



POST-COVID COMPLICATIONS IN PATIENTS ADMITTED TO A TERTIARY CARE HOSPITAL IN NORTHERN INDIA: A PROSPECTIVE STUDY

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ABSTRACT

Background CORONAVIRUS disease 2019 (COVID-19) is a viral infectious disease caused by the single-stranded, enveloped RNA virus, severe acute respiratory syndrome coronavirus-2 (SARS COV-2). Though Covid-19 is an acute viral infection predominantly affecting the respiratory system, it has short-term, long-term metabolism and endocrine complications. Being a global pandemic with a high rate of recovery, it is expected to have many long-term metabolic complications in a vast number of covid-19 survivors. **Objective:** We aimed to find out the post covid complications in patients discharged from SARI ward AIIMS Bathinda, Punjab. **Design:** Prospective observational study **Settings:** OPD and telemedicine consultation of the patients admitted to the tertiary hospital **Material and Methods:** - A prospective study was done on 244 patients with COVID -19 RAT, and RTPCR Positive patients were done. Patients were followed up in OPD and by telemedicine for post covid complications. Main outcome measures: The main outcome measures were measured in terms of mortality as well as morbidity. Morbidity was evaluated in terms of the complications developing after covid or persistence of the complications developed during the covid. **Sample size:** All the patients who were admitted to our tertiary Centre were followed for post covid complications. **Result:** - Out of 244 patients that were analyzed, 22% died during the disease, and 78% survived. Out of the patient who survived 64.8% developed post covid complications. 35.8% complained of fatigue, 10.5% developed headache, 8.9% developed body aches, 3.2% had a persistent cough, 1.6% had a sore throat and 1.1% had gastrointestinal symptoms. **Conclusion:** - In this population-based study large no. of patients suffer from long-term residual effects afterward-CoV-2 infection such as fatigue, cough, headache, dyspnea, and decline in quality of the eye. With a large range majority of people infected all over the world, our findings emphasize the need for timely planning of resources and patient care. Multidisciplinary collaboration is essential to provide integrated outpatient care for the survival of acute COVID-19. **Limitation:** Small sample size

KEYWORDS :

Background:-

Emerging and re-emerging pathogens are global challenges for public health. Coronaviruses are enveloped RNA viruses that are distributed broadly among humans, other mammals, and birds that cause respiratory enteric, hepatic, and neurological diseases.

Most patients produce detectable serum antibodies to the receptor binding of the viral spine protector and associated neutralizing activity after infection with SARS-COV2[1,2]. However, the magnitude of antibody response may be associated with its severity of the disease, and detectable neutralizing antibodies may not be present in patients with moderate infection. Post-acute Covid-19 is a syndrome characterized by persistent symptoms and/or delayed or long-term complications beyond 4 weeks from the onset of symptoms. It is further divided into two categories, 1) Sub-acute or ongoing symptomatic of Covid-19 which include symptoms and abnormalities present four to twelve weeks beyond acute Covid-19 infection and 2) Chronic or Post Covid-19 syndrome, which includes symptoms and abnormalities persistent or present beyond 12 weeks of the onset of acute Covid-19 not attributable to an alternative diagnosis. Here we summarized the organ-specific sequelae of post-acute covid 19. This will help in the identification of people at high risk for post-acute Covid-19[3,4].

Material and method: A prospective study was done on 244 patients with COVID -19 RAT, and RTPCR Positive patients were done. Patients were followed up in OPD and by telemedicine for post covid complications.

Study Settings and sample size

Study design and patients' selection.

Study perspective was done on 244 patients admitted to SARI Ward at AIIMS Bathinda during the 6 months. All patients were followed up in OPD and by telemedicine for post covid complications.

Data analysis

Statistical Analysis:-

Data Collection: out of 244 patients

among the 244 patients that were analysed, in total, 22% patients died during the disease and 78% patients were survived Out of the patients who were analysed for post covid complications 64.8% patients developed post covid 19 symptoms,

In which fatigue is the most prevalent symptom in 35.8%, 10.5% developed headache, 8.9% developed body ache, 3.2% had a persistent cough, 2.1% had persistent fever, 1.6% complaint of the sour throat and GI Symptoms, and 1.1 % patients complain of persistent breathlessness.

Result and discussion:-

Of the 244 patients who were diseased and assessed for eligibility, 92 patients were lost up in follow-up, 9 patients died during follow up and 152 patients completed the survey. In the study, the incidence of post covid 19 complications were 58.60% and most of the patients developed the complications within 15 days after recovery. Although some patients had no post covid complications.

