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CLINICAL AND ETIOLOGICAL PROFILE OF ACUTE FEBRILE ILLNESS: A HOSPITAL-BASED STUDY FROM ACSR GOVT MEDICAL COLLEGE, NELLORE.

Medicine

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ABSTRACT

Background: Fever is the most common presenting problem during the monsoon and post monsoon season in most parts of south india. Despite dramatic advances in hygiene, immunisation and antimicrobial therapy, infectious diseases are still responsible for a major global health burden.
Objective: To study the etiological and clinical profile of acute febrile illness in adult patients admitted to Medicine ACSR Govt Medical College, Nellore during the months of September and October 2017.
Materials and Methods: This observational study was conducted in ACSR Government Medical College, Nellore. All adult patients presenting with acute fever of 3-14 days duration were evaluated for etiology, clinical presentation and outcome were analyzed.
Results: The study included 378 patients. A microbiological cause could not be identified in 78.03% of our patients. Followed by dengue (7.6%), malaria (3.4%), enteric fever (3.17%),upper respiratory tract infections in (7.4%).Though fever with thrombocytopenia was present in (57.93%) Dengue was not the etiological factor and most of them were due to unidentified viral fevers. The mean time to presentation was longer in enteric fever (9.9 [4.7] days) . Bleeding manifestations were seen in (8.9%) total (n= 34) patients. The overall mortality rate was (1.05%)n=4, and was highest with Dengue hemorrhagic fever . Outcome was good with (98.94%) n=374, discharged after complete recovery.
Conclusion: In a large number of patients with acute febrile illness, the exact cause could not be identified. As alarmed Dengue was not the common etiological factor in majority of patients with thrombocytopenia.

KEYWORDS

Acute febrile illness, Undifferentiated viral fevers. Thrombocytopenia

Introduction:
Fever implies an elevated core body temperature > 38.0 °C, i.e. above the normal daily variation. Fever is a response to cytokines and acute phase proteins and is a common manifestation of infection, although it also occurs in other conditions. Body temperature is controlled in the hypothalamus, which is directly sensitive to changes in core temperature and indirectly responds to temperature-sensitive neurons in the skin. The normal 'set-point' of core temperature is tightly regulated within 37 ± 0.5 °C, necessary to preserve the normal function of many enzymes and other metabolic processes. The temperature set-point is increased in response to infection. Despite dramatic advances in hygiene, immunization and antimicrobial therapy, infectious diseases are still responsible for a major global health burden. Key challenges remain in tackling the diversity of infection in developing countries and the emergence of new infectious agents and of antimicrobial-resistant microorganisms.[1]

Common causes of acute febrile illness include upper and lower respiratory tract infections, gastroenteritis, genitourinary infections, soft tissue infections, bacteraemia, malaria, typhoid,meningitis or viral exanthems.[2]

Acute onset of fever, chills, myalgia, and fatigue are common features of many infections that are endemic in India. In many areas of developing countries, where diagnostic facilities are limited, etiologies of acute undifferentiated febrile illness (AUFI) remain largely unknown. Physicians often diagnose patients presumptively based on clinical features and assumptions regarding circulating pathogens .[3]

However the etiological profile varies from region to region and patient should be treated according to specifiec infections prevalent in that area with sensitive antibiotics and supportive care. This study was conducted to observe the etiological and clinical profile of acute febrile illness in adult patients.

Materials and Methods:
This study was conducted to observe the etiological and clinical profile of acute febrile illness in adult patients admitted to Medicine ACSR Govt Medical College, Nellore during the months of September and October 2017.

All new patients aged more than 15 years, with fever (Temperature >99.9℉) of 3-14 days duration were included in the study. Already diagnosed cases of hematologic disorders or on immunosuppressive agents presented/admitted with acute febrile illness were excluded from the study.

Detailed history was taken, thorough physical examination was done in all patients. Routine laboratory evaluation like Complete blood count, Platelet count, peripheral smear for cell morphology, peripheral smear for malarial parasite, Dengue NS1 Ag /Dengue IgM Ab test, Prothrombin time with International Normalized Ratio(INR), activated partial Thromboplastin time, RBC indices(Mean Corpuscular Volume MCV, Mean Corpuscular Hemoglobin MCH, Mean Corpuscular Hemoglobin Concentration MCHC),liver function test, renal function test, urine routine, sputum for gram stain,Electrocardiograph (ECG),X ray chest, Ultrasonography (USG) abdomen. serological study for Human Immunodeficiency Virus (HIV) infection were done to all patients. A single blood culture was obtained from all enrolled patients.

