Follow Up Study of Clinical and Radiological Profile of Covid-19 Survivors-2 Months Post Recovery

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ABSTRACT
BACKGROUND:*The most frequent symptoms of COVID-19 are cough, fever, myalgia, dyspnea and anosmia.To describe the clinical evolution, symptom persistence and lung radiographic findings during 2 months follow-up in Covid 19 survivors.*
MATERIALS AND METHODS *:We performed descriptive clinical follow-up (onset ,Day 30 and Day 60) of 50 patients with COVID-19 confirmed by RT PCR at GHCCD, visakhapatnam from August to October 2020 .screening of persisting symptoms and Chest xray was performed at day30 and day60. If any abnormality in chest xray HRCT was planned.*
RESULTS:*At Day 30, 76%(38/50) of patients had at least one symptom; and at Day 60, 68%(25/50) had symptoms, mainly dyspnoea:56%(28/50) at admission, 36%(18/50) at Day 30 and 24%(12/50) at Day 60. Fever:86%(43/50)at admission, 16%(8/50) patients at Day 30 and 10%(5/50) at Day 60. Residual abnormalities found in chest xray .out of 50 ,48% had no abnormality, 34% had improvement in lung abnormality at day30, whereas 18% patients had an unchanged abnormality at day60.*
CONCLUSION*: up to 2 months after recovery 50% had complaints and 18% had lung fibrotic changes .A prolonged follow up is essential to alert risk of longer symptom duration.*
KEY WORDS : *RT-PCR, Consolidation,Ground glass opacities.*

I.   Introduction

• COVID-19 is potentially fatal infection caused by novel corona virus SARS COV2. Although the outbreak is likely to have started from a zoonotic transmission event associated with a large seafood market that also traded in live wild animals, it soon became clear that efficient person-to-person transmission was also occurring[1]. The clinical spectrum of SARS-CoV-2 infection appears to be wide, encompassing asymptomatic infection, mild upper respiratory tract illness, and severe viral pneumonia with respiratory failure and even death, with many patients being hospitalised with pneumonia[2]. SARS patients may present with a spectrum of symptoms and signs ranging from relatively asymptomatic to fulminant pneumonitis and death.Out of which, most frequent symptoms are cough, fever, myalgia, dyspnea and altered smell/taste. Covid related respiratory illness usually manifests clinically as pneumonia with predominant radiological findings of an atypical or organizing pneumonia.Most of the patients who overcome the SARS-CoV-2 infection do not develop complications or require specific aftercare, but a significant proportion especially those with moderate/severe clinical forms of the disease or who have required mechanical ventilation need some type of clinical/radiological follow-up[3].The current study aim is to describe the clinical evolution, symptoms persistence and changes in lung radiographic pictures [at Day 30,Day 60] during 2 months follow up in adults with covid-19 after recovery.

II.   Material And Methods

This is a descriptive clinical follow up study carried out on patients of Government Hospital for Chest and Communicable Diseases, Visakhapatnam over a period of 3 months from August 2020 to October 2020. A total 50 patients were included in this study.
STUDY DESIGN: Descriptive clinical follow up study.
STUDY SETTING: Government Hospital for Chest and Communicable Diseases, visakhapatnam.
STUDY PERIOD : August 2020 to October 2020 .
SAMPLE SIZE:50 Patients.
INCLUSION CRITERIA:
1. Patients >18 years old .
2. confirmed diagnosis of covid 19 by RT-PCR test for SARS –CoV2.

EXCLUSION CRITERIA:
1.Patients deceased.
2.patients loss to follow up.

PROCEDURE METHODOLOGY
After written informed consent was obtained demographic details, initial clinical and laboratory data were collected from all the patients enrolled in the study at symptom onset. Screening of persisting symptoms and chest x ray was performed at Day 30 and Day 60.HRCT was planned if any abnormality was found in chest x ray.

STATISTICAL ANALYSIS: Data was analyzed using Microsoft EXCEL sheet.

