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Platelet Recovery Time Among Hospitalized Pediatric Dengue Patients: A Retrospective Observational Study

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ABSTRACT

Introduction: Dengue is a common cause of pediatric hospitalization in Bangladesh, and thrombocytopenia is a frequently monitored hematological abnormality. Local evidence on platelet recovery time among thrombocytopenic hospitalized children remains limited. **Aim:** To assess platelet recovery time among hospitalized pediatric dengue patients. **Methods & Materials:** This retrospective observational study was conducted the Department of Pediatrics, Ibn Sina Medical College Hospital, Dhaka, Bangladesh, over a three-month period from January to March 2026. Pediatric patients with laboratory-confirmed dengue (positive NS1 antigen, dengue IgM, or dengue IgG) were included. Demographic, clinical, hematological, and biochemical data were extracted from hospital records. The primary outcome was incident platelet recovery, defined as the first follow-up complete blood count showing a platelet count ≥100,000/cmm among patients with baseline platelet count <100,000/cmm. Descriptive statistics summarized recovery patterns. **Results:** Among 56 hospitalized pediatric dengue patients, the mean age was 85.5 ± 45.9 months, and 42 (75.0%) were male. Fever occurred in all patients, while nausea/vomiting (71.4%), headache (53.6%), and abdominal pain (46.4%) were common. At baseline, 46 patients (82.1%) had platelet counts <100,000/cmm, including 28 (50.0%) with counts <50,000/cmm. The mean baseline platelet count was 58,696 ± 39,544/cmm, with a median of 48,000/cmm (IQR: 24,675–86,250). Among the 46 eligible patients, 34 (73.9%) achieved platelet recovery, whereas 12 (26.1%) did not recover during follow-up. Median recovery time was 2.0 days (IQR: 2.0–3.0). Cumulative recovery reached 43.5% by Day 2, 67.4% by Day 3, and 73.9% by Day 5. Recovery occurred in 92.9% of patients with baseline platelet counts <50,000/cmm versus 44.4% with 50,000–99,999/cmm. **Conclusion:** Platelet recovery occurred early in most thrombocytopenic hospitalized pediatric dengue patients. Serial platelet monitoring is useful but should be interpreted alongside clinical status, warning signs, hematocrit changes, and illness timing.

Keywords: *Pediatric dengue; Platelet recovery; Thrombocytopenia; Hospitalized children.*

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INTRODUCTION

Dengue remains a major pediatric public health concern in tropical and subtropical countries, including Bangladesh, where recurrent outbreaks place a substantial burden on hospital services. The global incidence of dengue has increased markedly in recent decades, and the World Health Organization reported that more than 14.6 million cases were notified globally in 2024, with severe dengue often requiring hospitalization and close clinical monitoring [1]. Bangladesh experienced a particularly large outbreak in 2023, and subsequent national and regional studies have emphasized the continued importance of early recognition, supportive care, and low-cost laboratory monitoring in dengue case management [2,3]. Children are clinically important in this context because they may progress rapidly from febrile illness to plasma leakage, shock, or bleeding, and a systematic review and meta-analysis identified childhood itself as a predictor of severe dengue [4]. In hospital practice, platelet count is one of the most frequently repeated laboratory parameters in dengue because thrombocytopenia is common, easily measurable, and closely followed by clinicians and caregivers. Pediatric data from Bangladesh support this concern. Islam et al. described clinical and hematological profiles among 123 children with dengue in Tangail and found that low platelet count was significantly more common among children with dengue hemorrhagic fever or dengue shock syndrome [5]. Rahat et al. reported thrombocytopenia in 187 of 280 seropositive children and observed a significant relationship between severity of thrombocytopenia, raised hematocrit, and dengue warning signs [6]. Similarly, Datta et al., in a cohort of 192 hospitalized Bangladeshi children aged 12 years or below, evaluated platelet count in relation to severity and outcome and reported that platelet counts were monitored daily from illness day 3 to day 7 [7]. Regional pediatric profiles from India have also described thrombocytopenia, warning signs, and variable clinical severity among hospitalized children with dengue [8]. These studies show that platelet count is central to the clinical assessment of pediatric dengue in South Asian hospital settings. Evidence from outside South Asia also supports serial platelet monitoring. In a large prospective study of 2,301 Vietnamese children hospitalized with dengue, Lam et al. (2017) showed that sequential daily platelet counts provided useful additional information for identifying children at risk of dengue shock syndrome. Ralapanawa et al., in a Sri Lankan hospital-based study, found that platelet counts differed between dengue fever and dengue hemorrhagic fever groups and that peripheral blood count parameters had value for severity prediction [9]. A systematic review of early prognostic markers also found robust evidence that lower platelet counts were associated with later development of severe dengue [10]. More recent work has shifted attention from platelet count as a static severity marker to platelet change over time. Pribadi et al. specifically addressed the recovery phase in children with dengue and noted that platelet recovery is one sign of clinical recovery, while the neutrophil-lymphocyte ratio showed association with platelet improvement [11]. Khanam et al., in a Bangladeshi pediatric study, directly reported platelet trends and recovery time, making it one of the few local studies close to the present research question [12]. However, most available pediatric dengue studies focus on admission platelet count, severity classification, bleeding, shock, or outcome. Few studies specifically describe

