Japanese Journal of Gastroenterology and Hepatology

Research Article ISSN 2435-1210 |Volume 6

Post Covid-19 Complications After First Wave in Haryana

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Received: 15 May 2021
Accepted: 11 Jun 2021
Published: 18 Jun 2021

Keywords:

Covid-19 infection; Post Covid Complications; Diabetes Mellitus; Cough; Allergy

Citation:

Praveen M. Post Covid-19 Complications After First Wave in Haryana. Japanese J Gstro Hepato. 2021; V6(17): 1-4

1. Abstract

1.1. Introduction: Covid-19 is an ongoing global pandemic around the world which has led to devastation both with human lives as well as economy. The agony of patients who get infected with this deadly virus, does not end with recovery from it, as many face Post Covid-19 complications. There is very limited data regarding Post Covid-19 complication in view of short span of time which has elapsed since onset of this Pandemic.

1.2. Aim: To determine Post Covid-19 complications in patients who have recovered from first wave of Covid-19 infection.

1.3. Materials and Methods: It was a cross sectional study conducted at Department of Medical Gastroenterology, Post Graduate Institute of Medical Sciences (PGIMS), Rohtak, over a period of two months i.e. from 01.03.2021 to 30.04.2021. The 25,000 confirmed patients of first wave of Covid-19 infection who have recovered six months prior from this illness, belonging to various parts of Haryana were enrolled in the study.

1.4. Results: Out of these twenty-five thousand patients of Covid-19 infection, only Sixty-five (65) i.e. 0.26 % patients developed Post Covid complications. It is pertinent to mention that these patients belonged to first wave of Covid-19 infection in India which started in March, 2020.

2. Introduction

Covid-19 is a devastating global pandemic in which majority of infected cases appear mild but some individuals present with respiratory complications with possible serious lung damage. However, little is known of the incidence and seriousness of post-Covid pulmonary pathology. Covid-19 infection, caused by SARS-CoV-2, has led to a global pandemic [1]. The clinical and pathological features of acute infection have a wide spectrum from asymptomatic infection to mild self-limiting symptoms to acute respiratory failure and the need for invasive mechanical ventilation [2, 3]. A clinical picture similar to Acute Respiratory Distress Syndrome (ARDS) with refractory hypoxemia is the primary cause of death in Covid-19 [4]. There is limited data regarding potential consequences and sequelae of infection. ARDS is a fibro proliferative disease, with lung biopsies taken at the time of ARDS showing fibrosis in more than half of affected patients [5, 6]. The marked inflammatory and coagulopathic response to SARS-CoV-2 may promote pulmonary fibrosis and lung damage [7-9]. On analysis of the follow-up of SARS patients from 2003, very few developed post-infectious fibrosis, with less than 5% of admitted patients affected [10, 11]. The radiological appearances during acute Covid-19 infection are variable [12] and are not limited to those seen in ARDS, and this has impacted on ventilatory management strategies for severe Covid-19 [13-15]. Thus Covid-19 pneumonitis may have long lasting effects, even in the absence of ARDS [16].

3. Aim

To determine Post Covid-19 complications in patients who have recovered from first wave Covid-19 infection.

4. Material and Methods

It was a cross-sectional study conducted at Department of Medical Gastroenterology, Post Graduate Institute of Medical Sciences

(PGIMS), Rohtak, over a period of two months i.e. from 01.03.2021 to 30.04.2021. The twenty-five thousand (25,000) confirmed patients of first wave of Covid-19 infection who have recovered six months prior from this illness, belonging to various parts of Haryana, were enrolled in the study. It was a telephonic survey which was done by team of qualified doctors who after proper consent of patients recorded their Post Covid-19 complications.

Table 1: Showing Sex Distribution

Sex	Number Of Patients
Male	50 (76.92%)
Female	15 (23.08%)

Table 2: Showing District wise Distribution

District	Number of Patients
Ambala	2 (3.07%)
Bhiwani	3 (4.61%)
Faridabad	19 (29.23%)
Gurugram	21 (32.30%)
Jhajjar	4 (6.15%)
Jind	1 (1.53%)
Kaithal	1 (1.53%)
Karnal	3 (4.61%)
Nuh	1(1.53%)
Panipat	1 (1.53%)
Rohtak	3 (4.61%)
Sonepat	4 (6.15%)
Yamuna Nagar	2 (3.07%)

4.1. Statistical Analysis

All the data was entered in Microsoft Excel and was analyzed using SPSS 15.0 version.

4.2. Observations

It is pertinent to mention that all these patients belonged to first wave of Covid-19 infection in India which started in March,2020. Out of these twenty five thousand patients of Covid-19 infection, only Sixty five (65) i.e. 0.26 % patients developed Post Covid complications. Out of these 65 patients, 50 (72.92%) were males and 15 patients (23.08%) were females. The patients belonged to various parts of haryana but maximum number were seen from districts near New Delhi i.e. Gurugram (32.30%) and Faridabad (29.23%) The most common Post Covid complication observed was Fatigue which was seen in 21 patients (32.30%) followed by Dyspnea in 10 patients (15.38 %) and Cough in 7 patients (10.76%).

