

VIRAL FEVER WITH THROMBOCYTOPENIAShilpa Anand Hakki¹¹Assistant Professor, Department of General Medicine, SDM Medical College and Hospital, Dharwad.**ABSTRACT****BACKGROUND**

There is an alarming increase in the incidence of fever with thrombocytopenia especially during monsoon and peri-monsoon period. Infections with protozoa, bacteria and viruses can cause thrombocytopenia with or without disseminated intravascular coagulation. Commonly, dengue, malaria, scrub typhus and other rickettsial infections, meningococci, Leptospira and certain viral infections present as fever with thrombocytopenia. Occasionally, these patients can go on to develop a stormy course with multiorgan dysfunction requiring intensive care unit admission associated with high morbidity and mortality.

The aim of this study is to analyse the clinical outcomes of fever with thrombocytopenia.

MATERIALS AND METHODS

A prospective three months study was undertaken in a super specialty hospital in Dharwad. Total 461 patients were studied who presented with fever with thrombocytopenia.

Inclusion Criteria- Patients with acute history of fever were included in the study. Clinical profile, relevant investigations, residential prevalence and related complications were studied.

Settings- This was a prospective study of three months duration, which was undertaken a super specialty Hospital, Dharwad.

RESULTS

Out of 461 patients who presented with fever with thrombocytopenia, 331 were seropositive for dengue, 123 patients had unspecified viral fever while 6 patients were diagnosed to have malaria and one patient had mixed infection of dengue and malaria.

CONCLUSION

Among 461 patients with fever with thrombocytopenia, dengue was the most common cause followed by unspecified viral fever and then malaria. MODS is the most common complication in this study.

KEYWORDS

Fever, Thrombocytopenia, Viral Haemorrhagic Fever, Platelet Count, Viral fever.

HOW TO CITE THIS ARTICLE: Hakki SA. Viral fever with thrombocytopenia. J. Evid. Based Med. Healthc. 2017; 4(59), 3574-3576. DOI: 10.18410/jebmh/2017/711

BACKGROUND

There is an alarming increase in the incidence of fever with thrombocytopenia especially during monsoon and peri-monsoon period. Infections with protozoa, bacteria and viruses can cause thrombocytopenia with or without disseminated intravascular coagulation. Commonly, dengue, malaria, scrub typhus and other rickettsial infections, meningococci, Leptospira and certain viral infections present as fever with thrombocytopenia. Occasionally, these patients can go on to develop a stormy course with multiorgan dysfunction requiring intensive care unit admission associated with high morbidity and mortality.¹ Aim of this study was to know the various causes and complications of fever with thrombocytopenia. Thrombocytopenia in fever

can help in prognosis and hence predict the cause preventing further fatal outcome associated with it, such as intracerebral bleed, haemorrhage into vital organs, shock and finally leading to death. Though patients can initially present with simple fever in due course it can lead to unpredictable outcomes including death at times. Therefore, the aim of the study is to analyse the clinical profile of fever with thrombocytopenia as early diagnosis and timely intervention so as to prevent adverse outcomes and save lives.²

Objectives of the Study

1. To evaluate clinical profile of fever with thrombocytopenia.
2. To identify the cause of fever with thrombocytopenia.
3. To assess the complications associated with fever and thrombocytopenia.

MATERIALS AND METHODS

The data for this study was collected by patient evaluation done by detailed history taking, clinical examination and in this study, relevant investigations were done for patients with fever admitted in a super specialty hospital, Dharwad.

Financial or Other, Competing Interest: None.

Submission 21-06-2017, Peer Review 01-07-2017,

Acceptance 20-07-2017, Published 22-07-2017.

Corresponding Author:

Dr. Shilpa Anand Hakki,

Assistant Professor, Department of General Medicine,

SDM Medical College and Hospital, Dharwad.

E-mail: shilpahakki@yahoo.com

DOI: 10.18410/jebmh/2017/711



Platelet counts and serology were most important investigations to be included. This study was done prospectively during the period of 3 months April 2017 to June 2017.

We prospectively collected a series of nearly 450 patients with age more than 14 years who had fever and thrombocytopenia.

Inclusion Criteria

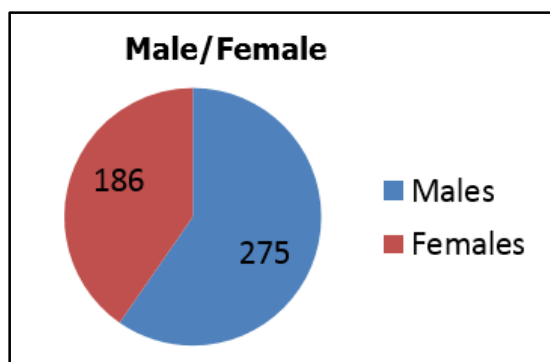
1. Patients of both sexes were included.
2. Patients of age above 14 years were included.
3. Patients with acute history of fever with thrombocytopenia were included.

