

Clinical and demographic profile of mild COVID-19 disease:

The experience of a single center in India

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ABSTRACT

Over the small period of time COVID-19 has become a global pandemic and affected hundreds of countries all over the world. The main objective of our study is to report clinical and demographic profile of mild cases of COVID-19 disease. It is a descriptive study of 105 COVID-19 positive patients whose diagnosis was confirmed with polymerase chain reaction (PCR). The clinical, radiological and laboratory data were collected including age, sex, contact history, symptoms, duration of stay and swab conversion rate. The mean age of population was 39.75 years with a male preponderance. The most common symptom noted was sore throat (29.52%) followed by fever (26.67%). The vital and laboratory parameters were normal in all. All patients recovered with no residual symptoms. We used the innovative 40 step test to early identify deterioration. Eight cases were transferred to high dependency unit/intensive care in view of breathlessness & desaturation in oxygen level and recovered completely. We had no deaths.

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INTRODUCTION

A novel coronavirus, denominated as 2019-nCoV, emerged in Wuhan, China, at the end of 2019. It started spreading across the globe and almost infection spread in maximum countries of the world. The virus that causes COVID-19 was initially called as 2019-nCoV and was then termed as syndrome coronavirus 2 (SARS-CoV-2) by the International Committee on Taxonomy of Viruses (ICTV)¹. The World Health Organization (WHO) declared coronavirus disease as a pandemic on March 11, 2020². This is the third coronavirus that emerged among the human population in the last two decades. The other two were the severe acute respiratory syndrome coronavirus (SARS-CoV) outbreak in 2002 and the Middle East respiratory syndrome coronavirus (MERS-CoV) outbreak in 2012³.

The 2019-nCoV has close similarity to bat coronaviruses, and it has been postulated that bats are the primary source. While the origin of the 2019-nCoV is still being investigated, current evidence suggests spread to humans occurred via transmission from wild animals illegally sold in the Huanan Seafood Wholesale Market⁴. It spread rapidly through China affecting more than 100 countries in short duration of time. It has also affected India with more than 1 lakh population has been infected with the virus.

The viral illness ranges in severity from asymptomatic or mild to severe. Around 80% of infected patients have asymptomatic to mild infection. Nevertheless, even though the virus is causing mild disease in many, the course of illness is variable. The objective of this study is to describe the clinical and demographic profiles of mild or asymptomatic cases ranging from their age, sex, contact history, clinical symptoms, swab conversion rate.

Materials & Methods

It is a retrospective observational study of clinical and demographic profile of mild COVID positive patients referred to the department of pulmonary medicine during 25 April 2020 to 22 May 2020. The patients were referred for hospitalization as per then existing regional guidelines. The isolation facility at our hospital was assessed for preparedness according to a checklist standardized by MoHFW⁵. All the health-care workers caring for infected patients received comprehensive training and demonstrated competence in implementing infection control practices and procedures. The oropharyngeal swabs reports were available from the local Viral Research & Diagnostic Laboratory (VRDL which used the quantitative polymerase chain reaction for confirmation. All laboratory-confirmed mild symptoms cases were eligible for inclusion in this study and the demographic, clinical, and laboratory data were recorded.

All 105 laboratory confirmed COVID-19 positive cases who were having mild symptoms like fever, sore throat, headache, breathlessness, myalgia, chills or with atypical symptoms like new loss of taste or smell and loose stools were hospitalized under department of pulmonary medicine at a dedicated tertiary care COVID hospital in Mumbai, India. Clinical history and examination was noted. All the cases were evaluated with pulse oximetry, complete blood hemogram, renal function test, liver function test and random blood glucose along with chest roentography & electrocardiogram. The patients complaining of breathlessness were subjected to 40-step test and those having

more than 4% oxygen desaturation from baseline value were shifted to either High Dependency Unit or Intensive care unit with respect to clinic-radiological co-relation for further specific intensive care management.

All the admitted patients received standard 5 day treatment as per then existing ICMR protocol with antibiotic azithromycin 500 mg once a day for 5 days along with hydroxychloroquine 400 mg twice a day on day 1 followed by 400 mg once a day for rest 4 days after normal ECG along with Zinc & vitamin C based multivitamin tablets. Those who had history of diarrhea were managed with oral rehydration solution and probiotic supplements. Repeat RT-PCR testing was done as per institutional and regional criteria which was ever changing. During the study period repeat testing was done from Day 6,8,10 onwards every alternate day of hospitalization. All the cases recovered with clinical improvement and virological clearance and were discharged according to revised discharge policy of ministry of health & family welfare.

RESULTS

A total of 105 patients were included in the study from the 25.04.2020 to 22.05.2020. The mean age of the study population was 39.75 years (Range 17-69 years) table 1. There was a male preponderance with 58 out of 105 were males (55.23%). The associated co-morbidities were noted in 25 cases out of 105 (23.8%). The most common co-morbidity noted was hypertension seen in 13 cases (12.3%) and second most common co-morbidity was diabetes mellitus seen in around 9 cases(8.5%). The combined diabetes mellitus and hypertension were seen in 6 cases. The other co-morbidities noted were hypothyroidism, bronchial asthma, ischemic heart disease, psoriasis, migraine and deep vein thrombosis. The symptoms are presented in figure 1. Twenty four out of the 105 cases were asymptomatic accounting to 22.85%. The most common symptom noted was sore throat seen in 31 patients out of 105 cases (29.52%) followed by fever seen in 28 cases (26.67%). The other common symptom which was noted

