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"TO STUDY THE CLINICAL PROFILE AND OUTCOME OF CRITICALLY ILL PATIENTS ADMITTED WITH INFECTIOUS DISEASES IN TERTIARY CARE HOSPITAL"

Internal Medicine

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ABSTRACT

Even though non communicable diseases have taken forefront in the past few decades, the infectious diseases provide a very different and difficult challenge as they are a persistent source of illness. Therefore, the present study was conducted to evaluate the clinical profile and outcome of critically ill patients admitted with infectious diseases at a tertiary care hospital. Most common co morbidity seen was diabetes in 20 patients (205) followed by thyroid disorders in 10 cases (10%), Chronic Liver Disease (CLD) in 6 cases (6%).

There were no co morbidities in 54 patients (54%). The majority of the patients (30%) in our study were diagnosed with dengue, followed by malaria in 16 patients (16%), leptospirosis in 14 patients (14%), swine flu in 12 patients (12%), enteric fever in 8 patients (8%), cholera in 8 patients (8%), amoebiasis in 6 patients (6%), scrub typhus in 4 (4%) and lymphatic filariasis in 2 patient (2%). Out of 24 patients who had died in our study, 10 had bleeding manifestations (41.67%), while out of 76 patients who have been treated and discharged, only 16 had bleeding manifestations (10.53%)

MATERIALS ANDMETHODS: Prospective, non randomized, cross sectional, observational study was carried out and patients suffering from an infectious disease requiring critical care unit management were included in the study.

OBSERVATIONS & RESULTS: The mean age in our study was 40.52 ± 15.08 years with minimum of 19 years and maximum of 63 years. The Intensive Care Unit (ICU) stay in our study was 11.52± 9.01 days with minimum of 2 days and maxim patient suffering from dengue shock syndrome. Mean SOFA score at presentation for patients admitted in the ICU for management of infectious diseases was 13.6 ± 5.3.

DISCUSSION: We studied 100 patients of locally infectious diseases admitted in the Intensive Care Unit of our tertiary care hospital and medical college. Many studies have described a single disease. In our study we are including patients from nine diseases which satisfied our study selection criteria. In the study, the most common infectious disease needing Intensive Care Unit admission was dengue which also had the maximum mortality in the study. Understanding these clinical features and complications will help to identify patients at high risk and treat them with optimal intensive care to reduce mortality.

KEYWORDS

Infectious disease, Intensive care unit, communicable disease, dengue, malaria

INTRODUCTION

Infectious diseases remain the second leading cause of death worldwide.[1]

Although the rate of infectious disease- related deaths has decreased dramatically over the past 20 years, the absolute numbers of such deaths have remained relatively constant, total number just over 12 million in 2010.[2]The World Health Organization estimates that 25% of the total annual deaths which occur worldwide are caused by microbes, with this proportion being significantly higher in the developing world. Since infectious diseases are still a major cause of global mortality, understanding the local epidemiology of the disease is critically important in evaluating patients.

Over the past 10 years, more than 30 pathogens have emerged or re-emerged taking a heavy toll of life in India.Drug-resistant malaria is emerging as a global threat. Even dengue is spreading to newer geographical areas while Chikungunyahas re -emerged after 30 years of quiescence.[2]

Most often, the disease is spread through an insect bite which causes the transmission of the infectious agents. The NVBDCP has been started for the control of these vector borne diseases. [3]The outcome of infectious diseases is wide spectrum of asymptomatic minor illnesses to ICU care During the course of the disease these patients might develop hypotension, renal failure, hepatic dysfunction and respiratory complications warranting the need for inotropic support, mechanical ventilatory support, blood/blood product transfusion as also prolonged ICU stay.

Although there is a declining trend in infectious disease however research will be warrantaed. Therefore, the present study was conducted to evaluate the clinical profile and outcome of critically ill patients admitted with infectious diseases at a tertiary care hospital.

AIMS

To study the clinical profile of patients admitted in the ICU with infectiousdiseases.

OBJECTIVES

1. To measure and study the clinical profile of critically ill patients with infectious diseases requiring intensive care management
2. To estimate and study the outcome in patients with reference to aetiology, time of presentation, severity at presentation.

MATERIAL & METHODS

TYPE OF STUDY-

Prospective, non randomized, cross sectional, observational study

Sample Size- 100 patients

Inclusion Criteria

1. Patient aged 18 years and above
2. Patient from an infectious disease requiring ICU Care
1. Dengue
2. Malaria
3. Lymphatic filariasis
4. Amoebiasis
5. Cholera
6. Enteric fever
7. Swine flu (H1N1)
8. Leptospirosis
9. Scrub Typhus

Period Of Study

October 2020 T0 October 2021

Source Of Data

All indoor patients of infectious disease who are critically ill either on presentation or during the course at this tertiary hospital who require intensive care during this study period.

Parameters To Study The Outcome Of The Study

1. Indication for ICU management
2. Evidence of multiple system involvement
3. Common precipitating factor
4. Morbidity
5. Mortality

Method Of Data Collection

1. Critically ill patients with infectious diseases were included in this study Patients with infectious diseases would be classified as critically ill depending on
   1.Temperature > 38 degrees Celsius or < 36 degree Celsius
   2.Heart rate > 90 beats/ minute
   3. Respiratory rate > 20/ minute or PaCo2 less than 32 mm Hg
   4. Total leucocyte count > 12,000/ mm3or <4,000/mm3 or more than 10 % immature neutrophils
2. Patients would be assessed according to
   1.Detailed history which includes
   - demographic details of the patient – name, age, sex, residence

   2.Clinical examination.
   - Special emphasis on nature of the infectious disease and cause
   - Evidence of clinical features of shock/bleeding manifestations

3. qSOFA Score at presentation
4. SOFA (Sequential Organ Failure Score Assessment) score at 24 hoursofpresentation
5. Course in hospital – Evidence of blood transfusions/ dialysis /ventilatory support/ ionotropic support

OBSERVATIONS & RESULTS

The mean age in our study was 40.52 ± 15.08 years with minimum of 19 years and maximum of 63 years. The Intensive Care Unit (ICU) stay in our study was 11.52± 9.01 days.

