

ORIGINAL ARTICLE

INCIDENCE OF BLEEDING MANIFESTATIONS IN FEVER WITH THROMBOCYTOPENIA CASES

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ABSTRACT: INTRODUCTION: Fever is the cardinal manifestation of infection. Platelets are necessary to prevent bleeding manifestations. Certain infections cause thrombocytopenia and bleeding manifestations. **AIMS AND OBJECTIVES:** To study the incidence of bleeding manifestations in infections which cause fever and thrombocytopenia. **MATERIALS AND METHODS: INCLUSION CRITERIA:** Patients who were admitted with fever and thrombocytopenia, aged above 12 years, in S.V.R.R.G.G.H, Tirupati were taken for the study. **EXCLUSION CRITERIA:** Patients who are admitted with thrombocytopenia and without fever were excluded. Patients who are admitted with fever and normal platelet count were excluded. **RESULTS AND CONCLUSION:** Fever with thrombocytopenia is the commonest presenting problem in the medical wards. In the present study the commonest infectious etiology of fever with thrombocytopenia was malaria fever (36%), followed by undiagnosed fevers (28%), dengue fever (26%), typhoid fever (6%) and scrub typhus (4%). In the present study bleeding manifestations were seen in 16 cases (32%) and bleeding manifestations were not seen in 34 cases (68%). The commonest bleeding manifestation was cutaneous, followed by hematemesis, malena, bleeding gums, hematuria and epistaxis. Bleeding manifestation was commonly seen in thrombocytopenia with dengue fever (14%), followed by malaria (8%), undiagnosed cases (8%) and typhoid (2%).

KEYWORDS: Fever, Thrombocytopenia, Epistaxis, Malena, Hematemesis, Hematuria.

INTRODUCTION: Thrombocytopenia is defined as a platelet count less than the normal range, typically below 1,50,000/ μ l.¹ In the absence of qualitative platelet defects, excessive bleeding does not occur in thrombocytopenia patients following trauma or surgery unless the platelet count is lower than 75,000/ μ l. In otherwise hemostatically normal patients, spontaneous hemorrhage typically does not occur with platelet count above 30,000/ μ l. Patients with platelet count <5000-10,000/ μ l are at high risk for spontaneous, life threatening hemorrhage. However there is no absolute threshold for spontaneous bleeding due to thrombocytopenia. It may occur at higher counts when fever, sepsis, severe anemia and other hemostatic defects are present or when platelet function is impaired by medication.

Thrombocytopenia is due to one of the following mechanisms.

1. Increased destruction, which is seen in immune mediated cases.
2. Decreased production due to bone marrow disease.
3. Sequestration of platelets within the spleen, which is seen in splenomegaly (hypersplenism).

Wet bleeding is much more ominous than dry bleeding. Signs of wet bleeding include epistaxis, gingival bleeding, GIT or genitourinary bleeding or bleeding around intravenous sites.

ORIGINAL ARTICLE

Dry bleeding is defined as ecchymosis or petechiae. Overt bleeding is that is clearly due to thrombocytopenia is usually treated with platelet transfusion. An A.M. temperature of more than 37.2°C (98.9°F) or P.M. temperature of $>37.7^{\circ}\text{C}$ (99.9°F) would define fever.² Most of the diseases like dengue, malaria, typhoid, leptospirosis, military T.B., H.I.V., septicemia are associated with abnormal platelet count (<1.5 lakh).³ Established infective causes like dengue fever is well known for fever with thrombocytopenia.⁴ Nair PS conducted study of fever with thrombocytopenia and concluded septicemia was the commonest cause.⁵ Septicemia resulting from gram negative and gram-positive organisms is the commonest cause of thrombocytopenia.⁶

AIMS AND OBJECTIVES: To study the incidence of bleeding manifestations in fever with thrombocytopenia cases.