Exclusion Criteria

1. Diagnosed cases of thrombocytopenic purpura on treatment.
2. Patients with thrombocytopenia already diagnosed to have haematological disorder.
3. Patients with malignancy on treatment with chemotherapy and other immunosuppressant.
4. Diagnosed cases of platelet disorders and dysfunction.
5. Patients on treatment with antiplatelet drugs and other drugs causing thrombocytopenia.
6. Patients with cirrhosis and chronic liver disease.

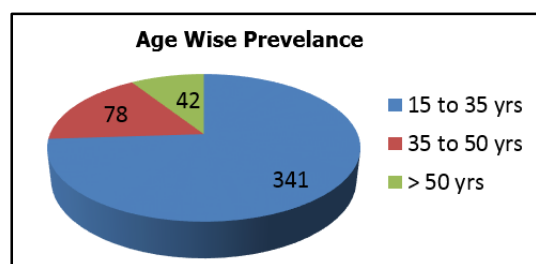
OBSERVATIONS

A total number of 461 cases of fever with thrombocytopenia who were admitted over a period of 3 months from April 2017 to June 2017 were studied. The study subjects were more than 14 years. Out of 461 cases of fever with thrombocytopenia, 275 were males and 186 were females.



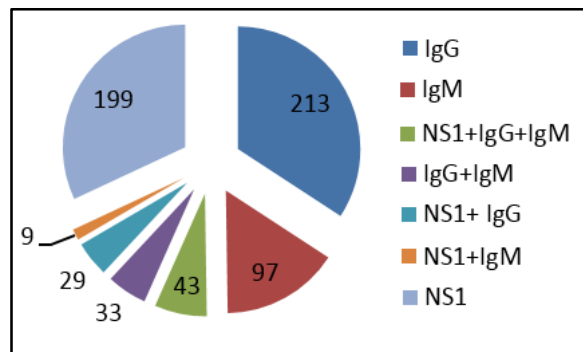
Graph 1. Male/Female Ratio

The duration of hospitalisation varied between 3 days to 10 days. The average duration of hospitalisation was 7 days. Maximum patients affected were between age group of 15 to 35 years.



Graph 2. Age Wise Prevalance

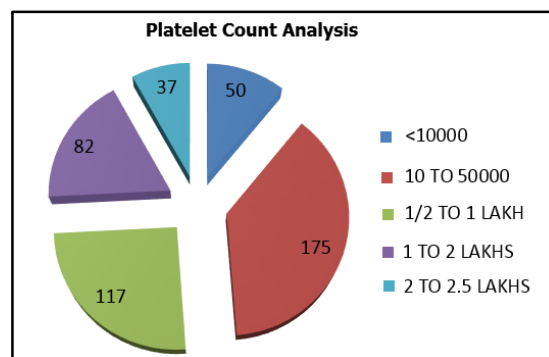
Out of 461 cases of fever with thrombocytopenia, 331 of them had diagnosis of dengue fever with serology tests been positive with following status as per NS1 antigen and IgM and IgG antibody serological tests.³



Graph 3. Serological Prevalence in Dengue Fever Patients

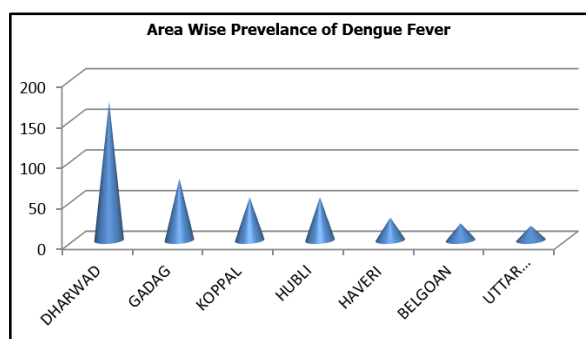
Thrombocytopenia has always been one of the criteria used by WHO guidelines as a potential indicator of clinical severity.⁴ In our study, following was platelet count analysis.

1. 50 patients had platelet count less than 10,000/cu mm.
2. 175 patients cases had count between 10,000 to 50,000 cu mm.
3. 117 patients with count between 50,000 to 1 lakh/cu mm.
4. 82 patients with counts between 1 to 2 lakhs/cu mm.
5. 37 patients with platelets above 2 lakhs/cu mm, but less than 2.5 lakhs/cu mm.



Graph 4. Platelet Count Analysis

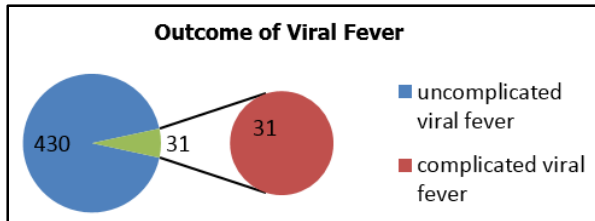
In our study, maximum patients (171) were from Dharwad district followed by Gadag (76), Koppal (53) and Hubli (47).



