



**ORIGINAL RESEARCH PAPER**

**General Medicine**

**A STUDY ON THE CLINICAL PROFILE OF ACUTE FEBRILE ILLNESS**

**KEY WORDS:** Fever, Thrombocytopenia, Dengue.

**Dr.R.Jayaprasad**

Assistant Professor, Department of Medicine, Govt. Villupuram Medical College, Mundiampakkam, Villupuram.

**Dr.G.Ambedkar\***

Assistant Professor, Department of Medicine, Govt. Villupuram Medical College, Mundiampakkam, Villupuram. \*Corresponding Author

**ABSTRACT**

**Background:** Fever is an elevation of body temperature that exceeds the normal daily variation and occurs in conjunction with an increase in the hypothalamic set point. We conducted a study on patients presenting with fever. The objectives were - To know the clinical profile of the patients admitted with fever, outcome of these patients and to know the differences in the presentation in the various age groups and sexes.

**Materials and methods:** Hundred and fifty patients admitted with fever were included in the study. After obtaining history and examination, the patients were subjected to relevant investigations.

**Results:** The most common etiology was dengue followed by malaria and scrub typhus. Most patients presented with body pain followed by headache. Only 25% of the patients presented with bleeding manifestations.

**Conclusion:** A well organized systematic approach for fever can help diagnose the cases early thereby reducing morbidity and mortality.

**INTRODUCTION:**

Fever has been recognized as a cardinal manifestation of disease. Ancient scholars like Hippocrates [1], first saw fever as a disease but later recognized it as an accompaniment to a variety of disease entities. It is an easily noted and reliable marker of illness [2]. India is a tropical country and is home to a variety of infectious diseases. In India, patients having an acute febrile illness usually have an infectious etiology. Infections like Malaria, Dengue, Leptospirosis, Typhoid, HIV, Miliary tuberculosis and Scrub Typhus are some of the common causes of fever and thrombocytopenia. [3]

The objectives of the study were - 1) To know the clinical profile of patients admitted with fever, 2) To know the outcome of these patients, 3) To study the duration of hospital stay and mortality and 4) To know the difference in presentations in the various age groups and sexes. This may help the physicians to approach the patient with febrile illness better and to diagnose the cases early thereby reducing the morbidity and mortality associated with it.

**MATERIALS AND METHODS:**

This is a descriptive, prospective study, done in a tertiary care centre in Tamilnadu. The study was done over a period of 6 months between September 2017 and February 2018. Of the patients admitted, 150 patients presenting with fever were enrolled in the study. The data collection was done using a questionnaire based on the clinical features and investigations.

**Inclusion criteria**

Patients admitted to the hospital with fever during the study period.

**Exclusion criteria**

1. Patients less than 12 years of age .
2. Fever for more than 15 days at the time of admission to the hospital.
3. Immunosuppressed patients (solid organ transplanted and, post-splenectomy patients), tuberculosis and patients with chronic illness.

Hundred and fifty patients admitted in our hospital were selected as per the inclusion and exclusion criteria and enrolled for the study. A complete clinical examination and investigations like complete blood count, blood sugar, renal function and liver function tests, X-ray chest, ultrasound abdomen, serology for typhoid and dengue, serology for scrub typhus for suspected patients and peripheral smear for malaria and microfilaria were done.

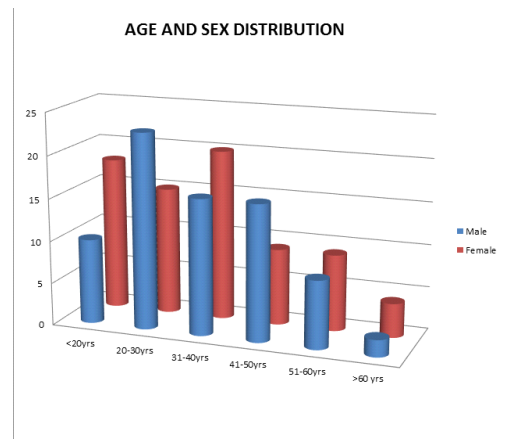
**RESULTS:**

The patient details were observed and recorded.

