Symptomatology of Post Covid Patients at Tertiary Care Hospital Spmc Bikaner

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Abstract: _Introduction_: _COVID 19 pandemic has a great impact on the health system of the society, not mere the disease but also the complications associated with it. Aim: To study the nature and prevalence of complications of RT-PCR confirmed COVID-19 recovered patients. Method: The Cross sectional Hospital based study, done on 100 patients with confirmed RT-PCR Covid-19 positive in the month of October 2020 and were followed up telephonically after one month of discharge, attertiary COVID centre PBM hospital attached to SPMC Medical college, Bikaner. Results: The mean age of study population was 55.85 ± 14.44 years ranges from 20-90 years, maximum were male comprising of 72% study population. At admission 20% were in ICU, most common symptom was fever followed by cough and mean length of hospital stay was 4.34 ± 2.62 days. After 1 month of discharge most common post covid symptom was breathlessness (93%) followed by fatigue (74%) whereas minimum 1% had weakness and 18% were fully free of covid symptoms. Duration of symptoms was longest for Cough of 40 ± 18.87 days followed by breathlessness 36.78 ± 21.2 days. Conclusion: Clinicians and researchers have focused on the acute phase of COVID-19, but continued monitoring after discharge for long-lasting effects is needed._

Keywords: Covid-19 novel corona infection, co-morbidities and post covid complications.

1. Introduction

Coronavirus disease 2019 (COVID-19) is caused by a non enveloped, positive-sense, single stranded RNA beta corona virus which is known as SARS-COV-2. COVID-19 spreads in all countries and continents throughout the world reported disease spread caused by aerosol penetration into the upper the respiratory tract and lungs via inhalation.2 Lungs are the most affected organ by COVID-19 because the virus has a affinity to the enzyme angiotensin-converting enzyme 2 that is more abundant in type 2 alveolar cells of the lung.3 For spread of infection a infected person comes in to contact with a healthy person or exhales virus in form of either respiratory droplets or aerosols which get into the mouth, nose, or eyes of healthy people.4Typical symptoms include fever, cough, dyspnea, fatigue and myalgia. It rarely can cause headache, diarrhea, hemoptysis. However patient can present with atypical symptoms that makes the diagnosis challenging. The most common complication encountered in covid 19 patients was bilateral pneumonitis.

Initial focus was on reducing the acute disease, however evidence indicates that COVID-19 can also result in longer-term consequences, which are of increasing concern for healthcare systems.5 Such consequences lasting for longer than three months after infection are currently referred to as "post-COVID-19 syndrome" or "Long Covid".6

COVID 19 pandemic has a great impact on the health system of the society, not mere the disease but also the complications associated with it. It is necessary to study the post covid complications for the preventive measures, to identify them and provide early intervention. In this hospital based observational study we aimed to assess the nature and prevalence of complications of RT-PCR confirmed COVID-19 recovered patients.

2. Materials and Methods

This was a Cross sectional Hospital based study, conducted on 247 patients by consecutive sampling, found confirmed RT-PCR Covid-19 positive in October 2020 and admitted in ICU or wards, at tertiary COVID care centre, PBM hospital attached to SPMC Medical college, Bikaner. After the treatment and 2 consecutive negative RT PCR tests the patients were recovered and discharged. After one month of discharge (December 2020) on follow up we were able to communicate telephonically with 100 patients out of total 247 discharged patients.

- **Study Place:** Department of Medicine, PBM Hospital, Bikaner
- **Study Duration:** three month October 2020 to December 2020
- **Study Population:** All RT-PCR Covid-19 positive in October 2020 patients admitted in ICU or wards, at tertiary COVID care centre, PBM hospital attached to SPMC Medical college, Bikaner.

Inclusion Criteria:
- RT-PCR Covid-19 positive in October 2020 patients and discharged following treatment and 2 consecutive negative RT PCR tests.

Exclusion Criteria:
- Not willing to participate.

Study Tool: A pre tested pre structured questionnaire with both open and close ended questions will be used.

Data Collection & Analysis:
In October 2020, total 247 patients (confirmed RT-PCR Covid-19 positive) were treated and discharged after 2 consecutive negative RT PCR test. Follow up was done after one month of the discharge date of the patient. The follow up

After obtaining informed verbal consent of study population selected through analyzing inclusion and exclusion criteria and with help of consecutive sampling, the questionnaire will be administered to study subjects by the researcher. All relevant information related to study subjects' socio demographic details, clinical profile, post COVID symptoms and sequelwere collected and entered into Microsoft Excel and will be analysed with help of appropriate software and tests of significance considering level of significance as $p < 0.05$.