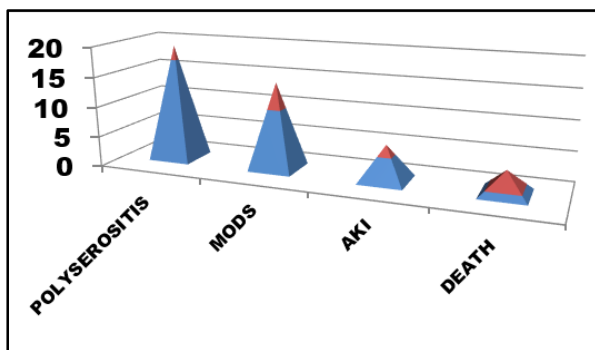
Graph 5. Area Wise Prevalance of Dengue Fever

Outcome of Patient

Out of 461 cases of fever with thrombocytopenia, 331 of them had diagnosis of dengue fever with serology tests been positive, 123 cases were with viral fever as the commonest cause of thrombocytopenia followed by 6 malaria cases and one mixed infection of dengue and malaria. Out of 331 dengue fever patients, 31 patients had complicated dengue fever with 17 patients landing in polyserositis with 10 patients developed MODS out of which one died, while 4 patients had AKI.



Graph 6. Outcome of Viral Fever



Graph 7. Cases of Complicated Viral Fever

DISCUSSION

Viruses produce thrombocytopenia by various mechanisms like impaired platelet. Production as a result of direct viral invasion, toxic effect of viral proteins on thrombopoiesis, virus-induced hemophagocytosis and increased platelet destruction caused by binding of virus-induced autoantibodies or viral antigen antibody complexes. Thrombocytopenia in dengue. Infection raises concern about bleeding risk. Bone marrow suppression by virus and peripheral destruction of platelets have been implicated.⁵

Most common and deadly complication is bleeding in viral haemorrhagic fever.⁶ Platelet transfusions are not routinely recommended in the management of dengue fever. According to recent guidelines by the World Health Organisation and National Vector-Borne Diseases Control Programme, prophylactic transfusion of platelets is not indicated unless the patient has bleeding or a count of less than 10000/cu mm.

CONCLUSION

1. Out of 461 cases of fever with thrombocytopenia, 331 of them had diagnosis of dengue fever with serology tests been positive.
2. Out of 331 dengue fever patients, polyserositis picture was seen in 17 patients.
3. MODS was seen in 10 patients out of which one patient died.
4. A definitive serological diagnosis was not made in 123 cases and these patients were labelled as unspecified viral fever with thrombocytopenia.
5. Renal dysfunction was seen in 4 cases.
6. Elevated liver enzymes were seen in 48 cases.
7. Viral haemorrhagic fever with bleeding manifestations were noted in 23 cases.
8. Fever with rash was evident in 8 cases.
9. Vomiting and abdominal pain was most common presentation along with fever in maximum patients.
10. This study concludes that bleeding manifestations and severe thrombocytopenia are less in spite of the high prevalence of thrombocytopenia in dengue fever during current outbreak. Community awareness, early diagnosis and management is the key to prevent complications of thrombocytopenia.⁷ Finally, vector control measures need to be strengthened in order to reduce the increasing number of dengue cases.⁸

REFERENCES

- [1] Nair PS, Jain A, Khandari U, et al. A study of fever associated thrombocytopenia. JAPI 2003;1151-1173.
- [2] Gandhi AA, Akholkar PJ. Clinical and laboratory evaluation of patients with febrile thrombocytopenia, NJMR 2015;5(1):43-46.
- [3] Raikar SR, kamdar PK, Dabh AS. Clinical and laboratory evaluation of patients with fever with thrombocytopenia. Indian Journal of Clinical Practice 2013;24(4):360-363.
- [4] Putta S, Yamini D, Jalaja Y. Evaluation of the cause in fever with thrombocytopenia cases. J of Evidence Based Medicine 2015;2(15):2134-2137.
- [5] Khan AH, Hayat AS, Masood N, et al. Frequency and clinical presentation of dengue fever at tertiary care hospital of Hyderabad/Jamshoro. JLUMHS 2010;9(2):88-94.
- [6] Murthy GL, Sahay RK, Srinivasan VR, et al. Clinical profile of falciparum malaria in a tertiary care hospital. J India Med Assoc 2000;98(4):160-162.
- [7] Kochar DK, Kochar SK, Agarwal RP. The changing spectrum of severe falciparum malaria: a clinical study from Bikaner (northwest India). J Vector Borne Dis 2006;43(3):104-108.
- [8] Anand N, Talib SH, Bhushan P, et al. Clinical outcomes of patients presenting as fever with thrombocytopenia in Marathwada region. International Journal of Science and Research (IJSR) 2016;5(2):530-533.