incident platelet recovery time among hospitalized children who are thrombocytopenic at baseline, and this targeted evidence gap is particularly relevant for hospitals where discharge planning and follow-up decisions often depend on serial CBC reports. Therefore, the present retrospective observational study was conducted to describe platelet recovery patterns among hospitalized pediatric dengue patients, with incident platelet recovery defined among children whose baseline platelet count was below 100,000/cmm.

METHODS & MATERIALS

This retrospective observational study was conducted the Department of Pediatrics, Ibn Sina Medical College Hospital, Dhaka, Bangladesh, over a three-month period from January to March 2026 to assess platelet recovery time among hospitalized pediatric dengue patients. Children with laboratory-confirmed dengue infection, based on a positive NS1 antigen and dengue IgM test, were eligible for inclusion. Eligible patients had been hospitalized for at least three consecutive days, had received standard supportive treatment, and had serial platelet count records available from admission until documented platelet recovery or discharge. Only patients with sufficiently complete medical records containing the required demographic, clinical, and laboratory information were included. Patients were excluded if they had a pre-existing hematological disorder, including leukemia, aplastic anemia, or immune thrombocytopenia, that could independently affect platelet counts. Patients with chronic liver disease, malignancy, or another severe systemic illness likely to influence platelet recovery were also excluded. In addition, children who received platelet transfusion before documentation of platelet recovery, as well as those referred to another facility or discharged against medical advice before adequate follow-up, were excluded. All included patients received standard supportive care for a minimum of three days as part of their hospitalization. Standard management included intravenous fluid therapy for rehydration and maintenance, administration of antipyretics (paracetamol) for fever control, and close monitoring of hemodynamic status and warning signs. Serial hematological parameters were recorded from complete blood count reports performed during hospitalization. Platelet count was assessed at baseline and subsequently according to the clinical follow-up schedule, usually once daily for the first three days and then on alternate follow-up days, such as Day 5, and Day 7, until platelet recovery was documented. The primary outcome was time to platelet recovery, defined as the first treatment day on which the platelet count reached ≥100,000/cmm. Demographic variables included age and sex, while laboratory variables included hemoglobin, total white blood cell count, differential leukocyte count, hematocrit, platelet count, and available biochemical parameters. Age was analyzed in months, and serial hematological reports were arranged chronologically for each patient. Data were cleaned, standardized, and checked for inconsistencies before analysis. Descriptive statistics were used to summarize demographic, hematological, biochemical, and platelet recovery characteristics. Categorical variables were presented as frequencies and percentages, while continuous variables were summarized using mean with standard deviation and median with interquartile range, as appropriate. Platelet recovery was reported overall and according to treatment day and baseline platelet category. As this was a single-arm observational study without a control group, findings were interpreted as platelet recovery patterns among pediatric dengue patients receiving standard supportive care, without making comparative or causal claims regarding specific treatment efficacy. Patient confidentiality was maintained throughout the study by anonymizing patient identifiers, and the study was conducted using routinely available clinical records.

