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Original Research Paper

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CLINICAL PROFILE, ETIOLOGICAL PROFILE, SEVERITY AND OUTCOME OF FEBRILE THROMBOCYTOPENIA PATIENTS: A HOSPITAL-BASED CROSS-SECTIONAL STUDY.

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ABSTRACT

BACKGROUND: Fever with thrombocytopenia is commonly caused by infection like Malaria, Dengue fever, Enteric fever, leptospirosis and septicemia. The present study was intended to know the underlying etiology of febrile thrombocytopenia in our community, various presentations and relationship between platelet count and severity of disease and outcome.

AIMS AND OBJECTIVE: To study the clinical presentation, etiological profile and severity of thrombocytopenia and the disease outcome of patients with febrile thrombocytopenia.

MATERIAL AND METHOD: This study was conducted in the department of general medicine of Geetanjali Medical College and Hospital, Udaipur from July 2018 to December 2018. 100 patients of >18 years of age admitted to the hospital with documented fever of >99.90 F and platelet count < 1,50,000 cells/cumm were included in study.

RESULTS: Among the total 100 patients admitted, 56 patients were male and 44 patients were female. Fever with chills and rigors (92%) and body pain (80%) were commonly observed symptoms. Hepatomegaly (33%) and splenomegaly (32%) were commonly observed signs. 47% cases presented with moderate thrombocytopenia in which maximum cases were due to malaria (36%) and 43% cases presented with severe thrombocytopenia in which maximum cases were from dengue fever. Most common etiology of febrile thrombocytopenia was found to be dengue fever (36%) followed by malaria (29%). It was found that 8 patients expired out of which 2 had scrub typhus, 3 had malaria, 3 had dengue fever respectively. Most likely cause was multiorgan dysfunction (MODS).

CONCLUSION: fever with thrombocytopenia is an important clinical condition commonly caused by infections, particularly Dengue, malaria and septicaemia. Mortality in febrile thrombocytopenia is not directly associated with degree of thrombocytopenia but with concomitant involvement of other organs leading to multiorgan dysfunction.

KEYWORDS : Fever, Thrombocytopenia, Malaria, Dengue Fever.

BACKGROUND:

Fever is defined as an elevation of the body temperature above the normal circadian range, as the result of a change in the thermoregulatory centre located in the anterior hypothalamus. A morning temperature of more than 37.2°C (98.9 °F) or evening temperature of more than 37.7°C (99.9°F) would define fever.[1] Thrombocytopenia is defined as platelet count less than 150,000 / l. Thrombocytopenia classified as Mild (platelet count between 50,000-1,50,000/ l), Moderate (platelet count between 20,000-50,000/ l), Severe (platelet count < 20,000/ l).[2] Septicaemia, infections like malaria, dengue, leptospirosis, typhoid, human immunodeficiency virus (HIV) and miliary tuberculosis are some of the common causes of fever with thrombocytopenia.[3] This is due to decreased production, increased destruction (immunogenic and non- immunogenic) and increased sequestration in spleen.4 The present study was intended to know the underlying etiology of febrile thrombocytopenia in our community, various presentations and relationship between platelet count and severity of disease and outcome.

AIMS AND OBJECTIVE:

1. To study the Clinical presentation of patients with febrile thrombocytopenia.
2. To study Etiological profile of patients with febrile thrombocytopenia.
3. To study Severity of thrombocytopenia of patients with febrile thrombocytopenia.
4. To study the Disease outcome of patients with febrile thrombocytopenia.

MATERIAL AND METHOD:

This study was conducted from July 2018 to December 2018 in the Department of Medicine in Geetanjali Medical College and Hospital, Udaipur. Patients of >21 years of age admitted to the hospital with documented fever of >99.9^0 F and platelet count < 1,50,000 cells/cumm who gave written consent were included in study. A detailed clinical history and clinical examination was done. Scrub typhus was diagnosed by rapid immunochromatographic assay. All these patients were investigated for routine blood tests like complete blood count, erythrocyte sedimentation rate, peripheral smear for malaria parasite, QBC for malaria parasite, bleeding time and clotting time, urine routine and microscopy, blood culture, urine culture, renal function tests, liver function tests, widal test, dengue NS1 , Brucella standard agglutination test, leptospira ELISA, bone marrow examination etc.) were done as and when indicated. Patient with Known hematological disorder, Chronic intake of drugs causing thrombocytopenia , Presence of chronic liver disease, chronic renal disease, chronic alcohol intake, HIV positive individual and Pregnant female were excluded.

