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A profile of total leukocyte count in acute febrile illness

Candy Friyola Anselen[*1], Chitrambalam Pavadai[*2], Prasanna Karthik Suthakaran[*3], Asif G Ahmed[*4]

[*1]*Department of General Medicine, Saveetha Medical College Hospital, Chennai, Tamilnadu, India*
[*2]*Department of General Medicine, Saveetha Medical College Hospital, Chennai, Tamilnadu, India*
[*3]*Department of General Medicine, Saveetha Medical College Hospital, Chennai, Tamilnadu, India*
[*4]*Department of General Medicine, Saveetha Medical College Hospital, Chennai, Tamilnadu, India*

***Corresponding Author**: **Candy Friyola Anselen**
Email id: canddy.g@gmail.com

ABSTRACT

Fever is one of the common illness in the adults during the monsoon season with variable cause such as bacterial, viral, protozoal, autoimmune, malignancy, etc.

Patients may usually present with fever associated with chills and rigors, cough with expectoration, headache, myalgia, vomiting, loose stool, dehydration, etc. estimation of total leukocyte count on admission helps in prognostication and is useful to proceed in aggressive approach.

Aim

To study on usefulness on admission total leukocyte count in acute febrile illness and their importance in prognostication.

Materials and methods

An observational, retrospective study was conducted in tertiary care hospital in Chennai Saveetha Medical College and Hospital during monsoon season August– October 2017. Demographic, clinical and laboratory data were collected and analysed for each patient.

Results

Total number of patients enrolled were 115 out of which Men 66 (57%) and the age group was between 18 to 30 years comprised the large proportion of the cases with total of 55 (48%). The most common symptoms were fever with myalgia 63(55%), Abdominal pain 21(18%), Headache 11 (10%), Breathlessness 9 (8%), Burning micturition 7(6%), Vomiting 4(3%). The common diagnosis Undifferentiated fever 46(39%), Dengue 24(20%), Fever with thrombocytopenia 12(10%), Malaria 8(7%), UTI 7(6%), Tuberculosis 6(5%), Scrub 4(3%), Leptospirosis 4 (3%), Pneumonia 3(2%), Entric 3(2%), Thyrotoxicosis 1(1%), Dengue with Leptospirosis 1(1%).

Conclusion

The similarity in clinical presentation and etiological agents demonstrates the complexity of diagnosis and treatment of acute febrile illness. The study of clinic laboratory profile of febrile illness during monsoon was helpful in finding the cause and prompt treatment.

Keywords: Acute febrile illness, Total leukocyte count, Viral illness, Bacterial illness, Sepsis syndrome.

INTRODUCTION

Fever is recognized one of the cardinal features of the disease since ancient days and it was recorded by scholars like Hippocrates [1], fever is one of the common symptom and one of the reliable marker of illness. [2] Acute febrile illness is defined as elevation of core temperature of 38 C or higher irrespective of the cause. [3] fever is the main symptom of various infections. In tropical countries like India, the effect of climatic change in the monsoon season leads to various consequences resulting in vector and water borne disease like dengue, malaria, leptospirosis, scrub, etc. Early diagnosis can prevent from various complications and mortality.

MATERIALS AND METHODS

This is a retrospective study conducted on patients who was admitted in general medicine ward in tertiary care hospital in Chennai during the monsoon climate from August to October 2017. All the patients who were admitted in the medical ward with complaints of acute febrile illness with age more than 18 years where included in the study. This study enrols about 115 patients, basic demographic details were collected. A detailed history and clinical examination was recorded with semi structured questionnaire along with investigation. Basic investigations like complete blood count, renal function test, liver function test, ESR, serum electrolytes, urine routine, smear MP/MF, chest x ray, USG abdomen, 12 lead ECG, Dengue- NS1 IgM IgG, Leptospirosis IgM, Scrub typhus, blood and urine cultures was collected. All the clinical features and bio chemical values will be tabulated. The data was collected and analysed using SPSS software.

RESULTS

In our study total 115 patients were studied of which male predominated with 57% out of total study population i.e 66 patients, and female comprised 43% which was 49. Patients were under 18 to 30 years of age group were 48% (n=55), 31 to 40 years of age 23%(n=27), 41 to 50 years of age 12%(n=14) and >50 years of age 17%(n=19).