RESULTS

Among the 56 hospitalized pediatric dengue patients, the mean age was 85.5 ± 45.9 months, while the median age was 96.0 months, with an interquartile range of 47.2 to 120.0 months. Most patients were male, accounting for 42 cases, or 75.0% of the study population. Regarding age distribution, the largest proportion of patients belonged to the 60 to 119-month age group, 39.3%, followed by those aged 120 months or older, 28.6%, and those aged 12 to 59 months, 25.0%. At baseline, 28 patients, 50.0%, had platelet counts below 50,000/cmm, while 18 patients, 32.1%, had counts between 50,000 and 99,999/cmm. Overall, 46 patients, 82.1%, had baseline platelet counts below 100,000/cmm. The remaining 10 patients, 17.9%, had platelet counts between 100,000 and 149,999/cmm, and no patient had a baseline platelet count of 150,000/cmm or higher (*Table I*).

Table I

Demographic characteristics and baseline platelet status of hospitalized pediatric dengue patients.

Characteristic	Value
Age	
<12 months	4 (7.1)
12 to 59 months	14 (25.0)
60 to 119 months	22 (39.3)
≥120 months	16 (28.6)
Age, months, mean ± SD	85.5 ± 45.9
Age, months, median (IQR)	96.0 (47.2, 120.0)
Gender	
Male	42 (75.0)
Female	14 (25.0)
Baseline platelet category	
<50,000/cmm	28 (50.0)
50,000 to 99,999/cmm	18 (32.1)
100,000 to 149,999/cmm	10 (17.9)
≥150,000/cmm	0 (0.0)

Note. Values are presented as n (%) unless otherwise specified.

Among the recorded clinical symptoms, fever was present in all 56 patients, 100.0%. Nausea or vomiting was reported in 40 patients, 71.4%, while headache was present in 30 patients, 53.6%. Abdominal pain occurred in 26 patients, 46.4%, and myalgia or body aches were reported in 22 patients, 39.3%. Abdominal distention was documented in 16 patients, 34.8%, while skin rash was present in 15 patients, 26.8%. Retro-orbital pain occurred in 12 patients, 21.4%. Bleeding manifestations and

breathing difficulty were recorded in 10 patients, 17.9%, and 8 patients, 17.4%, respectively. Because symptoms were non-exclusive, individual patients could have presented with more than one clinical feature (*Table II*).

Table II
Clinical symptoms of hospitalized pediatric dengue patients.

Symptom	n (%)
Fever	56 (100.0)
Nausea or Vomiting	40 (71.4)
Headache	30 (53.6)
Abdominal pain	26 (46.4)
Myalgia or Body aches	22 (39.3)
Skin rash	15 (26.8)
Retro-orbital pain	12 (21.4)
Bleeding manifestations	10 (17.9)
Abdomen Distention	16 (34.8)
Breathing Difficulty	8 (17.4)

Note. Symptoms are non-exclusive; patients may present with multiple symptoms.

At baseline, the mean hemoglobin concentration was 11.7 ± 1.9 g/dL, while the median hemoglobin concentration was 11.6 g/dL, with an interquartile range of 10.2 to 12.8 g/dL. The mean packed cell volume or hematocrit was 44.6 ± 5.4%, and the corresponding median was 35.0%, with an interquartile range of 31.8 to 39.0%. For white blood cell parameters, the mean total WBC count was 4,234 ± 3,543 cells/cmm, while the median count was 5,010 cells/cmm, with an interquartile range of 3,860 to 6,995 cells/cmm. The mean baseline platelet count was 58,696 ± 39,544 cells/cmm, and the median platelet count was 48,000 cells/cmm, with an interquartile range of 24,675 to 86,250 cells/cmm (*Table III*).

Table III
Baseline hematological profile of hospitalized pediatric dengue patients.

