

ASSESSMENT OF DEMOGRAPHIC AND CLINICAL PROFILE OF PATIENTS WITH COVID-19 AT A TERTIARY CARE CENTRE

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Abstract

Background: To assess demographic and clinical profile of patients with COVID-19 at a tertiary care centre. **Materials and Methods:** Fifty- six cases of COVID-19 infection of both genders were enrolled. Parameters such as clinical features and laboratory parameters were recorded. **Result:** Out of 56 cases, males were 36 (64.2%) and females were 20 (35.8%). The difference was significant ($P < 0.05$). Common clinical features were fever in 92%, seizure in 15%, altered sensorium in 17%, difficulty in breathing in 74%, diarrhea in 32%, vomiting in 14%, cough in 87% and headache in 45%. The difference was non- significant ($P > 0.05$). Elevated leucocyte count was seen in 24, leucopenia in 12, lymphopenia in 20, thrombocytopenia in 45, increased C-reactive protein in 34, increased lactate dehydrogenase in 38, increased alanine aminotransferase (ALT) in 47 and increased aspartate aminotransferase (AST) in 26 patients. **Conclusion:** Common clinical features were fever, seizure, altered sensorium, difficulty in breathing, diarrhea, vomiting, cough and headache.

INTRODUCTION

The World Health Organization (WHO) reported more than 43 million confirmed cases of SARS-CoV-2 infection and more than one million deaths globally, with India contributing to >600,000 confirmed patients and >100,000 deaths until October 29, 2020.^[1] The first patient in India was reported from Kerala and gradually COVID-19 has engulfed the entire country. Patients with SARS-CoV-2 infection may have mild-to-asymptomatic illness, but some rapidly progress to acute respiratory distress syndrome (ARDS), multi-organ dysfunction syndrome (MODS) and death.^[2] Coronavirus differs from other enveloped viruses in its replicative cycle by the fact that its envelope is derived from the endoplasmic reticulum of the host cell not from the plasma membrane.^[3] This may add to its pathogenicity. Envelope (E) proteins, Membrane (M) proteins and Spike (S) proteins have been identified in coronavirus. S-proteins have been found to have a role in the recognition and attachment of the virus to the Angiotensin Converting Enzyme 2 (ACE-2) receptors of the human epithelial cells in the respiratory mucosa.^[4] These features of COVID-19 bear resemblance with the infections caused by previously known middle east respiratory syndrome (MERS) and severe acute respiratory syndrome (SARS) coronaviruses.^[5]

The respiratory system is where coronaviruses enter. nose with symptoms of a cold, stuffy nose, sneezing, running nose, and the odd cough, and an incubation period of 3 to 20 days.^[6] The corona virus can be detected using a variety of techniques, including virus culture, electron microscopy, and laboratory testing for serology.^[7] Diagnoses are made by gathering matched sera (from the acute and convalescent phases of the disease) and using an ELISA antibody to check for an increase.^[8] The greatest technique to handle the extremely contagious worldwide is in the absence of reliable, effective treatment.^[9] We performed this study to assess demographic and clinical profile of patients with COVID-19 at a tertiary care centre.

MATERIALS AND METHODS

After considering the utility of the study and obtaining approval from ethical review committee, we selected fifty- six cases of COVID-19 infection of both genders. Patients' consent was obtained before starting the study.

Data such as name, age, gender etc. was recorded. Parameters such as clinical features and laboratory parameters were recorded. All the data were cleaned, entered in Microsoft Excel Spreadsheet and analysed into SPSS software version 20 for analysis and validation. The qualitative variables were presented in the form of frequencies and

percentages. Information was expressed in the form of tables. P value < 0.05 was considered significant.

RESULTS

Table 1: Patients distribution

Total- 56		
Gender	Males	Females
Number (%)	36 (64.2%)	20 (35.8%)

Out of 56 cases, males were 36 (64.2%) and females were 20 (35.8%). The difference was significant (P< 0.05) [Table 1].

Table 2: Assessment of clinical profile

Clinical profile	Percentage	P value
Fever	92%	0.82
Seizure	15%	
altered sensorium	17%	
difficulty in breathing	74%	
diarrhea	32%	
vomiting	14%	
cough	87%	
headache	45%	

Common clinical features were fever in 92%, seizure in 15%, altered sensorium in 17%, difficulty in breathing in 74%, diarrhea in 32%, vomiting in 14%, cough in 87% and headache in 45%. The difference was non-significant (P> 0.05) [Table 2].

