

Case Report

Long COVID-19 Syndrome, A Prolonged Misery

Hana Maizuliana Solehan, Zatul-‘Iffah Abu Hasan,
Nurul Azmawati Mohamed and Mohd Dzulkhairi Mohd Rani

Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, 71800, Nilai,
Negeri Sembilan, Malaysia

Correspondence should be addressed to:

Hana Maizuliana Solehan; drhana@usim.edu.my

Article Info

Article history:

Received: 1 June 2021

Accepted: 29 September 2021

Published: 1 February 2022

Academic Editor:

Norsham Juliana

Malaysian Journal of Science,
Health & Technology

MJoSHT2022, Volume 8, Issue No. 1
eISSN: 2601-0003

<https://doi.org/10.33102/2022202>

Copyright © 2022 Hana Maizuliana
Solehan et al. This is an open access
article distributed under the Creative
Commons Attribution 4.0 International
License, which permits unrestricted
use, distribution, and reproduction in
any medium, provided the original
work is properly cited.

Abstract— Long COVID-19 is a constellation of symptoms following a confirmed COVID-19 acute infection. SARS-CoV-2 infection does not only give rise to respiratory problems but also other non-respiratory conditions. The symptoms and duration may vary among the patients and its treatment is based on the clinical presentation. Long COVID-19 among mildly infected patients was scarcely studied and reported, therefore we present a previously healthy, stage 2 COVID-19 patient who experiences prolonged symptoms of cough, chest pain, including anxiety and limited physical activities months after the first COVID-19 symptoms.

Keywords— Long COVID; COVID-19; SARS-CoV-2

I. INTRODUCTION

COVID-19 has caused a significant impact on human history worldwide. Ever since the emergence of COVID-19 in December 2019 until the time this article was written about 150 million of confirmed cases and 3 million deaths worldwide [1]. There were 404, 925 confirmed cases in Malaysia (up until 30th April 2021) and there were dramatic increases in the number of cases during the third wave of COVID-19 in Malaysia since November 2020 [2] Typical symptoms of acute COVID-19 infection include lethargy, fever, cough and shortness of breath, and the treatment is mainly conservative [3].

Prolonged symptoms after acute COVID-19 illness or Long COVID are increasingly recognizable, however comprehensive data is still lacking and guidelines are still being developed [4]. Most literature reports on post-COVID-19 conditions among hospitalized patients, but there is limited data on mildly

infected individuals [5]. The symptoms, such as frequent coughing, fever, lethargy, sore throat can persist past the acute state. Although these symptoms are considered mild, the patients' quality of life may be disrupted if these symptoms are prolonged for weeks or months. We report a patient who had recovered from stage 2 acute COVID-19 infection but was still experiencing persistent symptoms for a few months following discharge.

II. CASE REPORT

A 36-year-old gentleman, non-smoker with no known medical illness was diagnosed with COVID-19 infection in early January 2021. During the acute infection, he had high grade fever, cough with phlegm, sore throat, lethargy, myalgia,

diarrhoea, anosmia and anorexia. He was self-treated at his home for 6 days, before he was admitted to COVID-19 Quarantine and Low-Risk Treatment Centre at Malaysia Agro Exposition Park Serdang (MAEPS) for another 4 days. During initial assessment in MAEPS, he was clinically staged as COVID-19 category 3. At the time of admission at the quarantine centre, he complained of chest tightness. Following assessment and examination by the medical officer, no breathing support was needed. He was treated symptomatically, but no steroid was given. Upon discharge, he suffered a persistent cough. The cough was associated with phlegm production and more frequent at night. It was also associated with shortness of breath and chest tightness. He also experienced pleuritic chest pain on lying, which aggravates his anxiety. He was feeling lethargic most of the time and noticed he was not fit as before. He needed frequent breaks on simple activities like washing plates or walking to the bathroom from the living room. He even had problems performing daily prayers that required him to move up and down several times.

On examination during a clinic visit after a month of acute infection, his blood pressure was 130/70mmHg and the pulse rate was 56 beats per minute and regular rhythm. He was not pale and not jaundiced. Lung examination revealed minimal crepitations on the left side with normal breath sounds. Other systemic examinations were normal. Blood investigation performed on the same day showed mildly elevated liver enzymes ALT 53U/L (normal 7-48) and total bilirubin of 32.4 $\mu\text{mol/L}$ (normal 2-28) with direct bilirubin of 10 $\mu\text{mol/L}$. Otherwise, other liver function tests, full blood count and renal function tests were within normal range. His C-reactive protein (CRP) was also within normal range (1.06 mg/L). The electrocardiogram showed sinus bradycardia. A chest radiograph was done one week earlier revealed minimal patchy nodular shadowing at the left lower lung field. Due to limited facility, chest Computed Tomography (CT) and lung function test were not arranged. Retrospectively, he was reclassified as category 3 COVID-19 during the acute infection. The patient was initially advised to take regular steroid inhaler but he was not keen. A prescription of metered-dose inhaler (MDI) salbutamol was given, to be taken when he experienced the cough and chest tightness.