TABLE 1.

| Age groups | No. of cases |
|-------------|--------------|
| 0-20 years | 2 |
| 21-40 years | 51 |
| 41-60 years | 50 |
| 61-80 years | 2 |

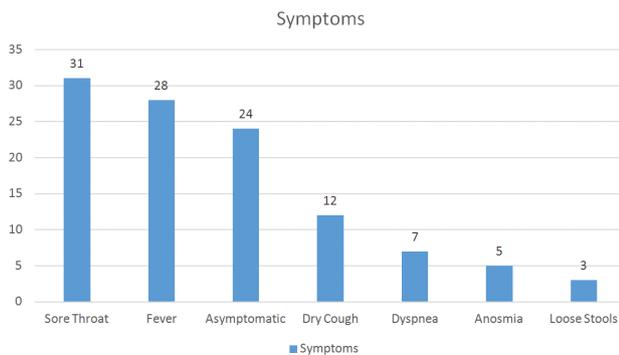


FIGURE 1. Symptomatology.

was dry cough noted in 12 cases. The other less common symptoms which were noted was breathlessness, headache and myalgia. The atypical symptoms like anosmia noted in 5 cases and loose stools noted in 3 cases. The mean duration of swab conversion was 10 (9.89) days with minimum days required for swab conversion from positive to negative RT-PCR oro-pharyngeal swab was 3 days and maximum days required for swab conversion being 24 days.

Our department was assigned the responsibility of managing our health care workers (HCW) and frontline workers. All 105 cases were hospitalized in the covid ward as per the then prevailing institutional guidelines for HCW. Eight (7.6%) cases reported breathlessness and persistent cough or fever during the course of stay. They were subjected to the 40 step-test. These 8 patients were shifted to HDU/ICU as their oxygen saturation dropped more than 4% of their baseline values with suspicion of bilateral pneumonia in the early phase. They were evaluated and treated for the same and all recovered. All the patients have been evaluated with chest roentography after admission and most of the roentogram did not have any abnormality. HRCT thorax was done in the eight cases who presented with desaturation showed presence of bilateral ground glass opacities and pneumonia. All 105 patients recovered and were discharged home. We did not report any deaths.

DISCUSSION

This study summarizes the observations in a cohort of COVID -19 disease presenting with mild symptoms during the initial phase of the pandemic in India. The study included 105 patients with median age of 39.7 years which was 15 years younger than that reported by

Karampitsakos et al⁶ (61 years), Wang et al⁷ (56.0years), Chen et al⁴ (55.5 years) and closest to that by Huang et al⁸ (49.0 years). Most of the patients having COVID-19 were men (55%). The studies done by Karampitsakos et al, Huang et al, Chen et al and Wang et al reported similar male predilection^{4,6-8}. In our study, 22.85 % cases had co-morbidities. The most common co-morbidity was hypertension seen in 13 (12.3%) and diabetes mellitus in 9 (8.5%). Six patients had both diabetes and hypertension. The study by Guan et al³ reported higher prevalence of hypertension in 23.7%, diabetes mellitus in 16.2%. Similarly, Zhang et al⁹ reported hypertension in 30% and diabetes mellitus in 12% as common co-morbidities.

Our study depicted that most of the cases had upper respiratory tract infection followed by fever. However some cases had asymptomatic presentation also. The symptoms of cough & breathlessness were present in some cases. Interestingly some of the cases also showed atypical symptoms like new onset of loss of smell and gastrointestinal system involvement in the form of diarrhea. In our study sore throat was the most common symptom in 31 patients (29.52%) followed by fever which was seen in 28 cases (26.6%) which was in contrast to the studies by Huang et al⁸, Wang et al⁷ and Guan et al³. They reported fever as the commonest symptom in around 90%. 21 of our patients (23.3%) were asymptomatic at the time of presentation.

The mean duration for conversion of positive to negative oro-pharyngeal swab report using RT-PCR technique was 10 days and maximum days noted being 24 days in our study. A study by Zhou F et al¹⁰ from Wuhan reported that virus was detected for a median of 20 days after onset of symptoms. All the cases received 5 day standard treatment as per ICMR protocol consisting of azithromycin and hydroxychloroquine and all the patients showed resolution of symptoms and virological clearance also. The study by Gautret P et al¹¹ also showed promising response in viral load reduction.

We used the innovative 40 step test to check for early clinical signs of pneumonia. This test was described by Greenhalgh et al¹² to correlate well with the time consuming and exhaustive six minute walk test and was practically easy and feasible in cases with respiratory symptoms and normal baseline saturation. We identified eight (7.6%) of the 105 cases of bilateral pneumonia early in the clinical deterioration course. The early intervention and HDU/ICU referral helped prevent further progression and clinical deterioration and all recovered fully.

LIMITATIONS

Our study had limitations. Our findings were not novel and validated previous literature. It was a single center study with an unintentional referral bias. The admissions to our pulmonology unit as designated by the institutional COVID task force management policy consisted of health care workers and frontline workers of the hospital.

CONCLUSION

The 105 mild cases of COVID disease had good treatment outcomes. The simple test like 40-step walk test was useful to assess cases with clinical symptoms for reduction in oxygen saturation levels. The test helped in early intervention during the early deteriorating phase of COVID-19 with rapid intensive care and further specific management.

Thus COVID-19 is a treatable condition if we assess patients on the basis of their early mild symptomology and use of simple clinical test and pulse oximetry is very useful in identifying rapid deterioration of the cases.

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CONFLICTS OF INTEREST

None.

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