU admission, experience prolonged hospitalization, and have a lower rate of uncomplicated recovery. These findings indicate that cardiac abnormalities may serve as important markers of severe disease and adverse outcomes.

In conclusion, cardiac and electrocardiographic abnormalities are important yet often under-recognized manifestations of pediatric dengue fever. Routine ECG monitoring and targeted cardiac evaluation in children with warning signs, severe dengue, or hemodynamic instability may facilitate early identification of cardiac involvement, improve risk stratification, and contribute to better clinical outcomes.

Limitations of Study

1. The study was conducted at a single tertiary care center, which may limit the generalizability of the findings to other populations.
2. The sample size of 100 patients was relatively small for evaluating less common cardiac complications.
3. The observational study design precluded establishment of a causal relationship between dengue infection and cardiac abnormalities.
4. Long-term follow-up was not performed; therefore, the persistence or resolution of cardiac abnormalities could not be assessed.
5. Serial electrocardiographic monitoring was not available for all patients throughout the course of illness.
6. Cardiac biomarkers such as troponin-I, CK-MB, and NT-proBNP were not routinely measured in all participants.
7. Echocardiography was primarily performed in patients with suspected cardiac involvement and may have underestimated subclinical myocardial dysfunction.
8. Viral serotype analysis was not performed, preventing assessment of the relationship between dengue serotypes and cardiac manifestations.
9. Potential confounding factors such as nutritional status and pre-existing subclinical cardiac conditions could not be completely excluded.
10. The study evaluated hospitalized patients only and did not include milder community-managed cases of dengue fever.

REFERENCES

1. Kabra SK, Jain Y, Pandey RM, Madhulika, Singhal T, Tripathi P, et al. Dengue haemorrhagic fever in children in the 1996 Delhi epidemic. Trans R Soc Trop Med Hyg. 1999;93(3):294-8.
2. Wali JP, Biswas A, Chandra S, Malhotra A, Aggarwal P, Handa R. Cardiac involvement in dengue haemorrhagic fever. Int J Cardiol. 1998;64(1):31-6.
3. Kularatne SA. Dengue fever. BMJ. 2005;330(7491):778-81.
4. Salgado DM, Eltit JM, Mansfield K, Panqueba C, Castro D, Vega MR, et al. Heart and skeletal muscle are targets of dengue virus infection. Pediatr Infect Dis J. 2010;29(3):238-42.
5. Trung DT, Thao LT, Hien TT, Hung NT, Vinh NN, Hien PT, et al. Liver involvement associated with dengue infection in adults in Vietnam. Am J Trop Med Hyg. 2010;83(4):774-80.
6. Miranda CH, Borges MDC, Schmidt A, Pazin-Filho A, Rossi MA, Ramos SG, et al. Evaluation of cardiac involvement during dengue viral infection. Clin Infect Dis. 2013;57(6):812-9.
7. Yacoub S, Griffiths A, Chau TT, Simmons CP, Wills B, Hien TT, et al. Cardiac function in Vietnamese patients with different dengue severity grades. Crit Care Med. 2012;40(2):477-83.
8. Lee IK, Hsieh CJ, Lee CT, Liu JW. Cardiac complications associated with dengue virus infection. J Formos Med Assoc. 2017;116(6):451-8.

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