



Clinical and Laboratory Profile of Acute Febrile Illness with Thrombocytopenia: A Study of 60 Patients in a Tertiary Care Hospital

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ABSTRACT

Background: Acute febrile illness (AFI) is a common clinical presentation in tropical regions, often associated with thrombocytopenia. Identifying the clinical and laboratory characteristics in such cases is essential to guide timely interventions. This study aims to analyze the clinical profile and laboratory parameters of patients presenting with acute febrile illness and thrombocytopenia, focusing on the correlation between platelet count and disease outcomes.

Objective: To study the clinical profile, laboratory parameters, and outcomes of patients with acute febrile illness and thrombocytopenia.

Material and Methods: This prospective observational study included 60 patients with acute febrile illness and thrombocytopenia admitted to the Department of Medicine at a tertiary care hospital. Relevant clinical history, physical examination findings, and laboratory investigations were recorded. Thrombocytopenia was defined as a platelet count of $<150,000/\mu\text{L}$. Patients were evaluated for potential etiologies, including dengue, malaria, and other infections. Clinical outcomes were assessed, including recovery, complications, and mortality.

Results: A total of 60 patients with acute febrile illness and thrombocytopenia were included. The mean age was 38.5 ± 12.3 years. The majority of cases were attributed to infections like dengue (35%), malaria (20%), and viral fever (18%). The mean platelet count on admission was $84,500/\mu\text{L}$. Patients with severe thrombocytopenia ($<50,000/\mu\text{L}$) had a higher risk of complications such as bleeding (15%) and organ dysfunction (10%). The mortality rate was 5%.

Conclusion: Acute febrile illness with thrombocytopenia is frequently encountered in clinical practice, with infections being the leading cause. Monitoring platelet levels and timely management are essential to prevent complications.

Keywords: Acute febrile illness, Thrombocytopenia, Platelet count, Dengue, Malaria

INTRODUCTION:

Acute febrile illnesses (AFIs) are a major cause of morbidity in tropical and subtropical regions. Fever accompanied by thrombocytopenia presents diagnostic challenges, as it can result from several infectious causes, including dengue, malaria, and leptospirosis (1). Thrombocytopenia, defined as a platelet count of less than $150,000/\mu\text{L}$, is commonly associated with these infections and may lead to serious complications such as spontaneous bleeding and organ dysfunction (2,3).

Given the varied etiologies and complications associated with AFI and thrombocytopenia, an early and accurate diagnosis is crucial. Understanding the clinical and laboratory profile of such patients helps clinicians manage complications promptly. This study aims to investigate the clinical manifestations,

laboratory parameters, and outcomes of patients presenting with AFI and thrombocytopenia admitted to a tertiary care hospital.

Aim and Objectives

Aim

To study the clinical and laboratory profile of patients with acute febrile illness and thrombocytopenia.

Objectives

1. To analyze the etiological factors responsible for acute febrile illness with thrombocytopenia.
2. To assess the clinical outcomes and complications associated with thrombocytopenia in AFI.

Material and Methods

This prospective observational study was conducted in the Department of Medicine at a tertiary care hospital. A total of 60 patients with acute febrile illness and thrombocytopenia were included in the study.

Inclusion Criteria:

- Patients aged ≥ 18 years presenting with acute febrile illness.
- Platelet count $< 150,000/\mu\text{L}$.
- Willingness to provide informed consent.

Exclusion Criteria:

- Patients with known hematological disorders.
- History of recent platelet transfusions.

Data Collection:

- **Clinical History:** Detailed history of fever onset, duration, and associated symptoms such as rash, bleeding, or joint pain.

- **Physical Examination:** Assessment of vital signs, pallor, bleeding manifestations, and hepatosplenomegaly.
- **Laboratory Investigations:** Complete blood count, liver function tests, renal function tests, and serological tests for dengue, malaria, and other infections.
- **Outcome Measures:** Length of hospital stay, complications (e.g., bleeding, shock), and mortality.