Table 3: Showing Distribution of Post Covid-19 Complications

Post Covid-19 Complications	No. Of Patients
Fatigue	21 (32.30 %)
Dyspnoea	10 (15.38%)
Cough	7 (10.76%)
Dyspepsia	4 (6.15%)
Fever	4 (6.15%)
Myalgia	3 (4.61%)
Depression	2 (3.07%)
Diabetes Mellitus	2 (3.07%)
Anorexia	2 (3.07%)
Diarrhoea	1 (1.53%)
Constipation	1 (1.53%)
Globus Hystetircus	1 (1.53%)
Allergy	1 (1.53%)
Loss of Taste	1 (1.53%)
Bluish Discolouration of Nails	1 (1.53%)
Post Covid M.I	1 (1.53%)
Tachycardia	1 (1.53%)
Bulimia	1 (1.53%)
Weight Loss	1 (1.53%)

5. Discussion

Out of twenty-five thousand patients of first wave of Covid-19 infection, only Sixty-five (65) i.e. 0.26 % patients developed Post Covid complications. Out of these 65 patients, 50 (72.92%) were males and 15 patients (23.08%) were females. It cannot be inferred that males are at more risk to develop Post Covid complications because males had similar representation in corresponding main pool of twenty-five thousand patients. The patients belonged to various parts of Haryana but maximum number were seen from districts near New Delhi i.e. Gurugram (32.30%) and Faridabad (29.23%). The main reason behind this is that New Delhi had major load of cases of Covid-19 infection and moreover many patients in nearby districts in Haryana are employed in government or private set ups. Moreover, this proximity led to transmission in districts of Haryana which are surrounding New Delhi. The most common Post Covid complication observed was Fatigue which was seen in 21 patients (32.30%) followed by Dyspnea in 10 patients (15.38 %) and Cough in 7 patients (10.76%). Fatigue is most common complaint in our study group which is in concordance with previous studies [17]. Many patients feel that they have not returned back to their full health and it is supported by the associations between fatigue, subjective perception of not returning to full health and increased perception of maximal exertion. The persistent low-grade inflammation post-infection may also contribute to systemic ill-health [18] and thus re-emphasizes the need for more detailed cardiovascular health and fitness assessment of those most severely affected [19, 20]. The findings in our study

are in line with 2003 SARS outbreak, in which recovered patients reported impairments in health-related quality of life at six months. Similarly, a subset of patients in Toronto experienced persistent fatigue, diffuse myalgia, weakness and depression one year after their acute illness (51). Over 40% of 233 SARS survivors in Hong Kong reported a chronic fatigue problem 40 months after infection (21). In our study group, median follow up was more than twenty-four weeks after recovery from initial infection, in line with what is currently understood of viral dynamics and infectivity [22-24]. The other important Post Covid-19 complication was related to respiratory system in form of dyspnoea and persistent dry cough in 10 patients (15.38 %) and 7 patients (10.76%) respectively. The other complications included persistent fever, dyspepsia, myalgia, depression, new onset diabetes mellitus etc. The less number of patients developing Post Covid-19 complications in our study can be explained on the basis that all these patients belonged to first wave in India in which maximum number of patients had asymptomatic or mild infection and less number of patients required admission for respiratory involvement. The overall morbidity and mortality was low in comparison to second wave which is still active in India, and in this due to mutant strain, early and more involvement of lungs is leading to significant morbidity and mortality. It is to be seen later on that how much Post Covid-19 complication develop after second wave of Covid-19 infection. Our study emphasizes for being more vigil regarding complications related to various organs, especially long-term respiratory impact of Covid-19. This has implications for both the delivery of adequate healthcare to all patients diagnosed with Covid-19, irrespective of need for hospitalization. There appears to be a need for ongoing support and rehabilitation of patients experiencing long-term side-effects of Covid-19, including programs to optimize patient's self-management of fatigue and perception of exertion post-Covid-19 infection (25). There is very limited published evidence up till now (26), thus more researches are required to understand the scenario of Post Covid-19 complications.

6. Conclusion

The major stress at present in this epidemic is regarding prevention and proper treatment of Covid-19 infection, so as to save many precious lives. Once, this pandemic starts settling, then Post Covid complications can emerge as a major health problem due to varied manifestations of this infection due to involvement of many systems of human body. More researches are required regarding evaluation of Post Covid complication, so as to become wiser in dealing with them. This will lead to overall decrease in morbidity and mortality related to this deadly viral infection.

7. Limitation of Study

The present study group is limited to patients who were effected in first wave in India in which maximum number of patients had asymptomatic or mild infection and less percentage of patients required admission for respiratory involvement. The overall morbidity and mortality was low, hence the less number of patients developing Post Covid complications. The India is facing ongoing second wave due to mutant strain, in which early and more involvement of lungs is leading to significant morbidity and mortality. It is to be seen later on that how much Post Covid-19 complications develop after second wave of Covid-19 infection.

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