Over all the most common symptoms reported by the enrolled patients are fever with body pain 55%(n=63), abdominal pain 18%(n=21), headache 10%(n=11), breathlessness 8%(n=9), Burning micturition 6%(n=7), vomiting 3% (n=4).

The total count of the admitted patients the normal leukocyte counts are 69% (n79), leukopenia 18% (n=21) and leucocytosis 13% (n=15), the patients with leucocytosis are more prone to bacterial infection and with leukopenia are with viral infections.

The most common diagnosis were undifferentiated fever 39% (n=46), Dengue 20%(n=24) , Fever with thrombocytopenia 10%(n=12), Malaria 7%(n=8), UTI 6%(n=7), Tuberculosis 5% (n=6), Scrub 3% (n=4), Leptospirosis 3% (n=4), Pneumonia 2%(n=3) , Entric 2% (n=3),Thyrotoxicosis 1% (n=1), Dengue with Leptospirosis 1%(n=1).

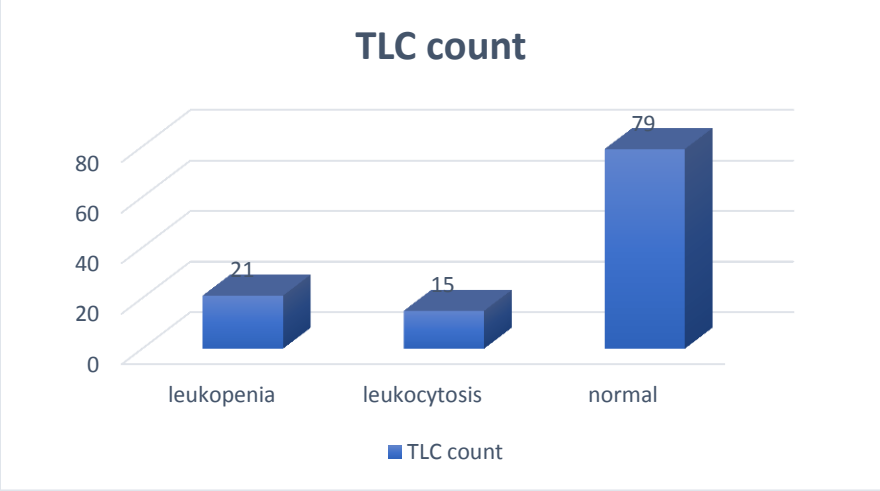
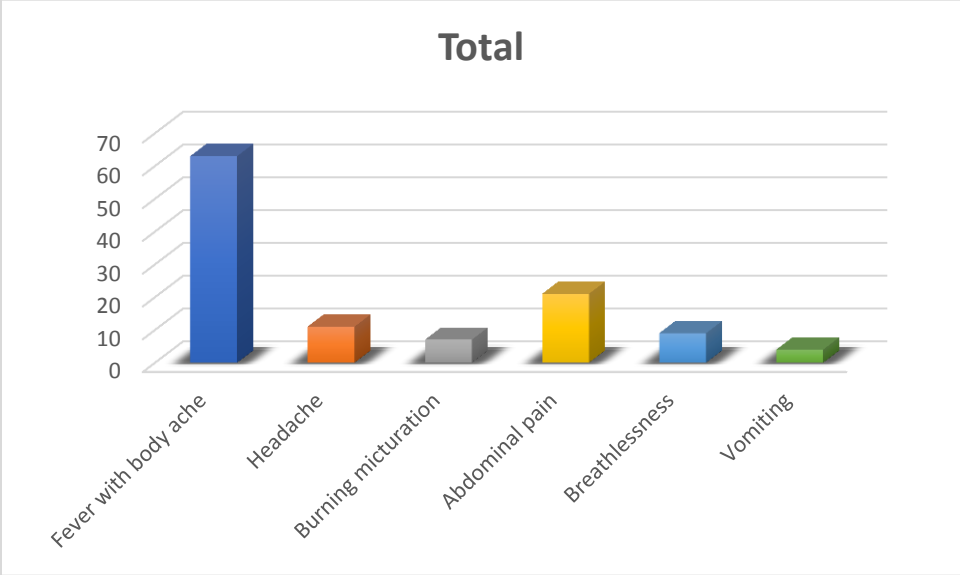