Patients claimed COVID-19 infection had caused anxiety in his daily life, even after a month he was discharged from the quarantine centre. Prior to this infection, he denied any past experience that could contribute to the current state of anxiety. Nonetheless, he concerned whether he would infect other people or if the infection could cause further long-term complications to his health. In addition, he was more alert and took extra precautions in physical distancing, especially among people who show signs of COVID-19 infections. He was also afraid that he would not fully recover from COVID-19, which could compromise his daily activities. He regained his appetite and sense of smell after 6 weeks and his effort tolerance was gradually improving after 8 weeks of discharge. Cough and chest pain was relieved by MDI salbutamol and only completely resolved after 3 months.

III. DISCUSSION

COVID-19 infection in adults can range from asymptomatic infection to mild respiratory symptoms to severe pneumonia

with ARDS and multiorgan failure [3]. Majority of the patients (about 80%) are in category 1 (asymptomatic) or category 2 (mild disease), that are usually managed in the quarantine centres or at home [6]. Typical symptoms of acute COVID-19 infection include lethargy, fever, cough and shortness of breath, and the treatment is mainly conservative [3].

In average, COVID-19 has 4 to 5 days of incubation period with up to 14 days following exposure [7]. The risk of transmitting SARS-CoV-2 starts before the onset of symptoms and is greatest early in the illness, following that, the risk of transmission decreases [8]. Transmission is unlikely after 7 to 10 days of illness, particularly in otherwise immunocompetent patients with mild infection [9]. Although replication-competent SARS-CoV-2 has not been recovered in individuals with mild to moderate COVID-19 after 10 days, symptoms may persist. [10].

Long COVID is defined by the National Institute for Health and Care Excellence (NICE) as “signs and symptoms developed during or following a disease consistent with COVID-19 and which continue for more than four weeks but they are not explained by alternative diagnoses” (NICE) SARS-CoV-2 has been shown to be detectable up to 30 days after the onset of symptoms in 10–15 % of confirmed cases [11]. It has been suggested that long-term exposure to SARS-CoV-2 may be one of the underlying causes of post-COVID symptoms.

On the other hand, long covid symptoms are not only involving the respiratory system. Long COVID-19 manifestation can also include non-respiratory symptoms such as neurocognitive (confusion, difficult to focus), musculoskeletal (joint pain, muscle pain), gastrointestinal (vomiting, diarrhoea), autonomic symptoms (palpitation, chest pain) and psychological disturbances (insomnia, depression, anxiety) [12]–[15]. The most commonly reported symptom is lethargy (15 to 87%), followed by shortness of breath (10 to 71%) and cough (17 to 34%) [14], [15]. Other long-term organ complications have also been reported such as lung fibrosis, myocarditis, and renal failure, particularly among patient with severe acute COVID-19 [16].

Our patient has disrupted daily activities for nearly 2 months after discharge and slowly resumed his normal routine. A study in the US, reported that about almost 40% of post-covid patients were unable to resume their normal activities after 60 days of discharge [17]. Another study from Italy also mentioned 53% of patients recovered from acute COVID-19 had limited functional impairment at four months [18]. There has been wide variability of duration for these symptoms to resolve [19]. Time needed for full recovery from COVID-19 symptoms depends on premorbid conditions, the severity of the acute infection and the symptoms experienced [20], [21]. On the other hand, patients with mild disease can experience symptoms for several months, if not longer, after an acute illness [22].

Some symptoms like fever, chills and anosmia improve earlier than other symptoms and usually resolve within two to four weeks. On the other hand, fatigue, shortness of breath, chest tightness, neurocognitive and psychological effects may last longer, up to months [15]. Like in this patient, agnosia and appetite recovered earlier than other symptoms. The majority of COVID-19 patients are successfully discharged, but 10% to 20% of them need rehospitalization within 30 to 60 days [17]. After the acute infection phase, individuals who have

experienced several COVID-19 symptoms are more likely to develop anxiety, depression and post-traumatic stress disorder (PTSD) [23]. This group of patients may benefit from early interventions, such as brief psychoeducation on coping strategies.

