AETIOLOGY OF ACUTE UNDIFFERENTIATED FEBRILE ILLNESS IN ADULT PATIENTS IN A TERTIARY CARE HOSPITAL

ABSTRACT

INTRODUCTION

Acute undifferentiated febrile illness (AUFI) defined as acute onset of fever less than 14 days of duration without any evidence of organ or systemic specific aetiology.

AIMS & OBJECTIVES:

- To study the etiology of Acute undifferentiated febrile illness among the fever patients
- To compare the laboratory parameters with clinical signs and symptoms

MATERIALS & METHODS:

Place of study: Institute of Microbiology & Institute of Internal Medicine, Rajiv Gandhi Government General Hospital (RGGGH), Chennai – 03.

Study design: Prospective study.

Study period: One year.

Sample size: 150 patients presented with AUFI admitted in a tertiary care hospital.

Ethical consideration:

All patients detail, satisfying the following inclusion criteria will be documented and taken up for the study after obtaining informed written concern in both regional language and English. This study was reviewed by Institutional Ethics Committee and clearance number obtained.

Inclusion criteria:

- Adult patients of more than 18 years of age
- Patients with acute fever less than 14 days duration with body temperature of more than 38 deg C who are admitted in the hospital.
- The cause of illness undiagnosed after medical history and physical examination.
Exclusion criteria:

- Patients aged less than 18 years.
- Fever more than 14 days
- Patient with clinical systemic involvement.
- Patient with coexisting infections.

Methods:

- Blood Culture - Salmonella typhi
- Peripheral Smear - Malaria
- Malarial Antigen - Malaria
- Dengue IgM ELISA - Dengue
- Dengue NS1 Antigen - Dengue
- Chickungunya - IgM ELISA
- Enteric Fever - Widal
- Scrub Typhus - One Step Rapid Diagnostic Test

RESULTS & DISCUSSION:

Fever is the main clinical symptom of various tropical infectious diseases. The etiologies of human febrile illness can vary region wise in India suggesting that diagnosis, treatment and control programs need to be based on a methodical evaluation of area specific etiologies. Common causes of undifferentiated febrile illnesses include dengue, malaria, leptospirosis, enteric fever, chikungunya and rickettsiae. Reliable laboratory-confirmed diagnosis of AFI require a positive bacteriological \ serological test such as culture results and serological confirmation & pathogen specific antibodies (Immunoglobulin IgM) (or) a four-fold rise in IgG.

This prospective sectional study was conducted in the Institute of Microbiology, Institute of Internal medicine. Rajiv Gandhi Government General Hospital, Chennai during the period of September 2016 - August 2017. The present study includes 150 patients presented with AUFI.
In the present study, among 150 patients with acute febrile illness 85 were male (57%) and 65 were female (43%). And most commonly affected age group were from 18-30 yrs (54.7%) followed by 31-40 yrs (22%). This was similar to study conducted by Das et al 2015 where male (56%) and female (43%) and commonly affected age group was 18-30 yrs (58.7%).

In this study many cases were reported in September and October which is the rainy and pre monsoon period. This is similar to studies done by Jhansi Charles et al (2015) and Priyadarshini Shanmugam et al. (2016) which showed had peak incidence of cases during rainy and pre monsoon seasons. Since large number of cases occur during rainy and monsoon period, preventive measures have to initiated promptly like control of mosquitoes and rodents. The general public have to be educated and awareness should be created on good hygienic practices, vector control measures and protective measures.

In this study among 150 patients, the duration of fever range was 5-10 days in 94% followed by 11-14 days in 6%. This was similar to study done by Das et al 2015, in which mean duration of fever was 5-7 days (92%).

In this study majority of the cases 126(84%) presented with fever with rigor & chills followed by nausea & vomiting 80 (53%), Headache 43 (29%), abdominal pain (43%). This was in contrast to study Das et al 2015 in which myalgia 113(86%) were more common followed by headache 84(68%).

In this study blood samples from 150 patients were subjected to blood culture/serological tested according to the duration of fever. 5(3%) positive for enteric fever by blood culture, 9(6%) positive by widal test for enteric fever. 40(26.6%) were positive for Dengue, 31(21%) were positive for leptospirosis, 9(6%) were positive for malaria 9(6%) were positive for Enteric fever, 8(5%) were positive for scrub typhus, 6(4%) were positive for chikungunya. 31(21%) were unclassified because the etiology was not diagnosed based on these serological tests.

In this study Dengue infections among AUFI, patients were detected by NSI antigen in 17(11.3%) and IgM ELISA in 23(15%) and both were positive in 10 cases (6.6%). This was similar to study done by Vidhyarani 2016, were more marked in Dengue cases with 40 cases of
thrombocytopenia and 34 cases of leucopenia. In this study, 40(26.6%) were positive for Dengue. Fever was the commonest symptom for dengue in this study fever followed by headache (42). In this study thrombocytopenia 32(21.3%) and leucopenia 25(16%). This was similar to the study conducted by Vidhyarani et al 2016, and by Yogesha et al 2014.

In this study detection of leptospirosis by MSAT among 150 patients was 31 (21%). Most common presentation of leptospirosis was fever 29(19%) followed by jaundice 27(18%). This was similar to study done by Neelu sree p. et. al 2015 where the detection rate of leptospirosis was 22%.

In this study detection of malaria among 150 patients were 9(6%). By using peripheral blood smear the detection rate was 100% when compared to one step malaria Antigen rapid test which was 66%. The most common presentation of malaria was anaemia (9) followed by thrombocytopenia (3). This was similar to study done by Kashinkunti et al 2013 were detection rate was 100% in peripheral blood smear compared to rapid test (80%).

In this study scrub typhus and chikungunya were detected in 8(5%) and 6(4%) cases respectively. It was low when compared to the study by Kumar. V. et. al. 2014 and Dipmala Das et al 2015 were the prevalence was 33%. This is due to geographical distribution of the causative agent.

Blood culture was positive in 5 cases for Salmonella typhi infection. and Widal test for salmonella Typhi positive (9) in this study. The similar study was done by Bhan mk, Bahl R, Bhatnagar, Lancet. 2005:366 (9487):749-62.

**KEYWORDS:**

Acute undifferentiated febrile illness, Malaria, Chikungunya, Dengue, Scrub Typhus, Leptospirosis, Typhoid Fever.