

**SEQUELAE OF COVID -19 AND EFFICACY OF INDIVIDUALIZED
HOMOEOPATHIC TREATMENT****Arijit Pal Choudhury* and Arijit Pal Choudhury**

Associate Professor & H.O.D., Department of Gynaecology & Obstetrics Pratap Chandra
Memorial Homoeopathic Hospital & College 14/1, N.N. Road, Kolkata, West Bengal, PIN –
700011, India.

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***Corresponding Author**
Dr. Arijit Pal Choudhury

Associate Professor &
H.O.D., Department of
Gynaecology & Obstetrics
Pratap Chandra Memorial
Homoeopathic Hospital &
College 14/1, N.N. Road,
Kolkata, West Bengal, PIN
– 700011, India.

ABSTRACT

COVID-19 or SARS COV-2 is a viral disease, first detected in Wuhan province of China in December'19 but later became a pandemic and affected millions of people across the globe. The world has so far seen multiple waves of its outbreak with millions of casualties. The clinical manifestations of each wave vary to some extent from the other and many people were re-infected with the outbreak of different waves. The disease was mild, moderate to severe in different individuals and the recovery rates were also different. Many people succumbed to the infection and many of those who survived often still suffering from different types of symptoms for weeks or months, inspite of being tested negative for COVID-19. The residual effects of COVID-19 have also been renamed as Long COVID or Post-acute sequelae of SARS-CoV-2 (**PASC**), also known as Post-Covid Syndrome. This pandemic of corona virus is a new one and hence the management and treatment protocol was not a framed or scheduled one, as is the case with other well-known diseases.

KEYWORDS – COVID-19, Sequelae, Long COVID, Individualized Homoeopathic Treatment.

INTRODUCTION

The population around the world were passing through some hard times and were fighting against an unknown enemy, the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2 virus) which caused a pandemic (COVID-19), tormenting the lives of the people on

earth for around 3 years. From the very beginning, the scientists and the medical fraternity had tried to know the source of infection and the nature of the pandemic in which, several million lives have been lost and those who survived, suffer from some trivial to serious complaints – “*have not been well since....*”. As the virus had undergone frequent mutation,^[1] the essential nature of the disease remained a mystery inspite of several scientific investigations and research and, that is yet to be fully discovered as the mutation is still going on. In a pandemic, it may take several years to have a complete picture of the disease, when the frequency of mutation is less or the variations of clinical features are minimum. The complications and sequelae^[2] are the results of the acuteness of the infection, the severity of the disease, length of the hospital stay, susceptibility or immunity of the patient concerned, diagnostic, resuscitatory & life-saving measures involved, the risk factors & presence of co-morbidities, iatrogenic effects etc. The residual effects of COVID-19 have also been renamed as Long COVID or Post-acute sequelae of SARS-CoV-2 (**PASC**),^[3] also known as Post-Covid Syndrome.

The risk factors and co-morbidities favouring the development of sequelae

According to some statistics, it was observed that 75% of hospitalized patients with COVID-19 have at least one comorbidity.^[4] Serious heart diseases (Such as heart failure, coronary artery disease or cardiomyopathy), cancer, chronic obstructive pulmonary disease (COPD), Type 1 or Type 2 diabetes, overweight/obesity, hypertension, chronic kidney disease, weakened immune system, pregnancy, asthma, chronic lung diseases, chronic liver disease, HIV infection, some medications (Like remdesivir, hydroxychloroquine & chloroquine, dexamethasone, amantadine etc) and brain and nervous system disorders, such as strokes etc. Some recent studies^[5] carried out at the University of Sheffield show that some genes are responsible for producing long COVID. There are more than 1000 such genes which predispose the persons for producing severe complications. Some other studies^[6] showed that middle aged women are more affected with long COVID than men. Age, lifestyle, comorbidities etc also influence the development of sequelae.

People commonly experience combinations of the following symptoms^[7,8,9,10]

- Difficulty in breathing or shortness of breath
- Post-exertional malaise, symptoms get worse after physical or mental activities,
- Difficulty in thinking or concentrating (Sometimes referred to as “brain fog”)
- Cough

- Chest or stomach pain
- Headache
- Palpitations
- Joint or muscle pain, Pins-and-needles feeling
- Diarrhoea
- Sleeping disorders
- Fever
- Dizziness on standing (Light-headedness)
- Rash – maculo-papular, papulo-vesicular
- Mood changes
- Change in smell or taste
- Changes in menstrual cycles, etc.

