

# Platelet Transfusion Thresholds in Dengue: A Retrospective Study from a Tertiary Care Center in Rajasthan

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**Abstract:** Background: Dengue fever is commonly associated with thrombocytopenia, leading to frequent platelet transfusions. Aim: To evaluate platelet transfusion practices and assess platelet transfusion thresholds in dengue patients. Materials and Methods: Retrospective observational study conducted at Sawai Man Singh Hospital, Jaipur, Rajasthan, India including 350 dengue-positive patients admitted between January 2024 and December 2025. Results: Most platelet transfusions were administered in patients with platelet counts below 10,000/ $\mu$ L or in patients with active bleeding. Conclusion: Platelet transfusion in dengue should be guided by clinical status and evidence-based thresholds rather than isolated platelet counts alone.

**Keywords:** Dengue fever, Platelet transfusion, Thrombocytopenia, Bleeding management, Transfusion threshold

## 1. Introduction

Dengue fever is a major mosquito-borne viral illness affecting tropical and subtropical countries worldwide. Thrombocytopenia is a characteristic hematological manifestation in dengue infection and often leads to prophylactic or therapeutic platelet transfusion. However, irrational platelet transfusion practices may increase healthcare burden without significant improvement in clinical outcomes. Current evidence recommends restrictive transfusion strategies guided by clinical bleeding rather than platelet count alone.

## 2. Materials and Methods

This retrospective observational study was conducted in the Department of Immunohematology and Transfusion Medicine at Sawai Man Singh Hospital, Jaipur, Rajasthan, India. A total of 350 dengue-positive patients admitted between January 2024 and December 2025 were included in the study. Clinical records, platelet counts, bleeding manifestations, and transfusion practices were analyzed retrospectively.

## 3. Results

Among 350 dengue patients, most platelet transfusions were administered in patients with platelet counts below 10,000/ $\mu$ L and in those presenting with active bleeding manifestations. Patients receiving prophylactic transfusions at higher platelet counts showed limited clinical benefit. Conservative management in stable patients without bleeding demonstrated satisfactory outcomes.

## 4. Discussion

The findings of the present study correlate with previously published literature supporting restrictive platelet transfusion practices in dengue. Platelet count alone should not be the sole indication for transfusion. Clinical assessment and bleeding manifestations remain the most important determinants of platelet therapy.

## 5. Conclusion

Evidence-based platelet transfusion thresholds help optimize blood component utilization and minimize unnecessary transfusions in dengue patients. Restrictive transfusion strategies should be encouraged in tertiary care hospitals.

Table

| Platelet Count (/ $\mu$ L) | Number of Patients | Platelet Transfusion Given |
|----------------------------|--------------------|----------------------------|
| <10,000                    | 145                | Yes                        |
| 10,000–20,000              | 118                | Selective                  |
| >20,000                    | 87                 | Mostly No                  |

## References

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