Fig 1:



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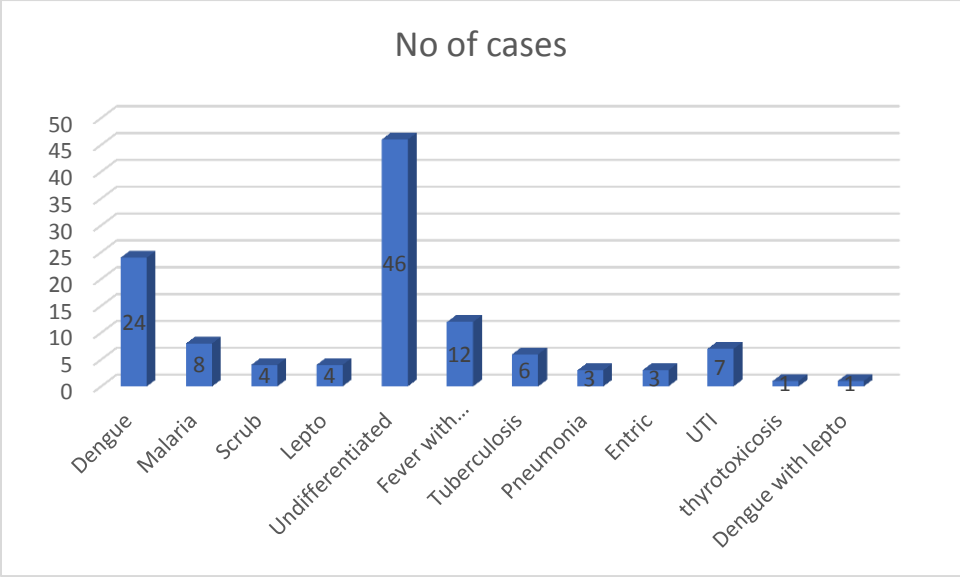

Fig 3:

DISCUSSION

This is the retrospective observational study which was conducted to study the clinic laboratory profile of monsoon febrile illnesses with specific reference to the admission of total leukocyte count and subsequence diagnosis and complication. Each year the number of patients, who suffer from fever during monsoon season has been increasing.

The total number of patients with acute febrile illness during the study period 3 months and were 115 in this study out of which male predominance is more, like in other study Abhilash et al [4], Chrispal et al [5]. The common age group was of the patients where 18 to 30 years 48% (n=55) like in other studies Abhilash et al [4], Mittal Garima et al [6],

Fever with body pain which is about 55% (n=63) is one of the common symptoms patients has been reported in our study, the other features are abdominal pain, breathlessness, headache,

burning micturition, vomiting like in other study Kaustubha Dilip et al [7].

Undifferentiated fever 39%, Dengue 20%, malaria 7%, tuberculosis 5%, scrub typus leptospirosis and pneumonia are common like in other studies Kaustubha Dilip et al, [7] UTI 6% the most common cause of UTI was uncontrolled diabetes mellitus. There was one patient with superimposed diagnosis of Dengue and leptospirosis. However, it is not easy and probable to suspect a complicated illness in a patient presenting with fever of 1 to 2 days without any localising symptoms and sign. At times, we are taken aback by a sudden untoward change in illness. Hence, we have been analysing the possibility of a clue which can put us on the guard.

Positive clinical signs, diagnostic laboratory reports and specific clinical pattern is most often not available in almost 90 to 95 % of patients presenting with acute febrile illness. It is in these patients we have found that the admission total leukocyte count has guided to either viral or bacterial Etiology and extent of deviation has predicted the possible complication.

CONCLUSION

Clinico- laboratory study of acute febrile illness in monsoon climate is used to develop the rational guidelines for control of infectious disease and treatment will be helpful for the physician to intervene and treat before complication. However, it is difficult to predict the seriousness and etiology in majority of the patient. Estimation of total leukocyte count gives a valuable clue to possible etiology and warning of onset of complication which can be prevented when anticipated earlier in the illness. Dengue was one of the common etiology in our hospital. The variation in the total leukocyte guided us towards early prediction of etiology and complication.

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