Sequelae /Complications involving multi-systems^[7,8,9,11]

Respiratory sequelae: Acute Respiratory Failure and Acute Respiratory Distress Syndrome (ARDS), Chronic Obstructive Pulmonary Disease (COPD), Lung fibrosis, Interstitial Lung Diseases (ILD) etc are common to occur.

Liver: Acute liver injury, hepatocellular injury and/or biliary stasis. In many patients even after recovery, the liver enzymes remain considerably high and may persist for several months. The main reason for such affection is related to ACE2 receptors. The risk is much high in persons having pre-existing chronic liver diseases. Patients also may develop hepatic steatosis (Fatty liver disease). The mechanisms of injury include direct viral cytotoxicity, particularly in the biliary tree, as well as the effects of systemic inflammation, hypoxia, coagulopathy, and adverse effects of drugs.

Cardiac: Acute cardiac injury including cardiac arrhythmia, heart failure, coronary artery disease or cardiomyopathy, postural tachycardia syndrome (POTS), myocarditis, AMI, sudden cardiac arrest, palpitation etc. An online international survey carried in 3762 patients shows cardiac symptoms including chest pain (~53%), palpitations (~68%), fainting (~13%) were observed in up to ~86% of patients by 7 months from infection.^[12]

Renal: Acute kidney injury (AKI), acute tubular necrosis, glomerulopathy and microvascular thrombi, acute kidney injury (Renal damage) leading to chronic kidney disease (CKD) etc.

Gastrointestinal: Diarrhoea, nausea, vomiting, abdominal pain, loss of appetite, dyspepsia etc.

Haematological: Disseminated intravascular coagulation (DIC) deep vein thrombosis (DVT). Acute COVID-19 has been associated with an increased risk of thrombotic events, especially in critically ill patients.

Multisystem Inflammatory Syndrome in Children: (MIS-C) or Paediatric Multisystem Inflammatory Syndrome (PMIS): Symptoms include pain abdomen, fever, nausea, vomiting, diarrhoea, rash, confusion etc. Often the MIS-C becomes fatal or may result in a condition of serious concern.

Neuropsychiatric: Neurological and psychiatric long-term complications associated with infection with SARS-CoV-2 are fatigue, muscle weakness, sleep difficulties, myalgia, headache, mood and behavioural disorders etc. Some studies^[13,14] showed that impairments in memory, verbal fluency, and executive function have been described in ARDS survivors at 1 yr. of follow-up. Long-term psychiatric sequelae are also experienced by those infected with SARS-CoV-2. Many patients have been with anxiety/depression even after many months of recovery. Long-term hospitalization, remaining admitted in I.C.U for long, different investigative, diagnostic & resuscitative procedures also have serious impacts on the mental health, and the emotional and behavioural patterns of the patients for a prolonged period. Children are also not spared and have suffered from many psychological and psychiatric problems due to stress, anxiety, confinement etc.

Musculoskeletal: COVID-19, more typically causes myalgia and arthralgia without true inflammatory arthritis. Reactive arthritis is one of the common sequelae which often require prolonged treatment for several weeks to several months. Muscle wasting, arthropathy etc also have been reported. Prolonged confinement and remaining indoors have deleterious effects such as Vit –D reduction and demineralization of bones. In some cases, iatrogenic osteoporosis may also develop. In some cases, avascular necrosis may also develop.^[7]

Ear, nose & throat problems – Some people affected with COVID may develop different types of E.N.T problems. Loss of taste and smell is also found even after 2-3 months of COVID infection.

Dermatological – Maculopapular exanthema, papulovesicular rash, urticarial, hair loss, non-scarring alopecia etc. have been observed although non-scarring alopecia has a comparatively good prognostic value with more chances of reversibility.

Diabetes mellitus – Pre-existing diabetes mellitus has been associated with worse COVID-19 outcomes. New-onset hyperglycaemia and acute decompensation diabetes, iatrogenic hyperglycaemia from steroid use etc. are seen to develop in many patients.

Chronic fatigue syndrome from rhabdomyolysis may ensue. Muscles break down, tissues die and myoglobin floods the bloodstream. With kidneys functioning well, it will flush out; otherwise, renal failure and death may follow.

Effects of hospitalization – Hospitalizations and severe illnesses for lung-related diseases,^[15,16] including COVID-19, can cause health effects like severe weakness and exhaustion during the recovery period. Effects of hospitalization can also include post-intensive care syndrome (PICS) and post-traumatic stress disorder (PTSD).^[17] The investigative procedures, diagnostic techniques, resuscitatory measures, fearful atmosphere in IPDs, prolonged immobilization etc. altogether have promoted many psychological and psychiatric outcomes which needs to be tackled carefully and judiciously for a prolonged period.