Parameter	Value
Red cell parameters	
Hemoglobin, g/dL, mean ± SD	11.7 ± 1.9
Hemoglobin, g/dL, median (IQR)	11.6 (10.2, 12.8)
PCV/Hematocrit, %, mean ± SD	44.6 ± 5.4
PCV/Hematocrit, %, median (IQR)	35.0 (31.8, 39.0)
White cell parameters	
Total WBC count, cells/cmm, mean ± SD	4,234 ± 3,543
Total WBC count, cells/cmm, median (IQR)	5,010 (3,860, 6,995)
Platelet parameters	
Baseline platelet count, cells/cmm, mean ± SD	58,696 ± 39,544
Baseline platelet count, cells/cmm, median (IQR)	48,000 (24,675, 86,250)

Note. Baseline refers to the earliest available hematology report. RBC = red blood cell; WBC = white blood cell; PCV = packed cell volume; IQR = interquartile range; SD = standard deviation.

At baseline, considerable variability was observed in the measured inflammatory markers. The mean C-reactive protein level was 38.45 ± 60.52 mg/L, while the median level was 3.58 mg/L, with an interquartile range of 1.47 to 46.05 mg/L. The mean ferritin concentration was 929.9 ± 1,273.3 ng/mL, and the median concentration was 539.0 ng/mL, with an interquartile range of 282.9 to 1,113.1 ng/mL. For liver-related parameters, the mean ALT or SGPT level was 78.3 ± 70.0 U/L, while the median level was 60.5 U/L, with an interquartile range of 39.2 to 83.0 U/L. The mean serum albumin concentration was 2.8 ± 0.4 g/dL, and the median concentration was 3.5 g/dL, with an interquartile range of 3.3 to 3.7 g/dL (*Table IV*).

Table IV
Baseline biochemical profile of hospitalized pediatric dengue patients.

Parameter	Value
Inflammatory markers	
C-reactive protein, mg/L, mean ± SD	38.45 ± 60.52
C-reactive protein, mg/L, median (IQR)	3.58 (1.47, 46.05)
Ferritin, ng/mL, mean ± SD	929.9 ± 1273.3
Ferritin, ng/mL, median (IQR)	539.0 (282.9, 1113.1)
Liver and renal parameters	
ALT/SGPT, U/L, mean ± SD	78.3 ± 70.0
ALT/SGPT, U/L, median (IQR)	60.5 (39.2, 83.0)
Serum proteins	
Albumin, g/dL, mean ± SD	2.8 ± 0.4
Albumin, g/dL, median (IQR)	3.5 (3.3, 3.7)

Note. ALT/SGPT = alanine aminotransferase/serum glutamic pyruvic transaminase; CO_2 = carbon dioxide; IQR = interquartile range; SD = standard deviation.

Among the 56 hospitalized pediatric dengue patients, 10 patients (17.9%) had baseline platelet counts of at least 100,000/cmm and had therefore already met the predefined platelet recovery threshold. The remaining 46 patients (82.1%) had baseline platelet counts below 100,000/cmm and were eligible for incident recovery analysis. During the available complete blood count follow-up period, 34 of the 46 eligible patients (73.9%) achieved incident platelet recovery to ≥100,000/cmm, whereas 12 patients (26.1%) did not achieve platelet recovery within the available follow-up period. Among the patients who recovered, the median time to platelet recovery was 2.0 days (IQR: 2.0 to 3.0 days) (*Table V*).

Table V
Incident platelet recovery outcomes among patients with baseline platelet count <100,000/cmm.

Outcome	Value
Total hospitalized pediatric dengue patients	56 (100.0)
Baseline platelet ≥100,000/cmm, already met recovery threshold	10 (17.9)
Baseline platelet <100,000/cmm, eligible for incident recovery analysis	46 (82.1)
Incident platelet recovery among eligible patients	34 (73.9)
No incident platelet recovery within available CBC follow-up	12 (26.1)
Incident recovery day among recovered patients, median (IQR)	2.0 (2.0, 3.0)

Among the 46 patients with baseline thrombocytopenia, 20 patients recovered on Day 2, representing 43.5% of eligible patients and 58.9% of the 34 patients who recovered. Recovery on Day 3 was recorded in 11 patients, corresponding to 17.4% of eligible patients and 32.3% of recovered patients. An additional 3 patients recovered on Day 5, representing 4.3% of eligible patients and 8.8% of recovered patients. Platelet recovery was not documented within the available complete blood count follow-up period for 12 patients, representing 34.8% of the eligible group (*Table VI*).