Table 3: Assessment of laboratory parameters

Parameters	Number
Elevated leucocyte count	24
Leucopenia	12
Lymphopenia	20
Thrombocytopenia	45
Increased C-reactive protein	34
Increased lactate dehydrogenase	38
Increased alanine aminotransferase (ALT)	47
Increased aspartate aminotransferase (AST)	26

Elevated leucocyte count was seen in 24, leucopenia in 12, lymphopenia in 20, thrombocytopenia in 45, increased C-reactive protein in 34, increased lactate dehydrogenase in 38, increased alanine aminotransferase (ALT) in 47 and increased aspartate aminotransferase (AST) in 26 patients [Table 3].

DISCUSSION

SARS-CoV-2 is one of the most virulent pathogens causing severe acute respiratory illness along with MERS and swine flu in humans.^[10,11] Initial case studies from China demonstrated COVID-19 to be a respiratory illness with a spectrum ranging from mild illness (81%), severe respiratory distress (14%) and critical illness in five per cent with a case fatality rate of around 2.4 per cent.^[12,13] Considerable disparities in demographic and clinical patterns have been observed between countries across different continents.^[14,15] We performed this study to assess demographic and clinical profile of patients with COVID-19 at a tertiary care centre. Our results showed that out of 56 cases, males were 36 (64.2%) and females were 20 (35.8%). Iroungou et al.^[16] described the clinical characteristics and outcomes of patients with COVID-19 infection. Of the 837 patients enrolled, 572 (68.3%) were men, and 264 (31.5%) were women (male to female ratio, 2:1). The mortality rate associated with COVID-19

was low (1.4%). Of these 837 patients, 524 (62.6%) were categorized as having no symptoms, 282 (33.7%) as having mild symptoms, and 31 (3.7%) as having severe symptoms. Patients with severe symptoms were older than patients with mild symptoms and those with no symptoms. History of diabetes was the principal risk factor associated with both severe symptoms in 5 of 31 patients (16.1%) and mild symptoms in 11 of 282 (3.9%) compared with no symptoms in 5 of 524 (0.9%). Patients with severe symptoms and a fatal outcome were older than survivors.

Our results showed that common clinical features were fever in 92%, seizure in 15%, altered sensorium in 17%, difficulty in breathing in 74%, diarrhea in 32%, vomiting in 14%, cough in 87% and headache in 45%. Soni et al.^[17] highlighted clinical experience in managing patients with COVID-19 at a tertiary care centre in northern India. During the study period, 114 patients with SARS-CoV-2 infection were admitted. The history of contact with COVID-19-affected individuals was

available in 75 (65.8%) patients. The median age of the patients was 33.5 years and there were 66 (58%) males. Of the total enrolled patients, 48 (42%) were symptomatic. The common presenting complaints were fever (37, 77%), cough (26, 54%) and shortness of breath (10, 20.8%). Nineteen (17%) patients had hypoxia (SpO₂ <24). Thirty-four (29.8%) patients had an accompanying comorbid illness. Age more than 60 years and presence of diabetes and hypertension were significantly associated with severe COVID-19 disease. Admission to the intensive care unit (ICU) was needed in 18 patients (52%), with three (2.6%) patients requiring assisted ventilation. Mortality of 2.6 per cent (3 patients) was observed.

Our results showed that elevated leucocyte count was seen in 24, leucopenia in 12, lymphopenia in 20, thrombocytopenia in 45, increased C-reactive protein in 34, increased lactate dehydrogenase in 38, increased alanine aminotransferase (ALT) in 47 and increased aspartate aminotransferase (AST) in 26 patients. Singh et al.^[18] in this cohort (n = 9), median duration of symptoms was 7 days and the median age at death was 4 years, with M:F ratio (1:2). The underlying illnesses were tuberculosis (n = 3), spastic cerebral palsy (n = 1) and chronic immune thrombocytopenic purpura (n = 1). History of contact was present in 2 cases. The most common symptoms were fever (n = 6), seizures (n = 6), altered sensorium (n = 6), diarrhea (n = 3), difficulty in breathing (n = 2), cough (n = 2), rash (n = 2), vomiting (n = 1) and headache (n = 1). Five children (n = 5) had bilateral pneumonia and one (n = 1) had unilateral pneumonia on chest radiographs. Laboratory parameter showed elevated leucocyte count (n = 6), leucopenia (n = 1), lymphopenia (n = 4), thrombocytopenia (n = 3), increased C-reactive protein and lactate dehydrogenase (n = 6), and increased alanine aminotransferase (ALT) and aspartate aminotransferase (AST) (n = 4). Two patients had increased ferritin (n = 2/5) and elevated d-dimer level (n = 5).

CONCLUSION

Common clinical features were fever, seizure, altered sensorium, difficulty in breathing, diarrhea, vomiting, cough and headache.

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