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ORIGINAL ARTICLE

FEVER WITH THROMBOCYTOPENIA CURRENT SCENARIO

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ABSTRACT: AIM: To find out etiology, clinical profile and complications of fever with thrombocytopenia. **TYPE OF STUDY:** Observational study. **MATERIAL AND METHOD:** The study was conducted at Tertiary Hospital in Ahmadabad in month of December, 2014. Patients up to 14 year of age admitted in pediatric ward with fever with thrombocytopenia were included in study. Patients were managed according to institute protocol for individual condition and associated complication they had. Performa were filled and analysis was done. **RESULTS:** Total 447 patients admitted in pediatric ward during study period 86 (19.23%) patients included in study. Severe thrombocytopenia seen in 36 (41.86%), moderate in 26 (30.23%) and mild in 24 (27.90%) patients. Most common cause for thrombocytopenia was dengue fever 40 (46.51%) patients and second most common was viral fever other than dengue fever 17 (19.76%) patients. Other causes were malaria 10 (11.62%), enteric fever 5 (5.81%), megaloblastic anemia 2, viral hepatitis 2. Commonest age group involved was 6- 10 year (39.53%) with average duration of hospital stay 4-7 days (72 %). Blood product transfusion required in 10 (11.62%) patient of them only 3 (3.48%) require PRC transfusion [one for dengue fever with hemetemesis, second for complicated p.falciparam malaria and for septicemia with DIC]. Out of 10 total malaria patients 5 shows severe thrombocytopenia and 3 of them require PCV transfusion. 2 patient expired included in study one 6 month female had DIC with acute respiratory failure with septicemia other was 10 month male had septic shock with megaloblastic anemia. **CONCLUSION:** Viral infection was the most common cause of fever with thrombocytopenia, only supportive care was required and platelet count became normal without any complication in short period. PRC transfusion was least likely required even in severe thrombocytopenia.

KEYWORDS: Thrombocytopenia, Dengue fever, Megaloblastic anemia, Malaria.

INTRODUCTION: Fever is perhaps the most ancient hallmark of disease since the beginning of civilization it-self, fever has been regarded as a prime clinical feature of illness. Fever is the body's response to variety of factors that is reflected in on increase body temperature above normal range.[1]

Platelets are fragment of the large megakaryocytes, produced in the bone morrow under influence of thrombopoetin, a chemical made by the liver and kidney.[2] Each megakaryocyte makes about 4000 platelets. The platelets then enter circulation and have a life span of 7-10 days. They are cleaned from body by spleen and to lesser extent, the liver and bone morrow. A normal human platelet count ranges from 150,000 to 450,000 platelets per microlitre of blood[3]. Thrombocytopenia defined as platelet count less than 150,000 per micro liter. Which is further divided in mild (100,000-150,000 per micro liter), moderate (50,000-100,000 per micro liter), sever (< 50,000 per micro liter).

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CAUSES OF FEVER WITH THROMBOCYTOPENIA[4]:

MAJORITY ARE ACQUIRED:

Decreased Production:

- Dengue fever.[5] By direct infection of bone marrow megakaryocytes, as well as immunological shortened platelet survival.
- Sepsis.
- Liver failure (Decreased thrombopoetin).
- Leukemia.
- Dehydration.
- Vitamin B 12 & Folic acid deficiency.[6]

Increase Destruction:

- Malaria.[7]
- Dengue fever.[8]
- Hemolytic uremic syndrome.
- TTP.
- DIC.
- SLE.[9]
- Hypersplenism.
- HIV associated thrombocytopenia.

Most people with fever with thrombocytopenia have no symptoms directly associated with low platelets. They show symptoms related to underlying cause of thrombocytopenia. In severe thrombocytopenia excess bleeding can occur if the person is cut or injured. Spontaneous bleeding can also happen when platelet numbers are severely diminished. General recommendations for platelet transfusion are active bleeding in patients with platelet counts less than 20,000 to 50,000 (Depending on the clinical picture) and patients with platelet counts less than 10,000 with or without active bleeding.[10]

MATERIAL AND METHODS:

Study Design: Observational study.

Study Duration: 1 month (December 2014).

Study Population: All children with fever with thrombocytopenia admitted in pediatric ward, LG Hospital during the study period.

Inclusion Criteria: >1 months to <14 yrs of age admitted with fever with thrombocytopenia.

Exclusion Criteria: <1 month of age, >14 year of age, patient admitted with fever and no thrombocytopenia not included, patient admitted with thrombocytopenia and no fever not included.

