Clinical Profile of Patients with COVID-19 from Northern India: A Retrospective Chart Review

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Abstract: _Background_: _Covid-19 continues to wreak havoc across China, Europe, USA and India. The aim of this report is to describe the clinical profiles of Covid-19 infected patients admitted in N.C Medical College and hospital Israna, Panipat, ranging from their age, sex, clinical symptoms, treatment provided and the final outcome._ _Methods_: _This was a retrospective observational analysis of 801 patients diagnosed as COVID-19 admitted to a tertiary care center from northern India. Epidemiological, clinical, treatment and outcome data were obtained with data from electronic medical records and history given by Covid-19 infected patients._ _Results and Discussion_: _801 Covid-19 positive patients were enrolled in the study. Male patients constituted 73.7% and majority of these were below 60 years of age (97.25%). Children below 14 years constituted 4.2%. Around 79.2% patients were completely asymptomatic and of those who were symptomatic cough (30%) was the most common and least common presentation was skin rash (1.97%).underlying co morbidity was seen in 3.5% patients. 2.8% patients were shifted to intensive care, out of which 21.7%had associated comorbidities._ _Conclusion: In our study the main clinical presentation was cough and fever. The most common associated co morbidity was diabetes mellitus followed by hypertension. This study provides insight into epidemiological, clinical profile, and outcomes of COVID-19 patients admitted in a tertiary care hospital._

1. Introduction

In December 2019, in Wuhan city of China, emerged a new respiratory tract pathogen known as the coronavirus (COVID-19). After detailed genetic and phylogenic analysis, it was concluded that 2019-nCoV is a form of beta coronaviruses associated with human severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS)[1]. Mortality rate among diagnosed cases (case fatality rate) is highly variable with true overall mortality rate being uncertain, as the total number of cases (including undiagnosed persons with milder or pre symptomatic illness) is unknown [2].COVID-19 is a pandemic with over 70 million cases worldwide. The disease has imposed a huge burden on health resources. As COVID-19 is emerging as a major health threat in our country (there are over 9.93 million active cases at the time of writing this paper), the disease dynamics in a naïve Indian population are only now being elaborated[3],[4]. As clinical data is being collected and reviewed outside of the Chinese population, it is important to focus on the local dynamics of the disease.[5],[6],[7].Clusters associated with health care were identified from early case reports, emphasizing on the need for early recognition of suspected cases, strict practices for prevention and control of infection, and surveillance of health care workers for illness detection. Consistent with data from other respiratory disease outbreaks including SARS, MERS, and previous influenza pandemics, household transmission of SARS-CoV-2 was common. [8],[9],[10]Evaluation of clinical and epidemiological profiles of such patients can help in understanding and managing the outbreak more efficiently. This study was a retrospective observational analysis of 801 patients diagnosed as COVID-19 admitted to a tertiary care centre

from northern India from 7th July 2020 to 7th October 2020. All these patients were positive for COVID-19 by an oro-nasopharyngeal swab RT- PCR based testing. Analysis of demographic details, clinical characteristics, co morbidities, and the outcomes were performed. The data for the 801 patients admitted at the centre was suggestive of a mild self-limiting infection in majority of patients. Subsequently however, a diverse pattern of clinical presentation and progression has seen. A bigger spectrum of patient characteristics was observed: both extremes of ages, comorbidities, requirement of oxygen supplementation and/or invasive mechanical ventilation, and mortality. A review of the clinical profiles and outcomes of the subsequent eight hundred and one patients is reviewed here. It is imperative to study these patients' clinical characteristics, since understanding the disease and its presentations can help in evaluating patients objectively and ensure judicious triage.

2. Aims and Objective

This study was conducted to evaluate the demographic, clinical, and outcomes of the COVID-19 confirmed patients admitted to a tertiary care centre in N.C Medical College, Israna, Panipat (India).

3. Methods

The present study was a retrospective observational analysis. Oro-nasopharyngeal swab-based testing using RT-PCR was employed for laboratory confirmation of COVID-19. A case was labeled as confirmed positive if RT-PCR testing showed a positive result, irrespective of clinical signs or symptoms. The enrolment period was from 7th July 2020 to 7th October

2020. All patients were admitted and treated in accordance with the prevailing India guidelines for management of COVID-19. In the study period, initially all COVID-19 patients had to be admitted to a healthcare facility, even if asymptomatic. Eventually, patients with asymptomatic illness or mild disease were advised home isolation as per subsequent national guidelines [11]**.**Clinical Management Protocol For Covid-19 patients, Guidelines of Government of India, Ministry of Health and Family Welfare, Directorate General of Health Services (EMR Division) Version-5; Dated 02.07.2020 were followed [12].

An analysis of the demographic factors, clinical characteristics, comorbidities, and the outcome was performed. The primary analysis was performed on clinical characteristics, values and comorbidities. The secondary analysis was performed in context of the need for critical care and the need of reference to higher center.

All data collected was entered in Microsoft Excel (MS Excel). Data was analyzed using SPSS 21.0 version. All categorical variables were expressed in Numbers (percentage), all continuous variables were expressed as Mean (SD) or Median (IQR). Categorical variables were compared using Chi Square Test or Fischer Exact Test. Continuous variables were compared between cases and controls using Student't' test or Wilcoxon Rank Sum test.

Parameter	Number (Percentage), n=801
Proportion of Male	609 (76.03%)
Children (0-14 years)	33 (3.9%)
Cough	49 (6.12%)
Fever	44 (5.49%)
Breathlessness	21 (2.62%)

4. Results

This study included 801 Covid-19 affected patients in a tertiary care centre in north India. Most of the patients having Covid-19 were male (73.7%). Children below 14 years of age constituted 4.1% of the total affected patients. In our study cough was the most common symptom present in our patients(32.24%) followed by fever (28.3%), breathlessness (13.82%), myalgia (5.92%) sore throat (5.26%) Majority of our patients (79.2) were asymptomatic (79.2%) at the time of presentation. Of all the patients diagnosed with Covid-19, 3.50% were had associated co morbiditiesin the form of hypertension, diabetes mellitus, Asthma, COPD, Cancer and tuberculosis. The highest association was seen with diabetes mellitus (44.83%) and next with hypertension (27.59%). Twenty three (2.8%) patients were shifted to intensive care unit out of which five patients (21.7%) were having associated comorbidities.

5. Conclusion

This study showed variable range of presentation. Asymptomatic patients during the course of disease despite being Covid-19 positive pose a great epidemiological risk to the society as they can spread the infection unrestrictedly and shall be strictly isolated. In our study the main clinical presentation was cough and fever. The most common associated co morbidity in our study was diabetes mellitus

followed by hypertension. This observational study provides insights into the epidemiological, clinical profile, and outcomes of COVID-19 patients admitted in a tertiary care hospital in N.C College, Israna, Panipat (India).

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