Table VI
Distribution of incident platelet recovery day among thrombocytopenic patients at baseline.

Recovery status	n	% of eligible patients, n = 46	% of recovered patients, n = 34
Recovered on Day 2	20	43.5	58.9
Recovered on Day 3	11	17.4	32.3
Recovered on Day 5	3	4.3	8.8
Not recovered within available CBC follow-up	12	34.8	—

Among the 46 thrombocytopenic patients eligible for follow-up, cumulative platelet recovery was documented in 20 patients by Day 2, corresponding to 43.5% of the eligible group. By Day 3, the cumulative number of recovered patients had increased to 31, representing 67.4% of eligible patients. By Day 5, a total of 34 patients had recovered, corresponding to 73.9% of the eligible group. Recovery was not documented within the available complete blood count follow-up period for 12 patients, representing 26.1% of the eligible patients (*Table VII*).

Table VII
Cumulative incident platelet recovery among thrombocytopenic patients at baseline.

	Cumulative recovered, n	% of eligible patients, n = 46
By Day 2	20	43.5
By Day 3	31	67.4
By Day 5	34	73.9
Not recovered within available CBC follow-up	12	26.1

Among the 46 thrombocytopenic patients eligible for incident recovery analysis, 28 patients, 60.9%, had baseline platelet counts below 50,000/cmm, while 18 patients, 39.1%, had baseline platelet counts between 50,000 and 99,999/cmm. Within the <50,000/cmm category, 26 of 28 patients, 92.9%, achieved platelet recovery to ≥100,000/cmm. The median recovery day in this group was Day 2.0, with an IQR of Day 2.0 to Day 2.5. The median baseline and final platelet counts were 24,550 cells/cmm and 138,000 cells/cmm, respectively. Within the 50,000 to 99,999/cmm category, 8 of 18 patients, 44.4%, achieved platelet recovery. The median recovery day was Day 2.5, with an IQR of Day 2.0 to Day 3.0. The median baseline platelet count was 56,000 cells/cmm, while the median final platelet count was 91,000 cells/cmm. Overall, 34 of the 46 eligible patients, 73.9%, achieved incident platelet recovery, with a median recovery day of Day 2.0, IQR Day 2.0 to Day 3.0 (*Table VII*).

Table VIII
Incident platelet recovery according to baseline platelet category among thrombocytopenic patients.

Baseline platelet category	Patients, n (%)	Incident recovery to ≥100,000/cmm, n (%)	Recovery day among recovered patients, median (IQR)	Baseline platelet count, median (IQR), cells/cmm	Final platelet count, median (IQR), cells/cmm
<50,000/cmm	28 (60.9)	26 (92.9)	2.0 (2.0, 2.5)	24,550 (17,375, 25,000)	138,000 (106,250, 160,250)
50,000 to 99,999/cmm	18 (39.1)	8 (44.4)	2.5 (2.0, 3.0)	56,000 (50,000, 61,000)	91,000 (71,000, 110,000)
Total	46 (100.0)	34 (73.9)	2.0 (2.0, 3.0)	—	—

