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REVIEW ARTICLE

Adjustment Disorder in Long Covid: A Case Report

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Abstract

Objective: To highlight an uncommon presentation in 'long COVID'.

Methods: We present here, a case report of a previously well 39-year-old single woman who was diagnosed with COVID-19, with the test remaining positive in the subsequent 4 weeks thereafter. She reported persistent worrying, insomnia, low mood, helplessness, a vague sense of apprehension, with an impending sense of doom and despair.

Results: Normal vital signs, with normal general and systemic examination; SPO2- 97%, in room air. A normal baseline complete blood count and blood chemistry. A significant baseline GAD-7 (17/21) and PHQ-9 (10) scoring that later gradually returned to normal on removal of the stressors.

Conclusions: This was a case of adjustment disorder in 'long COVID'. Working in a far-flung, hardship environment with limited medical resources, isolation, and poor primary support systems were identified as the stressors and social determinants of health. Recommendations include timely management of co-morbid conditions and improvement in work-place policy, especially during epidemics and pandemics.

Keywords

Adjustment disorder, Depression, Long COVID, Anxiety, PHQ-9, GAD-7, Hardship area

Introduction

Corona virus disease 2019 (COVID-19) is the illness that results from infection with the Severe Acute Respiratory Syndrome Corona Virus 2 (SARS-CoV-2) that emerged in late 2019. Slightly over 600 million cases have been confirmed globally, with over 6.5 million succumbing to this scourge. To date, over 12 billion vaccine doses have been administered globally, with over 20 million having been administered locally [1]. Africa has reported over 9.3 million confirmed cases, with about 4% (338,390) reported in Kenya. Reports also show that since our first confirmed case in March 2020, the death toll in Kenya has now surpassed 5,600 [1].

Following the typical convalescence period of the illness, an emerging condition has been described as characteristically showing persisting or long-term consequences of COVID-19. This condition is commonly referred to as 'long covid' and involves symptoms persisting for more than two months. However, there's no standardized definition of this post covid condition [2]. For instance, the British National Institute for Health and Care Excellence (NICE) describes it as "signs and symptoms that continue or develop after acute COVID-19; both ongoing symptomatic COVID 19 (from 4 to 12 weeks) and post COVID 19 syndrome (12 weeks or more)" [3]. In the US, the Centers for Disease Control and Prevention (CDC) regards symptoms over a duration of four or more weeks after the initial infection as 'long COVID' [4]. For the purpose of this report, and in order to avoid ambivalence, we shall refer to the CDC version of 'long COVID'.

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Some of the symptoms identified by the National Institutes of Health (NIH) as common presentations of 'long COVID' include; intermittent fevers, shortness of breath, depression, anxiety, gastrointestinal symptoms, brain fog, sleep disorders and fatigue. However, they further reiterate that there is uncertainty regarding the symptom profile and severity of the condition [5]. This uncertainty is further illustrated by recent literature that suggests estimates of 'long COVID' to be from as low as 10% [6], to as high as 87% [7]; with many other varying estimates [8-13] that depend on factors such as; the population being studied; the 'long COVID' definition used; and duration, among many other contributing variables.

Case Presentation

A 39-year-old female, single, with no prior history of mental illness was admitted through the emergency department with a month's history of recurrent persistent worrying, insomnia, fear of being alone, palpitations, impending sense of doom, and a vague sense of apprehension that resulted in cognitive vigilance (easily startled and disturbed by light, movement, and "noise"). She reported fatigue with anergy, low mood, diminished interest and pleasure in previously pleasurable activities, negative thoughts, accompanying hopelessness, helplessness, and worthlessness over the preceding two weeks. There was no history of suicidal ideation, plan or intent. She had no previous significant medical history, apart from maxillary sinusitis and a left chest infection that were managed successfully about two decades earlier.

It all began towards the end of the first quarter of 2021 when she was identified as a contact to a person who had tested positive for COVID-19, while at work. This was during the third wave that had hit the country (Kenya) and as per procedure she was required to quarantine. Subsequently, a nasopharyngeal swab was taken to test for SARS-CoV-2, and she was informed of the outcome the following morning. Despite being asymptomatic, she was COVID-19 positive. She was advised to isolate, work from home/the provided living quarters, and keep a healthy routine (have balanced diet, fruits especially those with vitamin C to boost immunity, drink plenty of fluids, exercise and maintain a clean environment). In case she experienced fever, headache, difficulty in breathing or any other covid related symptoms she was to inform the doctor.

The patient was working in a semi-arid, far-flung, hardship environment with limited medical facilities and away from family; approximately 490 km (a whole day's journey) from her nearest relatives; and 801 km from her residence (home). There was widespread lockdown with travel restrictions in the country at the time. She was due for rest and recuperation but the prohibitions and her condition prevented her from travelling.