3. Observation and Results

Table 1: Socio-Demography

| Age Group	No.	%
20 – 40	14	14
41 – 60	54	54
61 – 80	30	30
81 – 90	2	2
Sex		
Male	72	72
Female	28	28
Residence		
Rural	34	34
Urban	66	66

Maximum 54% patients were in 41-60 years age group and minimum 2% were in extreme of age (81-90 years) with mean age 55.85 ± 14.44 ranges. In our study near about 3/4th were male and 1/3rd were living in urban area.

Table 2: According to their Status at Admission

Admitted in	NO.	Percentage
ICU	20	20
WARDS	80	80
Clinical Feature		
Cough	21	21
Fever	54	54
Breathlessness	9	9
Sore Throat	1	1
Asymptomatic	18	18
Length of Hospital Stay		
Mean (days)	4.34 ± 2.62	

Maximum 80% were admitted in ICU with mean hospital stay of 4.34 ± 2.62. Most common symptom was Fever (54%) followed by cough (21%) whereas 1% had sore throat.18% were asymptomatic at the time of admission.

Table 3: Comorbidity in Post Covid Patients
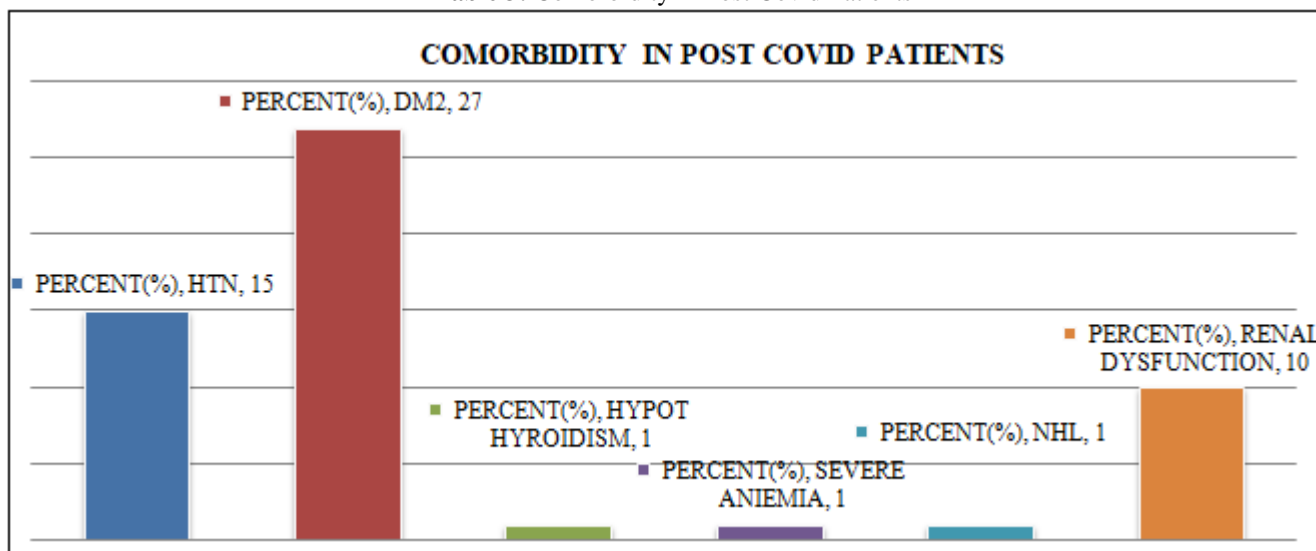
Maximum 27% had diabetes type II followed by hypertension (15%) renal dysfunction (10%) whereas minimum 1% had Non Hodgkin lymphoma, hypothyroidism and severe anemia.
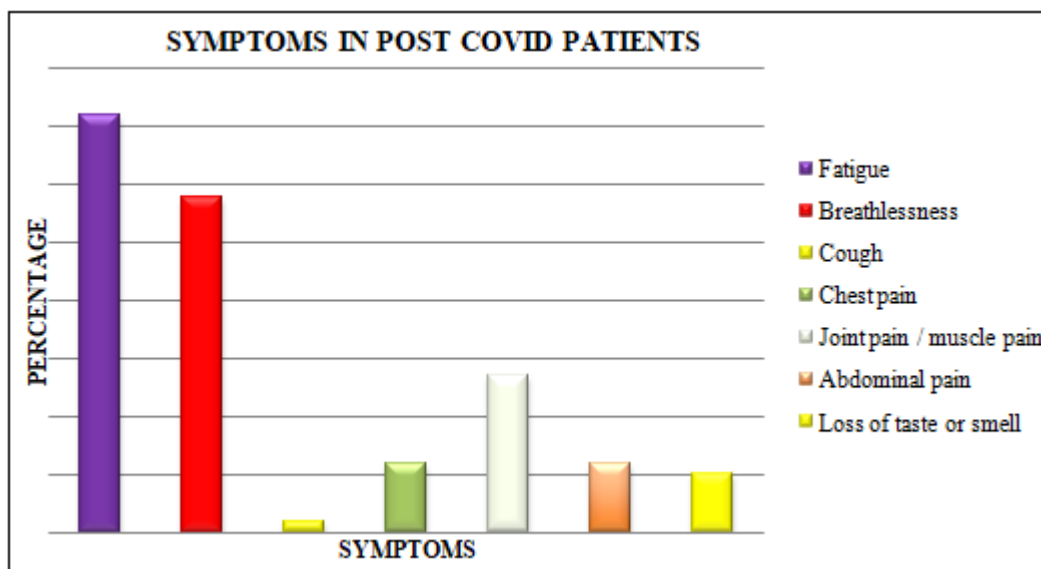
Figure 4: Symptoms in Post Covid Patients