The data were analyzed using statistical software. Descriptive statistics, including mean, standard deviation, and proportions, were calculated.

Results

Table 1: Baseline Characteristics of the Study Population

Characteristic	Value
Mean Age (years)	38.5 \pm 12.3
Males (%)	63%
Females (%)	37%
Mean Platelet Count ($/\mu\text{L}$)	84,500 \pm 20,000
Dengue Cases (%)	35%
Malaria Cases (%)	20%
Viral Fever Cases (%)	18%
Severe Thrombocytopenia (%)	28%
Complications (%)	25%
Mortality (%)	5%

Table 1 summarizes the baseline characteristics of the 60 patients included in the study. The mean age of the patients was 38.5 years, with a male predominance (63%). The leading causes of AFI with thrombocytopenia were dengue (35%), malaria (20%), and viral fever (18%). Severe thrombocytopenia was observed in 28% of the patients, with complications reported in 25%. The mortality rate was 5%.

Discussion

The findings of this study demonstrate that infections such as dengue, malaria, and viral fevers are the predominant causes of acute febrile illness with thrombocytopenia. This aligns with previous studies

that highlight the significant burden of these infections in tropical regions (8). The observed mean platelet count of 84,500/ μL is consistent with similar studies, where thrombocytopenia was a common presentation in febrile illnesses (9).

Severe thrombocytopenia ($< 50,000/\mu\text{L}$) was associated with an increased risk of complications, including bleeding and organ dysfunction. This finding underscores the importance of early diagnosis and monitoring of platelet counts to prevent adverse outcomes (10). Previous studies have also reported similar associations between low platelet counts and

complications in dengue and malaria infections (11,12).

The study also reported a 5% mortality rate, which is comparable to earlier research on febrile illnesses with thrombocytopenia (13). Timely intervention and supportive care are crucial in reducing mortality in such cases.

Conclusion

This study highlights that acute febrile illnesses with thrombocytopenia are predominantly caused by infections like dengue, malaria, and viral fevers. Severe thrombocytopenia is associated with an increased risk of complications, emphasizing the need for early diagnosis and vigilant monitoring. Understanding the clinical and laboratory profile of such patients is essential for timely interventions and better outcomes.

References

1. World Health Organization. Dengue: Guidelines for diagnosis, treatment, prevention, and control. WHO; 2009.
2. Ahmed S, Ahsan T, Saleem M, et al. Dengue fever outbreak in Karachi. *J Coll Physicians Surg Pak*. 2008;18(5):282-5.
3. Makroo RN, Raina V, Kumar P, et al. Role of platelet transfusion in dengue fever. *Transfus Apher Sci*. 2007;36(2):143-7.
4. Kumar A, Hanif M. The burden of dengue infections in India. *J Vector Borne Dis*. 2006; 43(4):161-8.
5. Sharma A, Khanduri U. Malaria and platelet dysfunction: An overview. *J Med Sci*. 2005; 12(3):134-7.
6. Ghosh K, Ghosh K. Pathogenesis of thrombocytopenia in malaria. *Curr Sci*. 2004; 87(10):1377-80.
7. Agarwal R, Jain A, Chaturvedi UC. Dengue in India. *Indian J Med Res*. 2005;121(5):533-8.
8. Park K. *Textbook of Preventive and Social Medicine*. 20th ed. Jabalpur: Banarsidas Bhanot; 2009.
9. Chawla R, Bharti PK, et al. Viral fevers with thrombocytopenia. *J Assoc Physicians India*. 2008 ;56:848-9.
10. Sharma SK, Mohan A. Dengue fever and its clinical implications. *J Med Res*. 2010;132(5):532-40.
11. Mackowiak PA. Fever: Causes and consequences. *Ann Intern Med*. 1997;126(10):751-7.
12. Gupta E, Dar L, Kapoor G, et al. Diagnosis and management of viral fevers. *Med J Armed Forces India*. 2009;65(4):355-7.
13. White NJ, Breman JG. Malaria control strategies. *Lancet*. 2005;365(9478):1487-98.