A week later, she developed fever, generalized body malaise, runny nose and awoke suddenly in her sleep due to what she referred to as her "first panic attack" (confusion and palpitations); took some paracetamol and did some steam inhalation and was able to sleep. In the morning she noticed that she had lost her perception of smell (while using detergents) and taste (during breakfast) and later upon review was put on cold caps (diphenhydramine and acetaminophen combination). She experienced her "second panic attack" that night and upon the second review, she was put on diazepam (dosage unclear). A recheck/ repeat SARS-CoV-2 test result received on day 14 from the onset revealed she was still positive for COVID-19; she was upset. By this time, she had also consulted widely (friends, family, colleagues, and including the internet) and was now additionally using vitamin C, Zinc, Vicks VapoRub, cetirizine, Fluticasone Furoate nasal spray (from a previous episode of sinusitis in 2019), Eucalyptus steam inhalation, and AXE brand universal oil. However, nasal congestion, a dry throat and cough persisted to around day 30 (4 weeks) since the onset. All these items were not readily available at her work station and she had requested them to be sent to her, using various means, from friends and family.

She decided to recheck/ repeat SARS-CoV-2 test again when asymptomatic, and on day 34, she learnt that her result was positive again, for the third time. Her heart sunk, she was devastated and could not hold back her tears, she cried uncontrollably. She was now tired and felt like giving up but was advised on the need for some investigations; a chest x-ray and blood work which both turned out to be insignificant. The following night she suffered a "third panic attack" that resolved on reassurance. This time there was discomfort in the throat associated with a choking sensation and inability to inhale. Over the following days, she developed worsening insomnia that was associated with drenching sweats, decreased ability to concentrate, chest pains, and preoccupation with COVID-19, including the logistics of being cleared for travel. The symptoms fluctuated unpredictably and a sense of "losing control" seemed to prevail. A decision was made to evacuate her and she eventually travelled on day 41 and was admitted at a hospital 490 km away on day 42. On admission, her vital signs were normal (BP-117/80 mmHg; RR-19/min; Temp- 36.4 °C; PR- 88/min; SPO_2- 97%, in room air) and remained within the normal limits throughout her admission.

Investigations

Blood tests done revealed a normal full blood count (haemoglobin 14.4 g/dL; platelets 299 × 10^9/L; white cell count 7 × 10^9/ L) and renal function (urea 3.6 Mmol/l., normal 1.7-8.3; creatinine 67.39 Umol/l., normal 44-97; sodium 145.6 mmol/l., normal 135-155; potassium 4.58 mmol/l., normal 3.5-5.5; chloride 105.1 mmol/l.,

normal 95-108). Assessments using the Generalized Anxiety Disorder 7- item (GAD-7) instrument to screen for and ascertain severity of panic disorder were done with the following outcomes; 17/21 (day 44), 4/21 (day 72), and 2/21 (day 105). Similarly, assessments using the Patient Health Questionnaire- 9 (PHQ-9) to screen for and ascertain severity of any depressive symptoms were done with the following scores; 10 (day 44), 1 (day 72), and 1 again (day 105).

Treatment

All the medication she was using prior to admission was stopped. A psychiatric consult was sought. This was after an initial thorough assessment and review by the physician had revealed no significant "physical" condition of concern. She was commenced on a combination of flupenthixol (0.5 mg) and melitracen (10 mg); a tablet in the morning and at noon to manage the depression. She was also started on tapered alprazolam, given at night, to relieve the anxiety and address the insomnia in order to quickly calm down the patient. Graded exercise therapy and Cognitive behavioural therapy were also commenced, together with relaxation techniques (mindful meditation and controlled deep breathing). In addition, as per her request, the patient was transferred to a room with less noise or direct bright light, as this were noted to trigger her apprehension.

Outcome and follow-up

There was remarkable improvement in the patient's symptomatology, even within the first few days. By the third day, she was relaxed, showed a more positive outlook, no longer experienced the apprehension as earlier, reported consistently good sleep since admission, and was excited about plans for a possible home-based care. She was subsequently discharged for home-based care on day 47; with outpatient follow-up visits on day 72 and day 105. Her only concern during the reviews was the requirement at her work station/place of a negative SARS-CoV-2 test result, prior to physically going back to work. She was completely unable to cope with another "test or results" scenario; we explored the telecommuting option. Eventually she was able to go back and resume her usual social and occupational functioning. Her last review was around mid-year 2022, and she was fine.