Most common post covid symptom was fatigue (72%), breathlessness (58%), joint/muscle pain (27%) whereas minimum 2% had cough followed by loss of taste (10%) and 18% were asymptomatic.

Table 5: Duration of Symptoms in Post Covid Patients

Symptoms	Mean Duration (Days)
Breathlessness	36.78 ± 21.2
Fatigue	15.73 ± 12.44
Cough	40 ± 18.87
Chest pain	21.25 ± 10.93
Joint pain / muscle pain	15.81 ± 6.92
Abdominal pain	10.41 ± 6.6
Loss of taste or smell	15.5 ± 4.5

Cough had maximum mean duration of 40 ± 18.87 days followed by chest pain (21.25 ± 10.93), breathlessness (20.21 ± 14.77) whereas minimum 10.41 ± 6.6 days for abdominal pain followed by loss of taste or smell (15.5 ± 4.5) Fatigue (15.73 ± 12.44) and Joint pain / muscle pain (15.81 ± 6.92).

4. Discussion

This was an observational study conducted at tertiary COVID centre at SPMC Bikaner for 100 COVID-19 RT PCR positive patients recovered and discharged from hospital and followup duration of 1 month. COVID19 has been a pandemic which had a lot of impaction the health system with various morbidities and mortality. The risk factors and complications have been the discussion topic. Here we have conducted observational study of the post covid patients and summarize the study results as follows.

The most common age group affected is 41-60 years which contain 54% of our study population followed by age group 60-80 which contain 30 % of our study population. The mean age our study is 55.85 ± 14.44 whereas Stavem K, et al. Thorax 2020 [1] has mean age 49.7 (SD 15.2) years, ERJ open study (2020) [2] has 39-54 years. In view of gender males are commonly affected which form 72% of our study, due to more of outdoor activity compared to females as only 28% of our Study. Beacause of more outdoor activities, E

Garrigues (2020) shows males being 62.5% [3]. In our study we found on the basis of residence majority are urban area which actually form 66% followed by rural area which encompasses 34% of our study group because of high concentration of people and activities in urban areas study was similar to [4] Sharifi, 2020. Most of the patients were admitted with complain of fever (54%) then followed by cough (24%) then followed by breathlessness (9%) and large group (18%) was admitted without any symptom. In our study 80% of study group was treated in wards and remaining 20% of the study population was treated in ICU and with mean duration of hospital stay is 4.3 to 2.6days. The co-morbidities associated COVID-19 are type 2-diabetes mellitus (17%), type-2 DM+HTN (10%), AKI (10%), HTN (5%). A study shows covidco-morbidity HTN (15.8%), T2DM (9.4) [5] in our study revealed that type-2 diabetes mellitus is the commonest which comprises (17%), then follow by type-2 diabetes mellitus + hypertension which consist of 10% of our study population; Acute kidney injury (AKI) contribute 10% and isolated hypertension comprise 5. Post covid symptoms after excluding who were not available because of death, dementia includes fatigue (72%), Garrigues (2020) study has most common post covid symptom fatigue, The most common complication is bilateral pneumonitis which is followed by pulmonary fibrosis [6]and most common cause of death is respiratory failure. Higher incidence of thrombosis and venous thromboembolism because of high expression of ACE2 receptors in heart. Besides SARS COVID-19 has environmental and socio-economic impacts [7].

5. Conclusion

From the study we conducted we conclude that 40-60 years are prone for post covid symptoms with male predominance, co-morbidity being type-2DM and type2DM+hypertension [8]. Most common clinical feature fatigue, shortness of breath. Patients with respiratory failure and critically ill were on intubation. Still we are in stages of pandemic, we have to follow up the surviours for years for long term complications.

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