The best time and place for follow-up assessment for patients who have recovered from acute COVID-19 is uncertain [24]. This is determined by a variety of factors, including the severity of the acute infection, current symptomatology, patient age, premorbid risk factors, and resource availability [12]. Recovery from acute COVID-19 is a continuous process. This patient has no other comorbid illness, therefore, full recovery from COVID-19 infection was expected. However, early follow-up focuses on identifying and treating acute COVID-19-related complications are needed. Meanwhile later follow-up focuses on evaluating and managing chronic symptoms after the acute period has passed. Although, at this moment there is no proper guidance on when or where COVID-19 follow-up should be done after an acute illness.

V. CONCLUSION

This case report highlights prolonged presentation of post-COVID-19 infection. Even though these symptoms are deemed mild, the patients are affected psychologically and functionally by this condition. Therefore, proper follow-up and individualized management are important approaches to this problem.

CONSENT TO PARTICIPATE

Our patient gave written informed consent for his anonymized details to be published in this report.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest regarding the publication of this paper.

ACKNOWLEDGMENT

We thank our patient for his full cooperation during the writing of this case report. We also would like to specially thank Prof. Datin Dr. Iina Isahak for her support and encouragement in our endeavor to learn in depth about this topic.

REFERENCES

- [1] World Health Organization, "WHO Coronavirus Disease (COVID-19) Dashboard," 2020. <https://covid19.who.int/> (accessed Dec. 29, 2020).
- [2] Ministry of Health Malaysia, "COVID-19 Latest Update,," 2020. <http://covid-19.moh.gov.my/> (accessed Dec. 28, 2020).
- [3] Yang, X., Yu, Y., Xu, J., Shu, H., Liu, H., Wu, Y., ... & Shang, Y. (2020). Clinical course and outcomes of critically ill patients with SARS-CoV-2 pneumonia in Wuhan, China: a single-centered, retrospective, observational study. *The Lancet Respiratory Medicine*, 8(5), 475-481. doi: 10.1016/S0140-6736(20)30183-5
- [4] Shah, W., Hillman, T., Playford, E. D., & Hishmeh, L. (2021). Managing the long term effects of covid-19: summary of NICE, SIGN, and RCGP rapid guideline. *bmj*, 372. doi: 10.1136/bmj.n136
- [5] Moreno-Pérez, O., Merino, E., Leon-Ramirez, J.M., Andres, M., Ramos, J.M., Arenas-Jiménez, J., Asensio, S., Sanchez, R., Ruiz-Torregrosa, P., Galan, I. & Scholz, A. (2021). Post-acute COVID-19 syndrome. Incidence and risk factors: A Mediterranean cohort study. *Journal of Infection*, 82(3), 378-383. doi: 10.1016/j.jinf.2021.01.004
- [6] Sim, B.L.H., Chidambaram, S.K., Wong, X.C., Pathmanathan, M.D., Peariasamy, K.M., Hor, C.P., Chua, H.J. & Goh, P. P. (2020). Clinical characteristics and risk factors for severe COVID-19 infections in Malaysia: A nationwide observational study. *The Lancet Regional Health-Western Pacific*, 4, 100055. doi: 10.1016/j.lanwpc.2020.100055
- [7] Chan, J. F. W., Yuan, S., Kok, K. H., To, K. K. W., Chu, H., Yang, J., ... & Yuen, K. Y. (2020). A familial cluster of pneumonia associated with the 2019 novel coronavirus indicating person-to-person transmission: a study of a family cluster. *The lancet*, 395(10223), 514-523. doi: 10.1016/S0140-6736(20)30154-9
- [8] Zou, L., Ruan, F., Huang, M., Liang, L., Huang, H., Hong, Z., ... & Wu, J. (2020). SARS-CoV-2 viral load in upper respiratory specimens of infected patients. *New England Journal of Medicine*, 382(12), 1177-1179. doi: 10.1056/NEJMc2001737
- [9] Wölfel, R., Corman, V. M., Guggemos, W., Seilmaier, M., Zange, S., Müller, M. A., ... & Wendtner, C. (2020). Virological assessment of hospitalized patients with COVID-2019. *Nature*, 581(7809), 465-469. doi: 10.1038/s41586-020-2196-x
- [10] Kimball, A., Hatfield, K. M., Arons, M., James, A., Taylor, J., Spicer, K., ... & Zane, S. (2020). Asymptomatic and presymptomatic SARS-CoV-2 infections in residents of a long-term care skilled nursing facility—King County, Washington, March 2020. *Morbidity and Mortality Weekly Report*, 69(13), 377. doi: 10.15585/mmwr.mm6913e1
- [11] Ikegami, S., Benirschke, R., Flanagan, T., Tanna, N., Klein, T., Elue, R., ... & Gniadek, T. J. (2020). Persistence of SARS - CoV - 2 nasopharyngeal swab PCR positivity in COVID - 19 convalescent plasma donors. *Transfusion*, 60(12), 2962-2968. doi: 10.1111/trf.16015
- [12] Higgins, V., Sohaei, D., Diamandis, E. P., & Prassas, I. (2021). COVID-19: from an acute to chronic disease? Potential long-term health consequences. *Critical reviews in clinical laboratory sciences*, 58(5), 297-310. doi: 10.1080/10408363.2020.1860895
- [13] Carvalho-Schneider, C., Laurent, E., Lemaigen, A., Beaufiles, E., Bourbao-Tournois, C., Laribi, S., ... & Bernard, L. (2021). Follow-up of adults with noncritical COVID-19 two months after symptom onset. *Clinical Microbiology and Infection*, 27(2), 258-263. doi: 10.1016/j.cmi.2020.09.052
- [14] Carfi, A., Bernabei, R., & Landi, F. (2020). Persistent symptoms in patients after acute COVID-19. *Jama*, 324(6), 603-605. doi: 10.1001/jama.2020.12603
- [15] Xiong, Q., Xu, M., Li, J., Liu, Y., Zhang, J., Xu, Y., & Dong, W. (2021). Clinical sequelae of COVID-19 survivors in Wuhan, China: a single-centre longitudinal study. *Clinical Microbiology and Infection*, 27(1), 89-95. doi: 10.1016/j.cmi.2020.09.023
- [16] Mahase, E. (2020). Long covid could be four different syndromes, review suggests. *BMJ*, 371. doi: 10.1136/bmj.m3981
- [17] Chopra, V., Flanders, S. A., O'Malley, M., Malani, A. N., & Prescott, H. C. (2021). Sixty-day outcomes among patients hospitalized with COVID-19. *Annals of Internal Medicine*, 174(4), 576-578. doi: 10.7326/M20-5661
- [18] Bellan, M., Soddu, D., Balbo, P. E., Baricich, A., Zeppegno, P., Avanzi, G. C., ... & Pirisi, M. (2021). Respiratory and