Out of 244 patients aged range 10 to 80 years, 79.8% were male and 20.9% were female.

244 patients screened for eligibility

244 Patients selected for the cohort

92 patients were lost to follow up and 9 patients died

161 patients who completed follow up survey was analysed

Our findings are similar to a study done by Lianserd et al in which they reported persistent fatigue in 52.3% of patients. The absence associated with the severity of infection was seen. The absence of a specific immune signature associated with persistent fatigue is a striking positive finding. Management of fatigue state requires multidisciplinary input [5,6] Our findings are similar to findings in a study conducted by Jansen Yousef A 1 Hashel et al [7] 9.1% reported headache post-COVID-19 infection. Primary headache gets worse after COVID-19-De-Nove primary headache is frequent post coronavirus disease-19 and resolves within one month. It is estimated that with the COVID-19 pandemic there has been a five-fold increase

in the incidence of headaches in the affected region. Prevalence was 10.9% in a meta-analysis of 6486 patients included in 21 studies in which prevalence ranged from 3.5-to 34% Previous studies found pre-existing primary headache disorders are usually associated with atypical pain process due to atypical release of pro-inflammatory cytokines and chemokines such changes lead to sensitization of central and peripheral nociceptive pathways with subsequent reduction in pain threshold.[12]

Similar findings were reported from studies in Europe. A post-acute patient severe in Italy reported persistence of symptoms in 87.4% of 143 patients; fatigue in 53.1% [9]. Cellular damage, a robust innate immune response with inflammation, cytokine production, and a pro-coagulation state induced by SARS-COV-2 infection may contribute to the sequelae [10, 11, 12]. Similar findings were seen in a prospective cohort study from Wuhan, China [13] in which fatigue and muscular weakness was the most commonly reported symptom in 63% of potential mechanism contributing to the pathophysiology of post-acute COVID-19 including (i) virus-specific pathophysiological changes (ii) Immunologic aberrations and inflammatory damage in response to the acute infection (iii) Expected Sequelae of post-critical illness.

A spectrum of pulmonary manifestations ranging from dyspnea and fibrotic lung damage has been reported in COVID-19 viral dependent mechanism (including invasion of alveolar epithelial and endothelial cells by SARS-COV-2 and viral independent mechanism such as immunological damage, including peri-vascular inflammation contribute to the breakdown of the endothelial barrier and invasion of monocyte and neutrophils [14]. Gastrointestinal and hepatobiliary sequelae gave been reported less [15]. Prolonged viral fecal shedding occurs in COVID-19 with viral ribonucleic acid detectable from a mean duration of 28 days after onset of infection symptoms. It alters the gut immune microbiome. [16, 17, 18].

Conclusion

The multi-organ sequelae of Covid-19 beyond the acute phase of infections are increasingly being appreciated. Necessary active and future research include the identification and characterization of key clinical, serological imaging & epidemiological features of covid-19 in the acute, sub-acute chronic phases of disease which will help us to understand the natural history and pathophysiology of this new disease. Currently, healthcare professional caring for the survivor of acute covid 19 has the key role in recognizing, carefully documenting, investigating, and managing any old or new symptoms as well as follow-up organ-specific complications that develop during acute illness. Moreover, it is clear that care of patients with Covid-19 does not conclude at the time of hospital discharge and interdisciplinary cooperation is needed for comprehensive care of these patients in outpatient settings. Prioritization of follow up care may be considered for those at high risk of post-acute covid 19 including those who have severe illness during acute covid 19 and/or require care in an ICU those most susceptible to complications elderly those will multiple comorbidities, those post-transplant and those with active CA history and those highest with persistent symptoms.

Ethical Issues: -

The study was approved by the institute ethics committee of All India Institute of Medical Sciences, Bathinda (Pun). Necessary permissions were sought from the Medical Superintendent and Director of the institute before the initiation of the study.

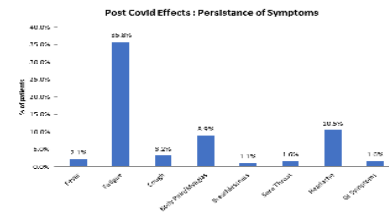
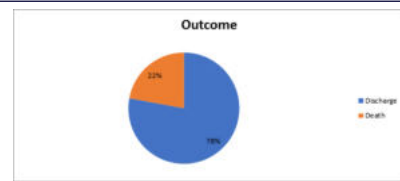
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Statistical Analysis:
Out of 244 patients
Death rate is 22%.-



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