The above-mentioned sequelae are more or less, so far observed sequelae in cases of the COVID-19 pandemic, ranging from several weeks to several months following primary infection. The patients have been declared negative for the COVID-19 virus (RT-PCR negative) but the sense of well-being did not return, and the patients continue to suffer from different sorts of discomforts and symptoms. The aforesaid symptoms and sequelae have so far been observed in retrospective studies carried over the patients in different parts of the globe and many more may be added in future till the virus mutates and newer strains and sub-strains come up with new sets of symptomatology.^[18]

The homoeopathic management of complications of COVID-19

In homoeopathy, there is no specific remedy for the nosological name of diseases. The same kind of disease in different persons may require different remedies depending upon the totality of symptoms. The system or organ involvement depends upon the miasmatic background of the patient. Complications and sequelae may develop in different systems and

organs depending upon the soil i.e., miasmatic predominance and other basic miasmatic backgrounds of the individual.^[19] Even several persons with similar miasmatic predominance might develop different complications and sequelae based on the individualistic response. Many of these complications may be caused by a condition known as cytokine release syndrome or a cytokine storm. They can damage tissues and the organs, including lungs, heart, kidneys, liver, brain etc producing long-lasting effects and series of events. Today, the severity of COVID-19 has been controlled but we cannot say that the game is over. Nobody knows when the next mutated strain will develop and run another course of devastation. So, we must be cautious and must not let our guard down to spread the outbreak of the disease. In case of sequelae, as the effects of the disease remain but the causative agent of the disease no longer exists or remains active, the scope and efficacy of the homoeopathic management are much wider. Modern medicine, most of the time directs its treatment against the causative agent or factors but in case of sequelae of COVID-19 the causative agent or factor cannot be made the target of treatment. Homoeopathy, here enjoys some advantages over the other systems of medicine, in treating such long-term complications and sequelae.

The predominating miasm helps in developing the presenting complaints of the patient. But still considering the overall clinical outcome some medicines have been seen to be more frequently indicated than the others. The organ and /or system involvement and the nature of the sequelae depend upon the predisposition (soil) of the individual, i.e., the constitution impregnated with miasmatic taint.^[19] So, the individualistic response to the disease phenomena depends upon the miasmatic background of the patient. Long COVID is no doubt a chronic disease state and we, the homoeopaths know that any chronic disease must have some miasmatic background for its development and persistence. The basic miasms are three – psora, sycosis and syphilis. Another fourth state exists which is the pseudo-psoric diathesis. The fact is that the presence of a single miasm in an individual is only a theoretical existence, practically multi-miasmatic (mixed miasmatic) states are almost always found to exist. The long COVID may have a variegated expression with or without any obvious organic or structural damages.

A patient recovering from COVID-19 may have a persistent cough for months when all the investigations and serological parameters are almost normal. An antipsoric or an antitubercular drug based on the totality of symptoms can remove the persistent cough when all the anti-tussive drugs, antibiotics, expectorants etc. are ineffective. Persistence of

weakness for months with poor appetite and dyspeptic symptoms following COVID can be reversed to a healthy state with the similar treatments. Patients often complain, to suffer from recurrent fevers and glandular affections following COVID, and may require anti-tubercular medicines. The general immunity of the patient is also lowered as a post-COVID sequel, which can be restored with antitubercular medicines. Those, who develop COPD or fibrosis of the lungs may require antipsoric and antitubercular medicines. Here, curative indications are dependent on the extent of fibrosis and reversibility of the COPD. Imperfect oxidation of lung tissues may have its origin to sycotic miasm. In irreversible changes of lung, the antipsoric and antitubercular or sometimes anti-sycotic medicines may be required to keep the phenomenon under control. Along with the selected similimum, lifestyle modification, breathing exercises, nutritious diet are also helpful. Post-COVID arthritis and arthralgia have been found to occur frequently in many patients. Myalgia and arthralgia without true inflammatory arthritis may occur. Shooting and tearing pain in the joints, pain in the muscles, fingers, and small joints usually of sycotic origin, which are worse from rest, and relieved by rubbing, moving, stretching, dry-fair weather etc. If pains are neuralgic in nature, psora or pseudo-psora lie in the background. These pains are worse from motion and better from rest and warmth. Stitching, shooting, and lancinating pains in the long bones or periosteum belong to syphilis, which are worse at night. Patients having tubercular diathesis prone to develop neuralgias, prosopalgia, sciatica, insomnia etc. The tendency to involve the lymphatic system and lymphatic glands are due to syphilitic and pseudo-psoric diathesis.^[19] In psoric heart troubles patients also suffer from anxiety, and fear as associated symptoms but in sycotic or syphilitic troubles, there is almost no mental derangements and the disease progresses in silence with sudden acute exacerbation and even death.^[20] Venous congestion is more common in sycosis whereas a rush of blood to the head, and the chest is mostly found in tubercular diathesis. Dropsies and anasarca are more common and in greater degrees, in psora or pseudo-psora than in sycosis. As a rule, when pseudo-psora and sycosis are prevalent in any patient, the disease is apt to become fatal. Likewise, so many disease conditions may develop with variegated symptomatology depending upon the underlying miasms.^[20,21] In homoeopathy, our sole objective is to constitute the individualistic totality with consideration of the underlying miasms to reach the most suitable similimum for the case in hand. That's why no specific medicine can be given for any given case of disease depending on its nosological diagnosis. Homoeopathy always considers the essence of the individual case of the disease, to select the indicated remedy.