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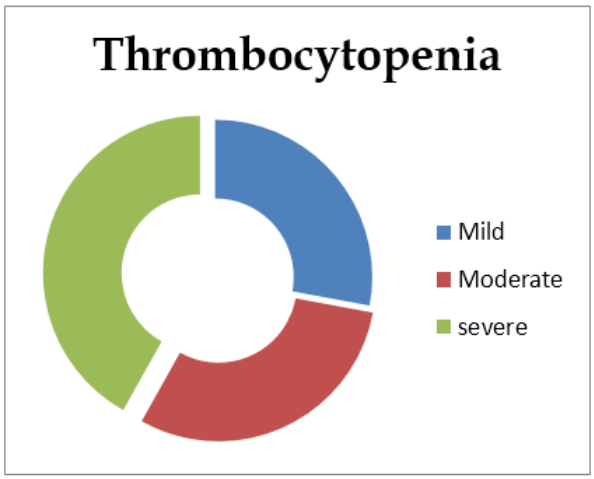
METHODS:



Graph 1

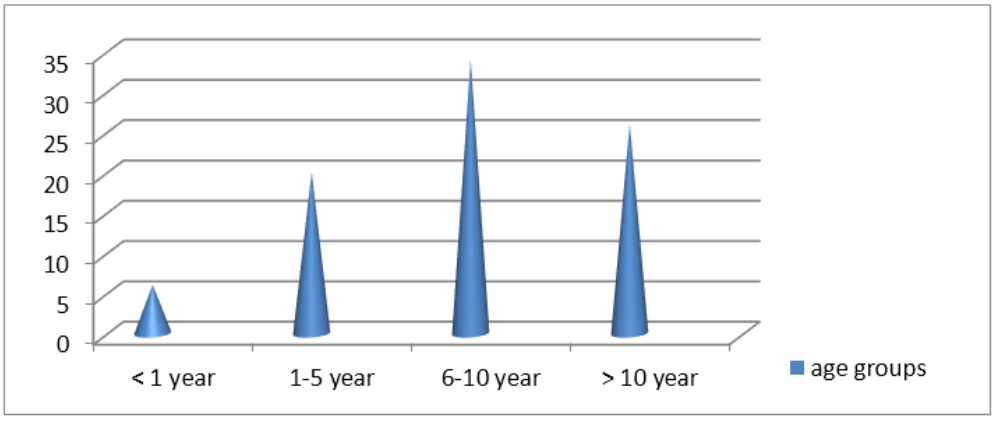
Patients were managed according to institute protocol for individual condition and associated complication they had. Details of history, general examination and laboratory and technical investigation reports were noted down in Performa while there stay in hospital and completed on discharge. Analysis was done. No additional test was done for study purpose.

OBSERVATION: Total 447 patients admitted in pediatric ward during study period 86 (19.23%) patients Shaw fever with thrombocytopenia included in study.

Males were 49(56.97 %) and female 37 (43.02%).

Severe thrombocytopenia seen in 36 patients (41.86%), moderate thrombocytopenia seen in 26 patients (30.23%) and mild thrombocytopenia seen in 24 patients (27.90%).

ACCORDING AGE DISTRIBUTION:



Graph 2

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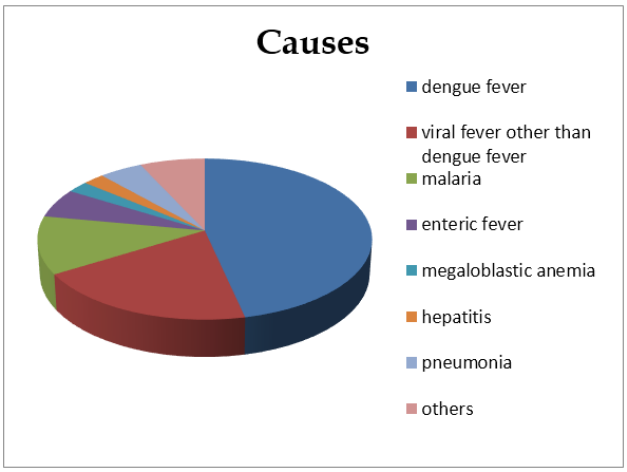
Dengue fever	40
Viral fever other than dengue fever*	17
Malaria	10
Enteric fever	5
Pneumonia **	4
Megaloblastic anemia	2
Hepatitis	2

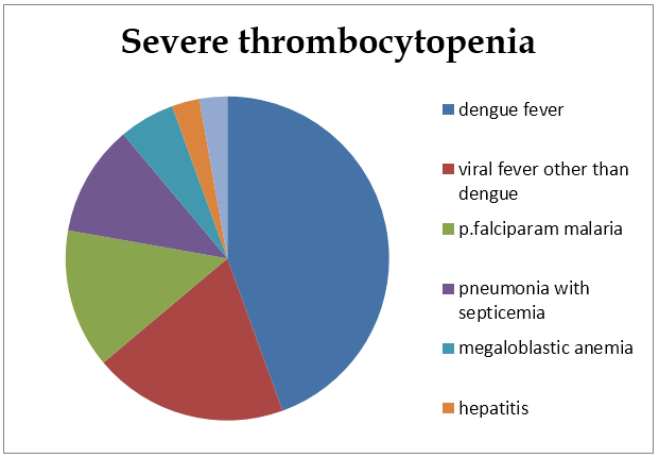
Table 1: Causes of fever with thrombocytopenia



Graph 3

Viral fever diagnosis made on discharge depending upon clinical feature, differential count and course of illness. No specific virological diagnosis facility available in institute neither recommended for management of patient.