There was evidence from both the clinical assessment and the instruments used that she was experiencing depression (PHQ-9) and anxiety (GAD-7) symptomatology. In fact, these were the target symptoms we used in evaluating our treatment outcome. We also stress that there seemed to be a relationship between exposure to the "outcome" of the SARS-CoV-2 tests and the worsening of her "condition". The uncertainty and hopelessness that accompanied the scenario that involved appraisal of repeatedly unfavourable SARS-CoV-2 test outcomes, and the manifestations that ensued thereafter is somewhat not that commonly reported. According to the DSM-5 [14], disorders commonly associated with exposure to trauma and stress include; Post traumatic stress disorder (PTSD); Acute stress disorder (ASD); Adjustment disorder (AD); Other Trauma and stress-related disorders; and Unspecified Trauma and stress-related disorders. The remaining two disorders i.e., Reactive-attachment disorder; and Disinhibited-social engagement disorder mainly occur much earlier in life. Our patient was most certainly not suffering from Prolonged grief disorder; she had not lost anyone close for a while. The stressor, timing, symptom profile of ASD and PTSD appear to disagree with the presentation in this case study. Actual or threatened death, serious injury or sexual violence that is pervasive seems to be the stressors in both PTSD and ASD; but again, this were not the issues in this case. A duration of 3 days to a month is the timing for ASD, whereas PTSD is a month or more. The common PTSD and ASD symptom profile of re-experiencing (intrusion symptoms) and avoidance had also not been reported here. All the aforementioned disorders could best be considered as differential diagnoses.

The essential feature in AD is however the presence of behavioural or emotional symptoms in response to an identifiable stressor. In this presentation, there was clearly the emotional symptomatology (Depression and Anxiety) and presence of stressors in the form of the devastation of 'test- re-test' positivity, and the associated isolation and loneliness that was involved; with the uncertainty that accompanies a medical illness such as 'long COVID'. Some of the risk factors identified as predisposing to an Adjustment disorder in this case included; being female; the unfavourable environment (was working in a hardship far-flung area that even under normal circumstances has provision for rest and recuperation and was additionally under self-quarantine at the time); the lack of access to her primary support systems (family and significant others); and the uncertainty regarding outcome (was infected with a novel virus that was showing a different presentation, with the outcome of 'long COVID' not well understood, while the nearest specialized medical facility was a days' journey away). In the acute type, the disorder can be diagnosed immediately after exposure and once the stressor or its consequences have terminated, the symptoms do not persist beyond 6 months. This is exactly what our case study presented as there was remarkable remission once the stressors were removed; the patient was actually discharged from the hospital within six days.

Having considered the clinical evaluation and investigations, the most plausible diagnosis here is AD, with mixed Anxiety and Depressed mood, in 'long COVID' [14].

Discussion

A contemporary study [15], has shown that the most frequently occurring symptomatology in 'long 'COVID' includes; headache, runny nose, diarrhea, abdominal discomfort, and fatigue. Obesity, hair loss, headache, and sore throat were identified as risk factors if they were experienced during infection; while age, gender, race/ethnicity, level of education, smoking status and comorbid chronic conditions were not found to be significantly associated with the risk. Our client seemed to experience fatigue, palpitations, throat discomfort with choking sensation, inability to inhale, worsening insomnia, drenching-sweats, inability to concentrate, chest pains, and preoccupation with COVID-19.

Many other varying presentations of 'long COVID' [3,16-17], have been reported but in our opinion, none is similar to the one presented here. This is despite contemporary reports [18], also indicating an upsurge in global Depression and Anxiety rates during the COVID-19 pandemic. The indirect effects of the infection on the mental health of the individual, could at times be attributed to causing the morbidity. The innate capacity for coping with stress varies from person to person. However, some stressors have the tendency to invariably affect most, if not all who encounter/ experience them. Easily missed effects of experiences such as the socioeconomic and occupational burden and the intangible psychosocial or cultural nuances involved, including quarantine and the "test- re-test" scenarios could plausibly contribute significantly to increased susceptibility and precipitation of an AD. The implications this disorder and other similar disorders can have on the course of the COVID-19 illness is that they can complicate the outcome, resulting in prolonged hospital stay and at times a chronic disabling disorder. As shown in this report, the impact COVID-19 illness has, is that it has successfully unmasked and exposed some of the social inequities that determine health in society. As such, there is need for programs that will address these social determinants of health through promotive and preventive means.

Equitable access to quality, affordable and appropriate medical resources, including personnel, is of utmost importance, especially when considering a novel condition such as 'long COVID'. A bio-psychosocial and multidisciplinary approach is at times invaluable when considering other disorders that may present in the context of 'long COVID'; such as the presentation in the report described here. The lack of such an approach in implementing care could result in unnecessary prolonged suffering for the patient with the possibility of devastating and dire consequences.

There is also the need to develop and establish occupational/work-place policy to clearly address protection of the workers by; limiting transmission and spread during an epidemic or pandemic; improving the quality, availability and accessibility of health resources; improving on timely evacuation measures; considering a multidisciplinary approach during similar presentations in the future and some of the other issues raised in this report. Kenya [19] received the first batch of COVID-19 vaccines in March 2021, which coincided with the onset of our client's illness. As such, this may not emanate directly from our report, but planning and organizing for vaccination drives for those working in far-flung, hardship areas would also be invaluable.

Acknowledgement

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Author Contributions

All the authors made substantial intellectual contributions to this report. These include their involvement in the clinical management of the patient, conception, design, and even interpretation of the results. They were all also involved in critically revising the manuscript draft and gave their approval of the final version to be published.

Ethical Consideration

Written informed consent and permission to publish was requested and obtained from the patient.

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Conflict of Interest for all Authors

None Declared.

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