The predominating miasm helps in developing the presenting complaints of the patient. But still considering the overall clinical outcome some medicines have been seen to be more frequently indicated than the others. Depending upon the organs and systems affected by the sequelae of COVID-19, here is enumeration of some remedies that may be effective.

Some studies shows that adjuvant homoeopathic treatment is significantly helpful in confirmed and hospitalized case of COVID-19 along with conventional therapy.^[22] Another study shows that homoeopathic treatment can combat the hydra-headed corona virus.^[23] The scope of homoeopathy in unfortunate consequences of COVID-19 survivors has been narratively described by some studies showing the efficacy of homoeopathic treatment in post COVID anxiety, depression, cardiovascular complaints and so on.^[24]

In respiratory ailments Arsenicum album, Phosphorus, Calcarea carb., Bryonia alb., Tuberculinum, Sulphur, Sepia, Influenzinum are seen to be frequently indicated. In cardiac ailments, Natrum mur., Naja t., Digitalis, Gelsemium, Crategous ox are more common. In G.I. system involvement Arsenicum album, Phosphorus, Bryonia, Lycopodium, Nux vomica, Carbo veg. etc are commonly indicated. In musculoskeletal system involvement Bryonia, Natrum mur., Gelsemium, Causticum, Lycopodium, Influenzinum etc. In neuropsychiatric complaints Nux vomica, Kali brom., Arsenicum alb., Phosphorous, Natrum mur, Lachesis, Sulphur, Gelsemium, Tuberculinum etc are indicated. In dermatological sequelae Natrum mur., Sepia, Sulphur etc. In Chronic fatigue syndrome Gelsemium, Phosphoric acid, Psorinum, and Sepia may be useful. In this way, many more homoeopathic remedies may be indicated in Long COVID depending on the symptomatology (the totality of symptoms) with consideration of the predominating miasms of the individual.

SUMMARY OF SOME TREATED CASES OF LONG COVID-19

Case 1 - A female patient 35 years of age suffered from COVID-19 six months back. Since then she has been suffering from some chronic dry cough and shortness of breath. CT scan of the lungs and pulmonary function test everything was normal. But still, the patient was having some shortness of breath since she recovered from her COVID illness. I thoroughly enquired about the disease and the symptoms she had during her COVID and after recovery from the COVID-19. The cough of the patient is worse from lying down and after eating. During COVID she had pneumonia of the left lung with some degrees of exudation. She was treated with modern medicine for her COVID pneumonia with exudation. Since her recovery, a follow-up x-ray of the chest shows no residual pathological changes but her cough and

shortness of breath persisted. The patient was somewhat weak due to a prolonged cough and dyspnoea. Considering the affection of the left lung, persistent cough and dyspnoea which aggravates from lying down and history of catarrhal pneumonia, I prescribed her Antim ars. 6, 4 doses, BD for 2 days, followed by placebo for 7 days. To my astonishment, the cough disappeared after 10 days and the patient had no complaints of shortness of bread following two weeks of medication. Since then, the patient is better in all respect and all her complaints were gone.