**Age and sex distribution:**

Out of the 150 cases, 75 cases were males and 75 cases were females. The maximum incidence was seen in the age group of 20-40 years. The total number of cases in this age group was 74 patients which is almost 50% of the cases. In males, the maximum number of cases (23 cases) were between 20 and 30 years which accounts to about 31% of male cases. In females, the maximum number of cases were between 31 and 40 years, which was 20 cases forming 27% of female cases.

**CHART-1**



**PRESENTING SYMPTOMS:**

Out of the 150 patients, the most common symptom was body pain and headache which were 75% and 70% respectively, followed by chills and rigors, vomiting and giddiness. Bleeding manifestations constitute about 40 cases including malena, bleeding gums, epistaxis and purpuric rashes. They form 27% of the 150 cases of which malena alone constitutes 14% (21 cases). The other symptoms were abdominal pain, loose stools, itching and arthralgia.

**TABLE-1 DISTRIBUTION OF PRESENTING SYMPTOMS**

Signs and symptoms	Male	Female	Total	Percentage
Headache	49	56	105	70
Chills & rigors	41	50	91	61
Body pain	56	57	113	75
Vomiting	39	49	88	59
Abdominal pain	32	32	64	43
Loose stools	21	16	37	25
Cough	34	25	59	39

Epistaxis	1	2	3	2
Giddiness	30	32	62	41
Bleeding gums	4	2	6	4
Malena	12	9	21	14
Other bleeding manifestations	4	4	8	5
Itching	7	6	13	9
Purpuric rashes	0	2	2	1
Arthralgia	22	21	43	29

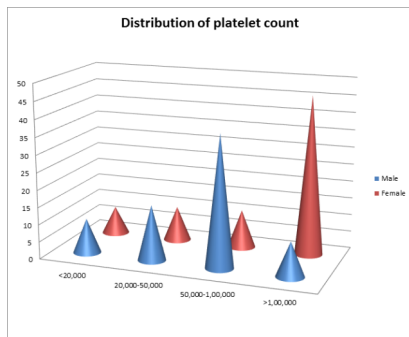
**PLATELET COUNT:**

Analyzing the platelet count, 18 cases(12%) were found to have a count less than 20,000, 26 cases (17%) were in the range of 20,000-50,000, 49 cases (33%) in the 50,000-1,00,000 range and 56 cases (37%) were more than 1,00,000.

**TABLE-2 DISTRIBUTION OF PLATELET COUNTS**

Platelet count	Male	Female	Total	Percentage
<20,000	10	8	18	12
20,000-50,000	16	10	26	17
50,000-1,00,000	38	11	49	33
>1,00,000	10	46	56	37

**CHART-2**



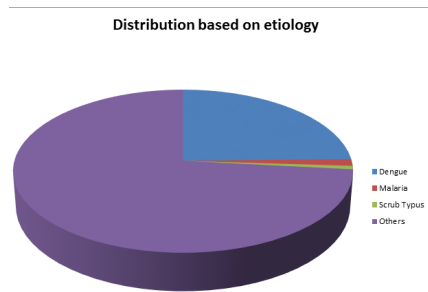
**FINAL DIAGNOSIS:**

After investigations, the final diagnoses accounted to 37 cases (25%) of dengue, (Dengue ELISA IgM positive), 2 cases of malaria (P.vivax) and 1 case of scrub typhus. The rest were treated as acute undifferentiated fever.

**TABLE-3 FINAL DIAGNOSIS**

Final Diagnosis	Male	Female	Total
Dengue	20	17	37
Malaria	2	0	2
Scrub typhus	0	1	1
Others	53	57	110