MATERIALS AND METHODS: Blood samples were collected retrospectively from patients with fever and thrombocytopenia who were admitted in S.V.R.R.G.G.H., Tirupati. Detailed clinical history noted. And complete physical examination was done. All cases were analyzed for platelet count, malarial parasite, dengue antibody, widal and other relevant lab investigations.

INCLUSION CRITERIA: 50 patients of (both female and male) aged above 12 years with fever and thrombocytopenia admitted in S.V.R.R.G.G.H., Tirupati were taken.

EXCLUSION CRITERIA: Patients admitted with thrombocytopenia and without fever were excluded. Patients admitted with fever and normal platelet count were excluded.

RESULTS:

	No. of Cases	Percentage
Bleeding manifestations	16	32%
No bleeding manifestations	34	68%
Total	50	100%

Table 1: Incidence of bleeding manifestations and no bleeding manifestations.

Sl. No.	Type of bleeding manifestations	No. of Cases	Percentage
1	Bleeding gums	4	8%
2	Malena	6	12%
3	Hematemesis	6	12%
4	Petechiae and purpura	8	16%
5	Hematuria	4	8%
6	epistaxis	1	2%

Table 2: Incidence of type of bleeding manifestations.

ORIGINAL ARTICLE

Platelet count	No. of cases	Percentage
<50,000	9	18%
50,000- 1,00,000	7	14%
1,00,000 – 1,50,000	0	0%

Table 3: Bleeding manifestations in relation to the severity of thrombocytopenia.

Sl. No.	Infectious etiology	No. of cases	Percentage
1	Malaria	4	8%
2	Dengue	7	14%
3	Typhoid	1	2%
4	Scrub typhus	0	0%
5	Undiagnosed cases	4	8%

Table 4: Incidence of bleeding manifestations in relation to the infective etiology.

DISCUSSION: Thrombocytopenia is common in malaria, especially in falciparum type and is due to sequestration, immune mediated destruction with elevated platelet activated immunoglobulin, followed by dengue fever due to immune mediated mechanisms⁷. The observation of SCOTT et al suggested that while patients with malaria may be predisposed to the development of thrombocytopenia, a reduced platelet count might also be due in part to pseudothrombocytopenia.⁸ Bleeding is uncommon with platelet count above $50 \times 10^6/l$ and severe spontaneous bleeding is unusual with platelet count above $20 \times 10^6/l$.⁹ Transient thrombocytopenia occurs with systemic infections. Thrombocytopenia occurs in 50-75% of patients with bacterial or fungal infections, it also occurs in association with viral infections (including HIV).¹⁰

Among the 50 patients commonest cause of fever with thrombocytopenia was found as malaria in 18 patients (36%). This was followed by undiagnosed cases of 14(28%), followed by dengue fever cases of 13(26%), typhoid fever cases of 3(6%), Scrub typhus cases of 2(4%). In the present study bleeding manifestations were seen in 16 cases (32%) and bleeding manifestations were not seen in 34 cases (68%). The commonest bleeding manifestation was cutaneous in the form of petechiae and purpura, which was seen in 8 cases (16%), followed by hematemesis (12%), malena (12%), bleeding gums (8%), hematuria (8%) and epistaxis (2%).

The incidence of bleeding manifestations is 18% in severe thrombocytopenia (<50,000), followed by 14% in moderate thrombocytopenia (50,000 -1,00,000). There were no bleeding manifestations in cases where platelet count was between 1,00,000-1,50,000. Bleeding is common in thrombocytopenia with dengue fever (14%) followed by malaria (8%), undiagnosed cases (8%) and typhoid (2%).

SUMMARY AND CONCLUSION: Fever with thrombocytopenia is the commonest problem in the medical wards. Malaria fever was the commonest cause of fever with thrombocytopenia followed by dengue fever. Bleeding is not attributable to thrombocytopenia if platelet count is >1,00,000.

ORIGINAL ARTICLE

Bleeding is usually due to thrombocytopenia if platelet count is <50,000/ μ l. Bleeding manifestations commonly seen in dengue fever with thrombocytopenia.

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