Case 2 - Female patient of 49 years who had recovered from COVID-19 four months back, came for consultation for her weakness and prostration since she recovered from COVID-19. She tested negative for COVID -19 after treatment with modern medicine and took some vitamins for one month following the completion of the treatment prescribed for COVID. The physician of modern medicine advised her for physiotherapy. She was under physiotherapy rehabilitation for one month without any remarkable improvement. But her prostration and general weakness and fatigue were persisting. The patient was depressed and desires to lie quietly and does not want to be disturbed by anyone in her room. She had a disinclination to speak with others. She was very sensitive to a change of temperature towards cold and takes cold easily, but cannot bear the heat of the sun as it worsens her depression and general conditions. There was general aggravation from emotions and excitement. Considering the above features the patient was prescribed Gelsemium 200/2 doses, to be taken on successively two days, followed by placebo for two weeks. The patient showed remarkable improvement after 2 weeks and was given placebo for another 10 days. This time no further improvement was observed and no new symptoms developed but weakness and lethargy were present to some extent. Now, Gelsemium 1M, a single dose was prescribed. After 2 weeks a little bit of improvement was there. After observing the patient for another 7 days she was prescribed Psorinum 200 one dose. 'Chilly patient, susceptible to cold, debility and prostration persisting after acute disease' were the main indications for prescription. After taking the medicine there was a steady improvement in the patient and by three weeks of time, the patient was almost recovered from the prostration, debility and fatigue with the improvement of other mental and emotional conditions.

Case 3 - A male patient of 58 years of age was initially affected by COVID-19 and suffered from sore throat, dysphagia, rawness and aphonia along with high fever which rapidly progressed to congestion of the chest within 3 days and was hospitalized. Pneumonia was set

in with oppression, stitching pain and heat about the chest. Occasionally there was haemoptysis and the patient was transferred to ICU with some intermittent resuscitative measures. He was in ICU for 9 long days and recovered slowly. Long hospital stays, treatment procedures and fearful experiences of resuscitative measures undertaken for himself and other fellow patients admitted to ICU, were very shocking for him. After being discharged those fearful experiences of hospital stay in the ICU were continued to haunt him. Physicians of modern medicine asked him to undergo some psychological counselling and psychiatric treatment, considering it to be a case of post-intensive care syndrome (PICS).^[15,17] But his wife and family members were averse to psychiatric treatment and visited my clinic. The patient was very anxious about every little incident and at the same time indifferent to his disease and family members. He was having fear of death, especially when alone (which was precipitated during his hospital stay and continued to torment the patient even long after being discharged). He was a chilly patient, susceptible to cold particularly cold air which causes ailments and aggravates his throat and chest complaints. On the contrary, he had desires for cold food and cold water. He was given Phosphorus 200/ 2 doses, once daily for consecutive two days. After 15 days, the patient's condition started to improve. Following treatment with a placebo for another one month he was quite improved. His dread of death was almost gone and his anxiety much lessened. After another 15 days, the condition showed no further development (condition was standstill) but some degrees of anxiety, and dread of death were still there. A single dose of Tuberculin 200 was given (a complementary to Phosphorus). Gradually the patient recovered from all the anxiety, fear of death and indifferent attitude. The moral counseling, positive family support along with the medicinal treatment helped the patient to regain confidence in himself and bring order out of chaos.

DISCUSSION

It is undoubtedly obvious that many patients have been suffering from sequelae or post-COVID complications. In some patients, there are persistence of several symptoms inspite of serological investigations, radiological investigations, biomarkers etc. are normal. In some cases, the 'sense of well-being' of the patients did not return following recovery from COVID-19. Some have been suffering from anxiety, depression, palpitations, myalgia, arthralgia, multi-systemic involvement & manifestations etc., even there are 'effects of hospitalizations' like PTSD, PICS etc. Some drugs used by the modern medicine for the treatment of COVID-19, showed varied adverse reactions. The diagnostic and treatment procedures also had some untoward effect on the patients. Altogether the pandemic had too

many effects and impacts upon the human race as a whole. Modern medicine did its best to save the lives of millions but these after-effects had been tormenting the patients and many are still suffering. The efficacy of individualized homoeopathic treatment has proved to be of great help in combating these unwanted after-effects and bringing back the sense of well-being.

CONCLUSION

The COVID-19 pandemic had devastating effects on the human race for three plus years but the foot prints of the disease are still tormenting those who survived the initial blow. The novel corona virus disease being a new disease, the outcome, the treatment protocol & schedule, the complications etc. were unknown to the medical fraternity. The COVID-19 was also called the 'severe acute respiratory syndrome coronavirus 2 (SARS-COV-2). There are so many grey areas of the new disease which are yet to be explored by the medical science but the sequelae of the COVID-19 or Long COVID had been undermining the health of the population who survived the COVID-19 disease. The conventional medicine had well managed the outbreak of the pandemic of novel corona virus disease, the COVID-19. The cases of sequelae described in the article shows that the individualized homoeopathic medicine has shown its efficacy to cure the sequelae of the COVID-19 and thus there was restoration of health with 'sense of well-being'. Some studies by different authors also have confirmed the observation that individualized homoeopathic medicines are also effective in the treatment of sequelae of the COVID-19 disease.

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