DISCUSSION

Among the 56 hospitalized pediatric dengue patients, the mean age was 85.5 ± 45.9 months, and the median age was 96.0 months (IQR: 47.2–120.0). Most patients were male (75.0%), while the largest age group was 60–119 months (39.3%), followed by those aged ≥120 months (28.6%), 12–59 months (25.0%), and <12 months (7.1%). Although the study was not designed to evaluate age- or sex-related differences, this distribution indicates that school-aged children and boys constituted most hospital admissions in the cohort. Clinically, fever was present in all patients (100.0%), while nausea or vomiting (71.4%), headache (53.6%), abdominal pain (46.4%), and myalgia or body aches (39.3%) were common. Abdominal distention was reported in 34.8%, followed by skin rash in 26.8%, retro-orbital pain in 21.4%, bleeding manifestations in 17.9%, and breathing difficulty in 17.4%. Taken together, these findings demonstrate a mixed systemic and gastrointestinal presentation, with bleeding occurring in fewer than one-fifth of patients despite the high prevalence of thrombocytopenia. Therefore, platelet count should be interpreted alongside the overall clinical condition rather than used alone to infer bleeding risk or disease severity. At baseline, thrombocytopenia was prominent, with 28 patients (50.0%) having platelet counts <50,000/cmm and another 18 (32.1%) having counts between 50,000 and 99,999/cmm. Consequently, 46 patients (82.1%) had platelet counts <100,000/cmm, while 10 (17.9%) had counts between 100,000 and 149,999/cmm, and none had counts ≥150,000/cmm. The mean platelet count was 58,696 ± 39,544/cmm, and the median was 48,000/cmm (IQR: 24,675–86,250). The high frequency of thrombocytopenia is comparable with the 87.2% reported in a multicenter Bangladeshi pediatric study and the 78.3% reported among hospitalized Bangladeshi children [7,13]. Similarly, thrombocytopenia has been described as a frequent hematological feature among pediatric dengue patients in India [14]. However, lower frequencies of 42.3% and 66.78% have also been reported in Bangladeshi pediatric populations [5,6]. Differences in admission criteria, illness day at presentation, disease severity, and platelet thresholds may explain this variation. Regarding the remaining hematological findings, the mean hemoglobin concentration was 11.7 ± 1.9 g/dL, with a median of 11.6 g/dL (IQR: 10.2–12.8), while the mean hematocrit was 44.6 ± 5.4%, with a median of 35.0% (IQR: 31.8–39.0). The mean total WBC count was 4,234 ± 3,543 cells/cmm, and the median was 5,010 cells/cmm (IQR: 3,860–6,995), indicating that reduced or low-normal leukocyte counts were also common. Although hematocrit and leukocyte values were not assessed as predictors, their inclusion is clinically relevant because dengue monitoring depends on trends in platelet count, hematocrit, hemodynamic status, and warning signs. The studies by Khan et al. and Ralapanawa et al. found that platelet count, particularly when interpreted with hematocrit and other blood-count parameters, contributed to the assessment of dengue severity [9,13]. The study by Datta et al. also associated lower platelet counts with dengue shock syndrome, PICU admission, and longer hospitalization [7]. Within the biochemical profile, substantial variability was observed in inflammatory markers. The mean CRP was 38.45 ± 60.52 mg/L, while the median was 3.58 mg/L (IQR: 1.47–46.05); similarly, the mean ferritin level was 929.9 ± 1,273.3 ng/mL, with a median of 539.0 ng/mL (IQR: 282.9–1,113.1). Such wide dispersion suggests heterogeneous inflammatory responses and possible influence from a small number of markedly elevated values. Liver involvement was also evident, with a mean ALT of 78.3 ± 70.0 U/L and a median of 60.5 U/L (IQR: 39.2–83.0). Serum albumin was reported at a mean of 2.8 ± 0.4 g/dL and a median of 3.5 g/dL (IQR: 3.3–3.7), suggesting that reduced albumin levels were present in at least part of the cohort. These biochemical abnormalities may reflect systemic inflammation, hepatic involvement, or plasma leakage; however, their relationships with severity and platelet recovery could not be assessed in the present descriptive analysis. For the primary outcome, 10 patients had already reached the platelet recovery threshold of ≥100,000/cmm at baseline, leaving 46 patients eligible for incident recovery analysis. Among these patients, 34 (73.9%) achieved recovery during available CBC follow-up, while 12 (26.1%) did not. The median recovery time among recovered patients was 2.0 days (IQR: 2.0–3.0). Compared with the mean recovery time of 4.12 ± 1.23 days reported in a Bangladeshi pediatric study, recovery occurred earlier in the present cohort [12]. The study by Datta et al. reported normalization around illness Day 8 or 9, while other pediatric observations have described recovery periods of approximately four days. [7,15]. However, direct comparison is limited because the present analysis measured time from the first available hospital CBC, whereas other studies may have measured recovery from symptom onset, platelet nadir, admission, or another clinical reference point. Regarding the distribution of recovery, 20 patients recovered on Day 2, representing 43.5% of eligible patients and 58.9% of all recovered patients. A further 11 patients, 32.3% of recovered patients, recovered on Day 3, while 3 patients, 8.8%, recovered on Day 5. Cumulative recovery therefore reached 43.5% by Day 2, 67.4% by Day 3, and 73.9% by Day 5. This early recovery pattern indicates that most documented improvement occurred within the first three follow-up days. The study by Lam et al. demonstrated that sequential platelet measurements provided additional clinical information in hospitalized children with dengue, although their analysis focused on predicting shock rather than recovery time [16]. Similarly, the study by Pribadi et al. considered rising platelet count an indicator of the recovery phase, while the systematic review by Thach et al. confirmed the prognostic importance of lower platelet counts during the dengue disease course [10,11]. Among patients with baseline platelet counts <50,000/cmm, 26 of 28 patients (92.9%) achieved recovery, compared with 8 of 18 patients (44.4%) in the 50,000–99,999/cmm group. The median recovery day was 2.0 days (IQR: 2.0–2.5) in the lower platelet group and 2.5 days (IQR: 2.0–3.0) in the higher group. Median baseline platelet counts were 24,550/cmm and 56,000/cmm, respectively, while median final counts were 138,000/cmm and 91,000/cmm. Although the markedly higher recovery proportion in the <50,000/cmm group is notable, it should not be interpreted as evidence that more severe thrombocytopenia predicts faster recovery. Studies have generally associated lower