III. Results

AGE AND SEX DISTRIBUTION:
A total number of 50 patients were included in the study .Of 50 patients, majority were males constituting about 72%, females constituting about 28%. Most of the patients belong to age group 40 -49 years
.**COMORBIDITIES:**Diabetes mellitus- 14(28%) .
• Hypertension-8(16%).
Bronchial Asthma-0
• Pulmonary tuberculosis-4(8%).
 • Chronic Obstructive Pulmonary Disease-3(6%).
SYMPTOMMATOLOGY: The predominant symptom at presentation in the study was generalized weakness in 92% followed by fever in 86%, shortness of breath in 56%,anosmia in 24% of the patients.persisting symptoms and chest x ray were noted on day 30 and day 60.

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Symptoms	Day 1	Day 30	Day 60
Shortness of breath	28(56%)	18(36%)	12(24%)
Fever	43(86%)	8(16%)	5(10%)
Anosmia	12(24%)	2(4%)	0
Generalised weakness	46(92%)	16(32%)	8(16%)
Weight loss	-	6(12%)	6(12%)

RADIOLOGICAL PRESENTATION

Radiological findings	Day 1	Day 30	Day 60
Normal chest X Ray	24(48%)	33(66%)	41(82%)
Consolidation opacities	11(22%)	8(16%)	4(8%)
GGO	8(16%)	5(10%)	2(4%)
Interstitial thickening	7 (14%)	4(8%)	2(4%)
Pleural effusion	0	0	1(2%)

At day 60 ,during follow up chest x ray studies of 9(18%)patients showed chest x ray abnormalities. In abnormal radiological findings, consolidation was the most common finding seen in 4 (8%)patients, followed by reticular interstitial thickening seen in 2 (4%)patients , GGO seen in 2 (4%)patients and minimal pleural effusion seen in 1 (2%)patient.

IV. Discussion

In our study two thirds of patients still reported symptoms at Day 30 and half of the patients reported symptoms at Day 60.Out of 50 patients,38 (76%) patients had atleast one symptom at Day 30 and 25 (50%)patients had symptoms at Day 60 and 9(18%) patients had chest xray abnormalities during followup after 2 months. Dyspnoea is the most frequent reported symptom ,which constitutes about 18(36%) patients at Day 30 and 12 (24%)patients at Day 60. WHO stated that the median time from illness onset to recovery is about 2 weeks for mild cases and 3-6 weeks with severe or critical disease. These prolonged symptoms were

significantly associated with age 40 to 60 years compared to other age groups, symptom onset at hospital admission and severity of covid[4].

During radiological follow up, consolidation opacities was the most common finding followed by GGO, reticular interstitial thickening and pleural effusion. This agreed with Wong et al[5] who did a study on 64 COVID-19 patients, they found that Consolidation was the most common finding (47%), followed by GGO (33%). Pleural effusion was uncommon, only seen in 3%.Chest radiographs are usually of limited value in the diagnosis of early stages especially in mild disease course; however, the CT findings may be present early even before the onset of the symptoms. Chest radiographs is very helpful during follow up as well as in the intermediate to advanced stages of COVID-19 with features of acute respiratory distress syndrome (ARDS). Up to 2 months after recovery 68% had complaints and 18% had radiological abnormalities. A proloned follow up is essential to alert risk of longer symptom duration.

V.   Conclusion

• Follow up studies of covid 19 will improve our understanding of natural history of covid 19 sequelae and enable us to assess the efficacy of therapeutic interventions to mitigate the long term consequences of covid 19.
• It is necessary to follow up covid 19 recovered patients for early detection and appropriate management of their psychological,physical and social problems.
• It is highly important to provide counselling,moral support to restore them to normalcy.

References

[1].   Zhou F.Yu T.Du R.Fan G.Liu Y.Liu Z.et al.Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study.Lancet. 2020; 395: 1054-1062.
[2].   Huang C, Wang Y, Li X. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *Lancet.* 2020;395:497–506.
[3].   Casan Clarà P., Martínez González C. Post-COVID-19 pneumology. *Arch Bronconeumol.* 2020;56(Suppl 2):3–4. doi: 10.1016/j.arbres.2020.05.009.
[4].   World Health Organization website. Pneumonia of unknown cause: China. www.who.int/csr/don/05-january-2020-pneumonia-of-unkown-cause-china/en/. Accessed 13 Feb 2020.
[5].   Wong HYF, Lam HYS, Fong AH-T et al Frequency and distribution of chest radiographic findings in COVID-19 positive patients. Radiology Published Online: Mar -27- 2020.