**CHART-3**



**DISCUSSION:**

Fever has been recognized as a cardinal manifestation of many diseases. Ancient scholars like Hippocrates first saw fever as a disease but later considered it as an accompaniment to a variety of disease entities. Fever is an easily notable and reliable marker of illness. The current concept of fever physiology is that, host cell-derived molecules induce fever as an inflammatory response directed against pathogenic microbes. The host derived molecules responsible for fever were known as endogenous pyrogens, as first

demonstrated by Paul Beeson in 1948. He described the temperature-elevating effect of a substance obtained from polymorphonuclear leucocytes. Patrick Murphy and Barry Wood were the first to obtain a purified form of endogenous pyrogens from the cells present in the peritoneal exudates of a rabbit. Phyllis Bodel described an intracellular form of Endogenous pyrogen (EP) and reported production of EP by both murine macrophages and human lymphoma cells. In 1972, Gery and Waksman described the chemical nature of "Lymphocyte activating factor" which showed striking similarity with endogenous pyrogens. Kluger and co-workers provided proof that endotoxin-induced fever is mediated by IL-1 B induction of IL-6, suggesting that IL-6 might be the final common pathway for such fever[4]. Milton and Wendlandt originally proposed that E-series prostaglandins (PGE) might mediate the febrile response to pyrogens. This consensus of opinion still favors the proposition that PGE2, the endogenous isoform of PGE, plays an essential role in fever production[5].

Rotondo et al proposed that the PGE2 involved in fever might be generated peripherally, transported to the PreOptic Anterior Hypothalamus (POAH) by the blood stream, and then, being Lipophilic, either crosses the BBB at this site or diffuses to the POAH through the Organum Vasculosum Laminae Terminalis (OVLT) to cause the induction of fever[5]. Fever increases the demand for oxygen (i.e., for increase of every 1°C over 37°C, there is a 13% increase in oxygen consumption) and can aggravate the condition of patients with preexisting impairment of cardiac, pulmonary or CNS function[6].

In the present study, of the 150 cases, maximum number of cases fall in the age group of 20-40 years. The common presenting symptoms were body pain, headache, chills and rigors, followed by vomiting and giddiness. Of the bleeding manifestations, malena was present in 21 cases, followed by bleeding gums, epistaxis and purpuric rashes, accounting to a total of 27% of the cases.

With respect to platelet count, 64 male and 29 female patients presented with a count of less than one lakh. Males presented more commonly with low platelet count than females in the study. The final diagnosis accounted to 37 cases of dengue, 2 cases of malaria and 1 scrub typhus.

**CONCLUSION:**

Fever is a challenging problem in clinical practice and is usually caused by infectious diseases. In this study, dengue was the most common cause of febrile thrombocytopenia followed by malaria, especially in epidemic scenarios.

Bleeding manifestations associated with thrombocytopenia were commonly seen among dengue cases. Deterioration in the clinical condition of the patient, at the time of defervescence is a strong pointer towards dengue fever. Vomiting, abdominal pain and bleeding manifestations were the common warning symptoms noted in this series. In most other infections, thrombocytopenia was transient and asymptomatic, usually in the mild to moderate range and resolved with treatment of the underlying condition.

There is a need to conduct campaigns to create public awareness as well as workshops to update doctors regarding the latest management guidelines for fever.

**REFERENCES:**

- [1] Larson EB, Featherstone HJ, Peterdorf RG. Fever of undetermined origin:Diagnosis and follow up of 105 cases,1970-1980. *Medicine* 1982;61:269-92.
- [2] Nolan SM, Fitzgerald FD. Fever of unknown origin-The general Internist's approach. *Postgraduate medicine* 1987;81(5):190-205.
- [3] Ziedins KB, Orfeo T, Jenny NS, Everse SJ, Mann KG. Blood Coagulation and Fibrinolysis. In: Greer JP, Foerster J,Lukens JN, Rodgers GM, Paraskevas F (eds.) *Winrobe's clinical hematology*. 11th ed. London:Lippincott Williams &Wilkins Publishers. 2003:1332-1546.
- [4] Dinarello, C.A. "Cytokines as Endogenous Pyrogens : In *Fever : basic mechanisms and management*". (ed. Mackowiack P.A), New York, Lippincott-Raven Publishers, Philadelphia, 1997; pp87-116.
- [5] Blatteis C.M. and ElmırSehic "Prostaglandin E2: A putative Fever mediator: In*Fever : basic mechanisms and management*". (ed. Mackowiack P.A.), NewYork, Lippincott-raven Publishers,Philadelphia, 1995; pp117-145.
- [6] Harrison's principles of internal medicine 19th ed p.126.