Results:
The study included 378 patients with fever of two weeks duration. All the patients were evaluated clinically and investigated in detail for etiological cause. All patients were treated according to the etiological cause with specific antibiotics and anti malarial and supportive care.

Table:1 Incidence of Fevers with relation to sex

Sex	No. of cases	Percentage
Male	153	40.47%
Female	225	59.52%
Total	378	

Incidence of fever with its Gender distribution is shown in Table no.1.there is slight female(n=225;59.52%) preponderance compared to males (n=153;40.47%).

Table:2 Incidence of Acute fevers with relation to Age

Age Distribution				
	Male	percentage	Female	Percentage
15-35 Yrs	94	61.43%	119	52.88%
36-55 Yrs	40	26.14%	72	32%
56-75 Yrs	19	12.41%	34	15.1%

majority of the patients presented with acute febrile illness in present study were of middle aged persons.

Table: 3 Incidence of different infections in acute fevers

	Male	Female	Total	percentage
Dengue	18	11	29	7.67%
Malaria	8	5	13	3.4%
Unidentified viral fevers	112	184	296	78.30%
Upper respiratory infections	10	18	18	4.76%
Typhiod	5	7	12	3.17%

Incidence of different causes for acute fevers in present study was shown in table :2.Specific microbiological cause could not be identified in 78.03% of patients. Followed by dengue in (7.6%), malaria in (3.4%), enteric fever in(3.17%),upper respiratory tract infections in (7.4%).

Table:4 Incidence of Thrombocytopenia in different infections

S.No.	Diagnosis	No. of Cases	Percentage
1.	Unidentified viral fevers	185	85%
2.	Dengue	26	12%
3.	malaria	8	03%
Total		219	

Fever with thrombocytopenia was present in (57.93%), Dengue was not the common etiological factor for febrile thrombocytopenia in present study and most of them were due to unidentified viral fevers. Bleeding manifestations were seen in (8.9%) total (n= 34) patients.

The mean time to presentation was longer in enteric fever (9.9 [4.7] days) The overall mortality rate was (1.05%),n=4, and was highest with Dengue hemorrhagic fever . Outcome was good with (98.94%) n=374,discharged after complete recovery.

Discussion:

This study is on the clinico-etiological profile of Acute febrile illness from ACSR Government Medical college,Nellore. A total of 378 patients were enrolled over a period of 2 months. Female gender comprised slightly higher as compared to study done by MA Andrews et,al [4]. Chrispal A, et ,al.[5] where there is male preponderance.

Majority of the patients were in the middle age group The age group between 20 to 55 years were effected similar to the study done by MA Andrews et,al.may be due to same reason as the people of this age group are economically productive and exposed to environmental pathogens.

Most of the patients presented with similar complaints like,fever, myalgias, arthralgias,fatigue.No definite cause could be identified in 78.03% of patients as compared to 64.34% in study done by MA Andrews et,al.[4]

A microbiological cause of AUFI could not be identified in the majority (85%) of our patients as compared to study done by MA Andrews et,al.4, where microbiological cause was not identified in 63% of the patients. In other studies, the rates of determining the etiology varied from 40% to 73.3% by Mueller et al. in Cambodia. [6,7,8]. The overall mortality rate was (1.05%)n=4, and was highest with Dengue hemorrhagic fever in present study compared to MA Andrews et,al. Where Mortality rates of 5-15% and are seen in severe leptospirosis.[4]

Limitations:

This study was done for very short duration which might not show the seasonal variations. This is a hospital based study so could not include all the patients of acute febrile illness of given community. Many potential pathogens were not routinely tested, and due to financial constraints samples were not subjected to a broader battery of serologic testing.

Conclusion:

With similarity in clinical symptoms, diversity in etiological cause and limited laboratory facilities etiological cause could not be identified in majority of the patients with acute febrile illness(85%) in present study. This stresses on the importance of improving lab facilities in tertiary care hospitals for extended spectrum of serological tests to diagnose the etiological cause of unidentified fevers. This also helps in framing guidelines for control and treatment of infectious diseases.

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