platelet counts with greater clinical severity rather than more rapid improvement [7,9,13]. This unexpected pattern may reflect differences in illness day at admission, proximity to the platelet nadir, closer monitoring of severely thrombocytopenic patients, small subgroup sizes, or incomplete follow-up among patients with moderate thrombocytopenia. Overall, the findings provide a detailed description of demographic, clinical, hematological, biochemical, and platelet recovery patterns among hospitalized pediatric dengue patients. Nevertheless, interpretation is limited by the retrospective single-center design, small sample size, variable CBC follow-up, lack of adjustment for illness day and dengue severity, and possible missing biochemical measurements. Because recovery was based on available hospital records, platelet improvement occurring after discharge may also have been missed. Despite these limitations, the high prevalence of thrombocytopenia, early cumulative recovery, and substantial subgroup differences support the practical value of serial platelet monitoring while emphasizing that platelet trends must be interpreted together with clinical status, hematocrit, warning signs, and overall disease progression.

LIMITATIONS

This study was limited by its retrospective single-center design, small sample size, and reliance on routinely available hospital records. Serial CBC follow-up was not uniform for all patients, and platelet recovery after discharge may not have been captured. The analysis also did not adjust for illness day at admission, dengue severity, platelet transfusion, or other clinical factors that may influence platelet recovery.

CONCLUSION

This retrospective observational study demonstrates that thrombocytopenia is a prominent hematological feature among hospitalized pediatric dengue patients. Among children who were thrombocytopenic at baseline, platelet recovery generally occurred during the early follow-up period, although a proportion did not reach the predefined recovery threshold within the available hospital monitoring period. Differences in recovery patterns across baseline platelet categories should be interpreted cautiously because they may reflect variation in illness stage at admission, monitoring frequency, clinical severity, and follow-up availability. Serial platelet assessment remains useful for describing hematological recovery during inpatient dengue management, but platelet count should not be interpreted in isolation or used as the sole basis for clinical or discharge decisions.

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CONFLICT OF INTEREST

None declared

ETHICAL APPROVAL

The study was approved by the Institutional Ethics Committee

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