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Clinical and Demographic Profile of Pediatric Dengue Cases in Barshi, India: A Retrospective Study

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Abstract

Background:

Dengue is a major public health concern in India, especially in rural areas. Pediatric populations are particularly vulnerable, with varying clinical manifestations. This study examines the demographic and clinical profiles of dengue-positive children admitted to a rural hospital in Barshi, Maharashtra.

Methods:

A retrospective study was conducted involving 50 pediatric patients (aged 0–18 years) admitted between June and December 2023. Diagnosis was confirmed using NS1 antigen and IgM/IgG antibody ELISA testing. Clinical features, laboratory findings, and radiological data were analyzed.

Results:

The most affected age group was 5-10 years (36%) with male predominance (70%). Fever (96%), vomiting (52%), and rash (66%) were the most common symptoms. NS1 antigen was positive in 72% of patients. Thrombocytopenia was noted in 60% of cases, with SGOT elevation more common than SGPT. Radiological findings included ascites (24%) and pleural effusion (22%). The overall mortality was 4%.

Conclusion:

The clinical profile of pediatric dengue in rural Barshi shows classical symptoms along with some atypical presentations. Early diagnosis using NS1 antigen and routine monitoring of hematological markers are essential to reduce complications.

Keywords: Dengue, Pediatrics, Seroprevalence, NS1 Antigen, India, Thrombocytopenia

1. INTRODUCTION

Dengue fever is an arthropod-borne viral illness caused by the dengue virus (DEN-1 to DEN-4), transmitted via the Aedes aegypti mosquito. Globally, over 2.5 billion people are at risk, particularly in tropical regions. In India, both urban and rural areas face increasing outbreaks. Pediatric dengue can range from mild febrile illness to life-threatening complications like dengue hemorrhagic fever (DHF) or dengue shock syndrome (DSS). This study aims to understand the clinical and demographic patterns of dengue in children hospitalized in Barshi.

2. Materials and Methods

Study Design: Retrospective analysis of confirmed dengue cases.



Study Setting: Kalyanraoji Bhatlawande Balrugnalaya ICU, Barshi.

Sample Size: 50 pediatric patients (0–18 years) admitted from June–December 2023.

Inclusion Criteria:

- Confirmed dengue infection by NS1 antigen and/or IgM/IgG ELISA
- WHO 2009 dengue classification

Exclusion Criteria:

- Co-infections (e.g., malaria, typhoid)
- Known chronic conditions

Data Collection:

Demographic data, clinical presentation, laboratory results (Hb, WBC, SGOT, SGPT, platelet count), and radiological findings were extracted from medical records.

3. Results

3.1 Demographics

- Male: 35 (70%), Female: 15 (30%)
- Most affected: 5–10 years (36%)

3.2 Clinical Features

Symptom	% of Patients
Fever	96%
Skin Rash	66%
Vomiting	52%
Abdominal Pain	26%
Cough & Cold	18%
Nasal Bleeding	10%
Altered Sensorium	10%
Abnormal Movements	4%

3.3 Laboratory Findings

- NS1 Positive: 72%
- IgM/IgG: 28%
- Thrombocytopenia (<100,000/mm³): 60%
- SGOT elevated in 82%, SGPT in 58%

3.4 Radiological Findings

Finding	Percentage
Ascites	24%
Pleural Effusion	22%
Hepatomegaly	18%



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Finding	Percentage
Hepatosplenomegaly	10%
Gallbladder Wall Edema	10%

3.5 Outcomes

- Severe dengue: 16%
- Mortality: 4% (2 patients)
- Mean hospital stay: 3-10 days

4. Discussion

This study aligns with previous research indicating male predominance and common involvement of children aged 5–10 years. Fever and thrombocytopenia were key indicators of dengue infection. NS1 antigen detection proved to be a reliable early marker. Elevated SGOT was more frequent than SGPT, consistent with hepatic involvement in dengue. Radiological findings such as ascites and pleural effusion reflect capillary leakage. The case fatality rate (4%) was within the expected range, underlining the need for early intervention in severe cases.

5. Conclusion

Pediatric dengue cases in Barshi show classical symptoms with occasional atypical presentations like seizures and altered consciousness. NS1-based screening and monitoring of blood parameters are critical in reducing complications and mortality. Strengthening surveillance and awareness in rural regions is recommended.

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