- psychophysical sequelae among patients with COVID-19 four months after hospital discharge. *JAMA network open*, 4(1), e2036142-e2036142. doi: 10.1001/jamanetworkopen.2020.36142
- [19] McCue, C., Cowan, R., Quasim, T., Puxty, K., & McPeake, J. (2021). Long term outcomes of critically ill COVID-19 pneumonia patients: early learning. *Intensive care medicine*, 47(2), 240-241. doi: 10.1007/s00134-020-06313-x
- [20] Garrigues, E., Janvier, P., Kherabi, Y., Le Bot, A., Hamon, A., Gouze, H., ... & Nguyen, Y. (2020). Post-discharge persistent symptoms and health-related quality of life after hospitalization for COVID-19. *Journal of Infection*, 81(6), e4-e6. doi: 10.1016/j.jinf.2020.08.029
- [21] Tenforde, M. W., Rose, E. B., Lindsell, C. J., Shapiro, N. I., Files, D. C., Gibbs, K. W., ... & Kim, S. S. (2020). Characteristics of adult outpatients and inpatients with COVID-19—11 academic medical centers, United States, March–May 2020. *Morbidity and Mortality Weekly Report*, 69(26), 841. doi: 10.15585/mmwr.mm6926e3
- [22] Goërtz, Y. M., Van Herck, M., Delbressine, J. M., Vaes, A. W., Meys, R., Machado, F. V., ... & Spruit, M. A. (2020). Persistent symptoms 3 months after a SARS-CoV-2 infection: the post-COVID-19 syndrome?. *ERJ open research*, 6(4). doi: 10.1183/23120541.00542-2020
- [23] Ismael, F., Bizario, J. C., Battagin, T., Zaramella, B., Leal, F. E., Torales, J., ... & Castaldelli-Maia, J. M. (2020). Post-infection depression, anxiety and PTSD: a retrospective cohort study with mild COVID-19 patients. *medRxiv*. doi: 10.1101/2020.08.25.20182113
- [24] Nehme, M., Braillard, O., Alcoba, G., Aebischer Perone, S., Courvoisier, D., Chappuis, F., Guessous, I. and COVICARE TEAM†, 2021. COVID-19 symptoms: longitudinal evolution and persistence in outpatient settings. *Annals of internal medicine*, 174(5), pp.723-725. doi: 10.7326/M20-5926