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Original Research Article

ASSESSMENT OF FEBRILE THROMBOCYTOPENIA AT A TERTIARY CARE CENTRE

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ABSTRACT

Background: Thrombocytopenia is a common manifestation reported among cases of pyrexia which can also manifest as purpura. However, purpura can be divided in two types either thrombocytopenic or non-thrombocytopenic. According to morphology platelets are anucleate cells with a life span of 8 to10 days and play vital function for hemostasis. In various studies it was reported that cases of febrile thrombocytopenia had very wide etiology which also influenced by the treatment modality. **Material & Methods:** In present study200 Patients who were presenting with pyrexia and confirmed with thrombocytopenia from laboratory investigations were enrolled from outdoor and from ward by simple random sampling. Clearance from Institutional Ethics Committee was taken before start of study. **Results:** In the present study, 74 (37%) patients had viral fever which was followed by malarial infections in 44 (22%) patients, which was followed by dengue fever among 40 (20%) patients. Scrub typhus was reported among 26 (13%) patients and septicemia was reported among 12 (6%) patients. Leptospirosis was reported among 4 (2%) patients. Majority of patients 102 (51%) had platelet countbetween100000 to 150000 per cubic mm, which was followed by platelet count between 50000 to 100000 per cubic mm among 66 (33%) patients. 24 (12%) patients had platelet count less than 20000 per cubic mm. **Conclusion:** Viral fever reported among most of the patients of febrile thrombocytopenia followed by malaria and dengue fever. Fever was the most common symptom followed by headache, myalgia, chills and rigors, pallor, cough, rashes, jaundice, breathlessness and bleeding diathesis.

KEY WORDS: Fever, Thrombocytopenia, Viral fever.

INTRODUCTION

Thrombocytopenia is a common manifestation reported among cases of pyrexia which can also manifest as purpura. However, purpura can be divided in two types either thrombocytopenic or non-thrombocytopenic **(1).** According to morphology platelets are anucleate cells with a life span of 8 to10 days and play vital function for hemostasis. In various studies it was reported that cases of febrile thrombocytopenia had very wide etiology which was influenced by the treatment modality. It was established that the criteria of platelet count to diagnose with febrile is set at platelet count of less than 1,50,000**(2).**Causes of febrile thrombocytopenia are divided majorly among infective causes such as dengue virus, mumps, rubella, varicella, parvo virus, hepatitis, Epstein bar virus, cytomegalo virus, H I V, malaria, leptospirosis, rickettsial infections and gram-negative sepsis. Other than infections several malignancies such as leukemia and lymphomas also cause febrile thrombocytopenia. Some other conditions like aplastic anemia, SLE, ITP, TTP, HUS and DIC also cause febrile thrombocytopenia**(3).** Hence, correct diagnosis and reporting of fever cases is essential to start a proper management protocol after symptomatic evaluation.

Since febrile thrombocytopenia had very diverse etiology, all the primitive and preventive approach was conducted in the early stages to modify the main

outcome of the underlying pathology. All necessary investigation is applied to unveil the underlying cause and pathology for the treatment protocol **(4).** Among all the above stated pathologies pyrexia is common sign which is due to rise in body temperature higher than normal which is regulated by thermoregulatory centers located in the front portion of the hypothalamus **(5).**Expanded sequestration in spleen was reported in many studies as common etio-pathology for the febrile thrombocytopenia due to diminished creation along with expanded obliteration **(6).** Hence, we conducted the present study to assess the clinical profile of patients with febrile thrombocytopenia at our tertiary care centre.

MATERIALS & METHODS

The present prospective study was conducted at Department of General Medicine of our tertiary care hospital. The study duration was of one year from September 2017 to August 2018. A sample size of 200 was calculated at 95% confidence interval at 10% acceptable margin of error by epi info software version 7.2. Patients who were presenting with pyrexia and confirmed with thrombocytopenia from laboratory investigations were enrolled from outdoor and from ward by simple random sampling. Clearance from Institutional Ethics Committee was taken before start of study. Written informed consent was taken from each study participant.

The data were collected by detailed history, general physical and clinical examination from each patient (above 12 years of age) after taking the written consent. Danger signs and symptoms were assessed such as dehydration, altered sensorium, icterus, convulsion and examination was done for hepatomegaly and splenomegaly. The hematological investigation was done for complete blood count and erythrocyte sedimentation rate. Patients who had afebrile thrombocytopenia and patients with congenital thrombocytopenia were excluded from the present study. Data analysis was carried out using SPSS v22. All tests were done at alpha (level significance) of 5%; means a significant association present if p value was less than 0.05.

RESULTS

In the present study we enrolled 200 patients of pyrexia with thrombocytopenia who were aged from 14 to 40 years. The mean age of the enrolled pregnant women was 22.89 ± 8.14 years. There was no patient in the present study that aged less than 12 years of age. Out of total patients diagnosed with malaria 56% were male and 44% were females. In the present study out of two hundred patients, 74 (37%) patients had viral fever which was followed by malarial infections in 44 (22%) patients, which was followed by dengue fever among 40 (20%) patients. Scrub typhus was reported among 26 (13%) patients and septicaemia was reported among 12 (6%) patients. Leptospirosis was reported among 4 (2%) patients. (Table 1)

Table No.-1: Distribution of patients according to etiologic profile.