Pneumonia was not the etiology it was its association with sepsis observed.



Graph 4

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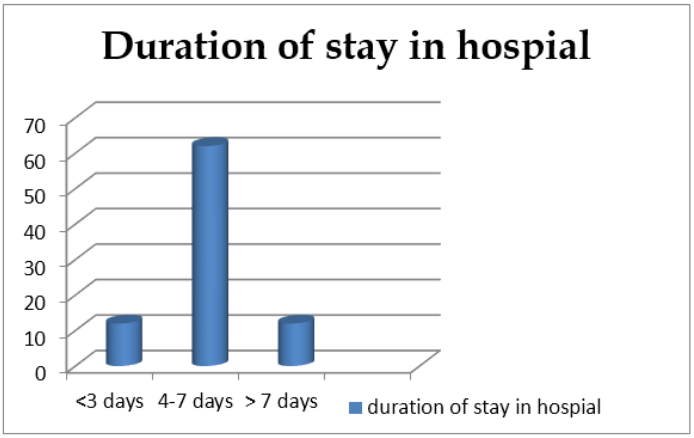
CAUSES RELATED TO SEVERE THROMBOCYTOPENIA: Most common cause for severe thrombocytopenia was dengue fever, only one out of 16 patient of dengue fever with thrombocytopenia require PRC transfusion at platelet count 18,000 with hemetemesis.

Out of 10 malaria patient included in study 5 patient had severe thrombocytopenia and one patient with 7,000 platelet count require PRC transfusion prophylacticaly.

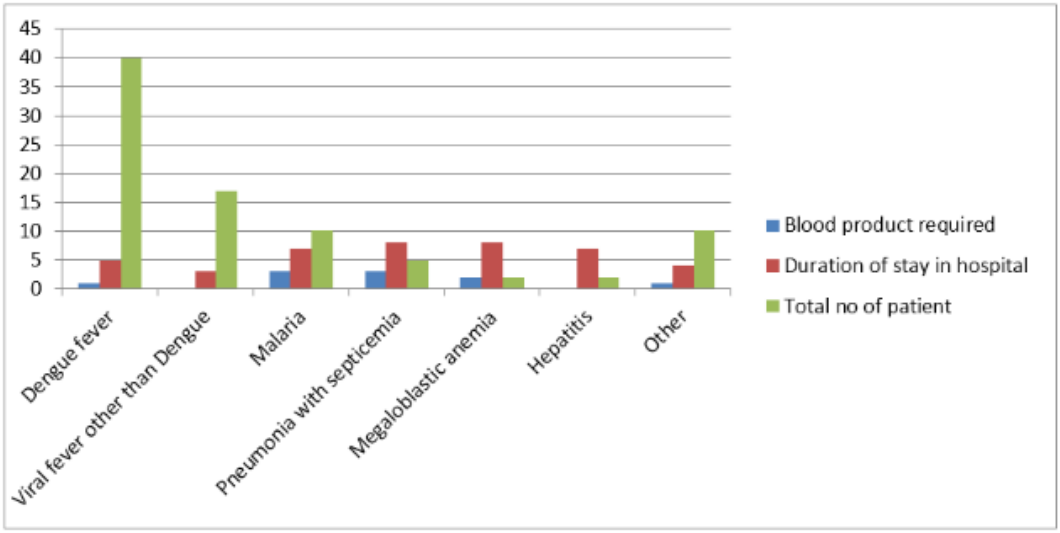
Only 2 patients with megaloblastic anemia included in study both of them showed severe thrombocytopenia but require PCV transfusion for associated anemia not require PRCs.

2 patient expired included in study one 6 month female had DIC with acute respiratory failure with septicemia other was 10 month male had septic shock with megaloblastic anemia. Both of them had severe thrombocytopenia and one had PRC transfusion done.



Graph 5

DURATION OF STAY IN HOSPITAL: Average duration of stay in hospital for patient with fever with thrombocytopenia was 4- 7 days (72%).



Graph 6

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It was higher for condition other than viral infection as patient with malaria had 7 days and patient with megaloblastic anemia and pneumonia with septicemia had 8 days average stay in hospital.

CONCLUSION: Viral infection was the most common cause of fever with thrombocytopenia, only supportive care was required and platelet count became normal without any complication in short period. PRC transfusion was least likely required even in severe thrombocytopenia.

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