Most common age group was less than 30 years with 38 patients (38%) followed by 34 patients in 30 – 50 years (34%) and rest 28 patients (28%) patients were more than 50 years of age.

Fever was the most common presenting symptom seen in all 100 cases (100%) followed by jaundice in 38 cases (38%), renal failure in 30 cases (30%), septicemia and joint pains in 24 patients each (24%), bleeding and shock in 22 patients each (22%) and others.

qSOFA Score of 2 & 3 were common on presentation, seen in 46 patients each (46%). While a score of their biochemical profile, thus requiring close monitoring.

Mean SOFA score at presentation for patients admitted in the ICU for management of infectious diseases was 13.6 ± 5.3.Maximum sofa score was 23.Mean SOFA score in patients who did not survive was 21.4 ± 0.93.

Mean SOFA score in discharged patients was 11.24 ± 3.3. Out of 24 patients who died, 18 patients received dialysis, while rest 6 did not require it. While out of 76 patients who recovered and discharged, only 24 required dialysis and rest 52 did not require it. There was significant association between the outcome and the use of inotropic support in patients (p = 0.002).

Out of 24 patients who had died in our study, all 24 required inotropic Support (100%), while out of 76 patients who have been treated and discharged, only 38 required inotropic Support (50%).

The deaths observed in the patients according to the infections were 10 out of 30 patients of Dengue died (33.33%).

4 out of 8 patients of Swine flu died (50%).

4 out of 10 patients of Leptospirosis died (40%). One each out of 6 cholera and 6 Enteric Fever patients died (33.33% each).

There was one patient of scrub typhus who died (100%) due to septic shock.

DISCUSSION

In India, range and the burden of infectious diseases are huge. There is a need for research and evaluation of these diseases. We studied 100 patients of locally infectious diseases admitted in the Intensive Care Unit of our tertiary care hospital and medical college. Many studies have described a single disease. In our study we are including patients from nine diseases which satisfied our study selection criteria.

The study done in Brazil by Figueiredo Amâncio the clinical profile of adults from dengue in ICU. The mean age was 42.6 ±20.3 years, which is comparable to our study and most common presentation as shock (22.7%) followed by severe thrombocytopenia with or without minor bleeding and respiratory failure. These were the main causes of ICU admission in dengue patients. Hemorrhagic manifestations were seen in 73.2% patients such as petechiae, ecchymosis and suffusion.

Dayamani B et al had reported there were 39.4% patients who presented with fever followed by myalgia and jaundice.[7] Sivarajan S et al reported fever of <7 days (83.3 %) was the most common presentation followed by myalgia, pain abdomen, headache, nausea/vomiting, dry cough, hepatomegaly, splenomegaly and lymphadenopathy as the other predominant clinical features amongst their patients.[114] blood product transfusion was required in 54 patients (54%) during the course of ICU stay. Platelet transfusion followed by packed cell volume transfusion given in our study.

there was significant association between the poor outcome of the patients and higher qSOFA score (p = 0.011) at presentation. Poor outcome was noted in patients who presented with a qSOFA score of 2 or more.

A total number of 24 deaths were reported in our study of which 20 patients had a qSOFA score of 3. There was significant association between poor outcome of patients and occurrence of bleeding manifestations in patients (p = 0.014). Out of 24 patients who died, 10 had bleeding manifestations (41.67%), while out of 76 patients who were treated and discharged, only 8 had bleeding manifestations (10.53%). Presence of renal failure (p = 0.014) and thereafter requirement of dialysis during the course of ICU stay (p = 0.008) had a poor prognostic outcome among patients in our study. The need for mechanical ventilation during the course of ICU stay had significant effect (p value < 0.001) on poor outcome of disease process with mortality seen in 46% of cases (n=26) The mean age and mean duration of hospital stay were not showing any significant difference in outcome of the patient (p > 0.05). No significant association was seen between the diagnosis and outcome in the patients. (p=0.69)

REFERENCES

1. Fauci AS, Touchette NA, Folkers GK. Emerging Infectious Diseases: a 10-Year Perspective from the National Institute of Allergy and Infectious Diseases. Emerging Infectious Diseases 2005;11:519–25.
2. WHO. Research priorities in communicable diseases. Report of a regional meeting WHO/SEARO,New Delhi. 2010.
3. DGHS. Directorate General Of Health Services. https://dghs. gov.in/ content/ 1364 3 NationalVectorBorneDiseaseControlProgramme.aspx (accessed December 6, 2019).
4. John TJ, Dandona L, Sharma VP, Kakkar M. Continuing challenge of infectious diseases in India. The Lancet. 2011 Jan 15;377(9761):252-69.
5. Amâncio FF, Heringer TP, Oliveira CdCHBd, Fassy LB, CarvalhoFBd, Oliveira DP, et al. (2015) Clinical Profiles and Factors Associated with Death in Adults with Dengue Admitted to Intensive Care Units, Minas Gerais, Brazil. PLoS ONE 10(6): e0129046