Etiology	No. of Patients	Percentage (%)
Viral fever	74	37%
Malaria	44	22%
Dengue fever	40	20%
Scrub typhus	26	13%
Septicemia	12	6%
Leptospirosis	4	2%

In the present study, out of two hundred patients, majority of patients 102 (51%) had platelet count between 100000 to 150000 per cubic mm, which was followed by platelet count between 50000 to 100000 per cubic mm among 66 (33%) patients. 24 (12%) patients had platelet count less than 20000 per cubic mm (Table 2).

Table No.-2: Distribution of patients according to severity of thrombocytopenia.

Platelet count	No. of Patients	Percentage (%)
Less than 20000 per cubic mm	8	4
20000 to 50000 per cubic mm	24	12
50000 to 100000 per cubic mm	66	33
100000 to 1500000 per cubic mm	102	51

In the present study, out of two hundred patients, fever was the most common symptom and present among all the patients. Headache was present in 168 (84%) patients which were followed by myalgia present in 156 (78%) patients, followed by chills and rigors which were present in 108 (54%) patients of febrile thrombocytopenia. Among 84 (42%) patients' pallor was reported which was followed by cough among 54 (27%) patients followed by rashes which was present in 52 (26%) patients of febrile thrombocytopenia. Among 38 (19%) patients' jaundice was reported which was followed by breathlessness among 30 (15%) patients followed by

bleeding diathesis which was present in 14 (7%) patients of febrile thrombocytopenia. (Table 3)

Table No.-3: Distribution of patients according to clinical presentation.

Clinical parameter	No. of Patients	Percentage (%)
Fever	200	100**%**
Headache	168	84**%**
Myalgia	156	78**%**
Chills and rigors	108	54**%**
Pallor	84	42**%**
Cough	54	27**%**
Rashes	52	26**%**
Jaundice	38	19**%**
Breathlessness	30	15**%**
Bleeding	14	7**%**

DISCUSSION

It was established that the criteria of platelet count to diagnose with febrile is set at platelet count of less than 1, 50,000. Causes of febrile thrombocytopenia are divided majorly among infective causes such as dengue virus, mumps, rubella, varicella, parvo virus, and hepatitis, Epstein bar virus, cytomegalo virus, H I V, malaria, leptospirosis, rickettsial infections and gram-negative sepsis. Other than infections several malignancies such as leukemia and lymphomas also cause febrile thrombocytopenia. Some other conditions like aplastic anemia, SLE, ITP, TTP, HUS and DIC also cause febrile thrombocytopenia (3).In the present study we enrolled 200 patients of pyrexia with thrombocytopenia who were aged from 14 to 40 years. The mean age of the enrolled pregnant women was 22.89 ± 8.14 years. There was no patient in the present study that aged less than 12 years of age. Out of total patients diagnosed with malaria 56% were male and 44% were females. In the present study out of two hundred patients, 74 (37%) patients had viral fever which was followed by malarial infections in 44 (22%) patients, which was followed by dengue fever among 40 (20%) patients. Scrub typhus was reported among 26 (13%) patients and septicaemia was reported among 12 (6%) patients. Leptospirosis was reported among 4 (2%) patients.

Similar results were reported in a study conducted by Gondhali MP et al among 100 patients of febrile thrombocytopenia who aged more than 12 years of age and found that the most common ethology among majority of cases was dengue fever. Bleeding diathesis was present in 15% patients along with rashes 14% of patients and 10% of patients had warning sign for spontaneous bleeding, 5% of patients had septicaemia. Full recovery was seen in 94% patients. Dengue fever was reported to responsible high grade fever with thrombocytopenia **(7).**In the present study, out of two hundred patients, majority of patients 102 (51%) had platelet countbetween100000 to 150000 per cubic mm, which was followed by platelet count between 50000 to 100000 per cubic mm among 66 (33%) patients. 24 (12%) patients had platelet count less than 20000 per cubic mm. Similar results were reported in a study conducted by Raikar et al among 100 patients of febrile thrombocytopenia and found that male preponderance in their study. Bleeding diathesis was found among 4% patients however there was no association was found between bleeding and thrombocytopenia. Among the etiology dengue fever was the most common which was followed by malaria. Majority of cases had platelet count between 50000 to 100000 per cubic mm. They reported that on treatment platelet counts were increased from day two onwards with full recovery **(8).**

In the present study, out of two hundred patients, fever was the most common symptom and present among all the patients. Headache was present in 168 (84%) patients which were followed by myalgia present in 156 (78%) patients, followed by chills and rigors which was present in 108 (54%) patients of febrile thrombocytopenia. Among 84 (42%) patients' pallor was reported which was followed by cough among 54 (27%) patients followed by rashes which was present in 52 (26%) patients of febrile thrombocytopenia. Among 38 (19%) patients' jaundice was reported which was followed by breathlessness among 30 (15%) patients followed by bleeding diathesis which was present in 14 (7%) patients of febrile thrombocytopenia. Similar results were reported in a study conducted by Fah et et al among73 patients of febrile thrombocytopenia and found that fever, myalgia followed by headache were the most common presenting symptoms however nausea and vomiting were also reported frequently **(9).** Similar results were reported in a study conducted by Geetha et et al among 130 patients of febrile thrombocytopenia multiple etiologies and found that only 33% of cases had thrombocytopenia. Out of total patients' majority were suffered from malaria which was followed by dengue fever and chikungunya. They found significant association between malaria and dengue fever with thrombocytopenia **(10).**

CONCLUSION

We concluded from the present study that viral fever reported among most of the patients of febrile thrombocytopenia followed by malaria and dengue fever. Fever was the most common symptom followed by headache, myalgia, chills and rigors, pallor, cough, rashes, jaundice, breathlessness and bleeding diathesis

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