RESULTS:

A total 100 patient admitted over a period of 6 months in this hospital were studied. Among the total 100 patients admitted, 56 patients were male and 44 patients were female. Fever with thrombocytopenia affected all age group but it was found that younger age group as 21-30 years of age group (48%) and 31-40 years(22%) was predominant than the older age group (more than 40 years of age). The mean age of the study was 34.7+- 15.37 years (table 1). In the present study 92% of the patient presented with complaints of fever with chills & rigors followed by 80% body pain,72% with headache and 65% with nausea and vomiting.19% patients had jaundice and 16% had oliguria. Bleeding manifestation were present in 13%

patients (table 2). In the present study 19% of the patients presented with sign of icterus and 17% with tachypnea followed by 14% of pedal oedema. Hepatomegaly was found in 33% and splenomegaly in 32%. Ascites in 8% and purpura in 3% (table 3). In this study most common Etiology was found to be dengue fever which was 36% followed by malaria in 29%. scrub typhus was seen in 5%, Enteric fever in 8%, septicaemia in 12%, Leptospirosis in 2% patients. 8% cases were diagnosed as PUO (table 4). In the present study 10% cases presented with mild thrombocytopenia (platelet count between 50,000 cells/cumm to 1,50,000 cells/cumm), 47% cases presented with moderate thrombocytopenia (platelet count between 20,000 cells/cumm to 50,000 cells/cumm) and 43% cases presented with severe thrombocytopenia (platelet count less than 20,000 cells/cumm). In the present study, it was found that out of 100 patients, 8 patients expired as 2 from scrub typhus, 3 from malaria, 3 from dengue fever.

Table 1: Age wise distribution:

Age (years)	no of patients
21-30	48 (48%)
31-40	22 (22%)
41-50	14 (14%)
51-60	7 (7%)
61-70	6 (6%)
>70	3 (3%)
Total	100 (100%)
Mean age	34.7+- 15.37

Table 2: Clinical symptoms wise distribution

Clinical symptoms	No of patients
Rigors and chills	92 (92%)
Body pain	80 (80%)
Headache	72 (72%)
Nausea and vomiting	65 (65%)
Abdominal pain	46 (46%)
Diarrhea and loose stools	27 (27%)
Jaundice	19 (19%)
Oliguria	16 (16%)
Bleeding manifestation	41 (41%)
Cough	10 (10%)
Arthralgia	9 (9%)
Altered sensorium	9 (9%)

Table 3:Clinical sign wise distribution

Clinical signs	No of patients
Hepatomegaly	33 (33%)
Splenomegaly	32 (32%)
Hepatosplenomegaly	22 (22%)
Purpura/petechia	33 (33%)
Icterus	19 (19%)
Tachypnoea	17 (17%)
Pedal edema	14 (14%)
Ascitis	8 (8%)

Table 4: Etiology of fever with thrombocytopenia

Etiology	No of patients
Dengue fever	36 (36%)
Malaria Pf Pv Both	29 (29%) 15 12 02
Scrub typhus	05 (5%)
Enteric fever	08 (8%)
Septicaemia	12 (12%)
Leptospirosis	02 (2%)
Undiagnosed	08 (8%)

DISCUSSION:

In our study, male population (56%) were more affected then female (44%). The most common age group affected in our study was 21-30 years of age. study conducted by Raikar et al observed the clinical picture associated with febrile thrombocytopenia. They enrolled a total of 100 patients in the study who were suffering from fever and investigations found thrombocytopenia. They found males are more commonly selected than females[5] In a study done by Suresh et al, showed male preponderance with males 54% and females 46%.[6] In another study conducted by Nair P S et al 76% were male and 24% were female patients.[9]

In our study Dengue was commonest infection seen in (36%) cases of fever with thrombocytopenia and other causes of fever with thrombocytopenia were malaria in 29 patients [P.f-15, P.v-12, both-2], scrub typhus in 5 patients, Enteric fever in 8patients, septicaemia in 12 patients, Leptospirosis in 2 patients, and 8 patients cause could not be detected. A study conducted by Gondhali MP et al observed 100 subjects of more than 12 years of age with fever and thrombocytopenia. they found the most common cause of febrile thrombo cytopenia was Dengue (infection) similar to our study.[7] In the study of Prithviraj patil et al septicaemia accounted for 60%, dengue accounted for 20% and other causes accounted for 20% of mortality.[8] In the study of Srinivas et al septicaemia accounted for 78% and dengue accounted for 22% of mortality.[10] Another study conducted by Geetha et al 41.86% patients had Malaria, 32.55% of patients had dengue, 4.65% had chikungunya and in 20.94% cases, no etiology was found. There was a highly significant association found between thrombocytopenia with Dengue and Malaria.[11]

In our study, we found fever, headache, myalgia, chills, and rigor were the commonest signs and symptoms (Table 2). A study conducted by Fah et al comparatively observed that Myalgia and headache were common findings among all subjects. However, young patients present with thromb ocytopenia had nausea and vomiting more often and significantly than in patients with normal platelet count.[12]

In our study 8 patients expired due to multiorgan dysfunction (MODS) out of which 2 had scrub typhus, 3 septicaemia and 3 dengue fever.

CONCLUSION:

fever with thrombocytopenia is an important clinical condition commonly caused by infections, particularly Dengue, malaria and septicaemia. Mortality in febrile thrombocytopenia is not directly associated with degree of thrombocytopenia but with concomitant involvement of other organs leading to multiorgan dysfunction.

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277
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