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Post COVID dyspnoea and scope of homoeopathy

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Abstract

The effects of the on-going pandemic COVID-19 has rippled through the whole health care system as well as various aspects of human existence. Although the fact that the numbers of recovered persons outnumber the number of deaths is promising, the post COVID status of people who have recovered from the infection in terms of their physical, mental and sociocultural well-being is a menace to the world's future. Relatively little is known about COVID 19 post recovery period and its long term outcome since it has been studied over only a short period and the ideas about that are still on a dynamic plane. This is an attempt to find out the scope and limitations of homoeopathy in post COVID dyspnea, from available literature and data from different research articles.

Keywords: COVID dyspnoea, homoeopathy, human existence

Introduction

A degree of breathlessness is common after acute COVID-19. Studies have shown that, survivors of COVID-19 acute respiratory distress syndrome are at risk of long term impairment of lung function ^[1]. For some patients there will be persistent or recurring symptoms or a variety of other symptoms as an after effect of the infection which include fatigue, exertional dyspnoea, cough, loss of taste or smell, headache and body-ache, confusion etc. Currently there is no universally accepted definition for post COVID period. A more clinically oriented and practical one is as following: Post-acute COVID-19 ("long COVID") seems to be a multisystem disease manifestations extending beyond 3 weeks from the onset of first symptoms and chronic COVID-19 as extending beyond 12 weeks ^[1]. Patients with even milder forms of COVID-19 have persistent symptoms. Persistent viraemia due to weak or absent antibody response, relapse or reinfection, inflammation and deregulated immune responses and mental factors such as post-traumatic stress disorder may all contribute. Long term respiratory, musculoskeletal and neuropsychiatric sequelae have been described for other corona viruses (SARS and MERS), and these have pathophysiologic parallels with post-acuteCOVID-19 ^[2].

Literature review

In a multistate telephone survey of symptomatic adults who had a positive outpatient test result for SARS-CoV-2 infection, conducted in a Multistate Health Care Systems Network-United States, March-June 2020, 35% had not returned to their usual state of health when interviewed 2-3 weeks after testing. Shortness of breath is one among the most common symptoms which failed to resolve post infection. Most common symptoms were cough and fatigue [1]. In a cross sectional observational study conducted in Mount Sinai Hospital entitled "Post-acute COVID-19 syndrome negatively impacts health and wellbeing despite less severe acute infection" it is found that during acute COVID 19 infection, Dyspnea is a predominant symptom. After COVID it persisted in 60% cases [4]. In a study conducted at post-acute care clinic in Rome, Italy, in patients who had been hospitalized for COVID-19 and met World Health Organization (WHO) criteria for discontinuation of quarantine and two negative test results for [SARS-CoV-2] 24 hours apart to assess whether they have persistence of symptoms. This study found that in patients who had recovered from COVID-19, 87.4% reported persistence of at least 1 symptom, particularly fatigue and dyspnea [5]. 78 of 100 patients in an observational cohort study who had recovered from COVID-19 had abnormal findings on cardiovascular MRI (median of 71 days after diagnosis) and 36 of those reported dyspnoea and unusual fatigue [6].

Pathophysiology

Recent studies reveal that the lung is the organ most affected by COVID-19 with pathologies that include diffuse alveolar epithelium destruction, capillary damage/bleeding, hyaline

membrane formation, alveolar septal fibrous proliferation, and pulmonary consolidation in discharged survivors with COVID-19. Impairment of diffusion capacity is the most common abnormality of lung function, followed by restrictive ventilatory defects, which are both associated with the severity of the disease [9].

Coronavirus targets alveolar epithelial cells. Cellular changes occurring with ageing such as genomic instability, mitochondrial dysfunction, and epigenetic modification might reduce these cells' ability to respond effectively to viral encounter, triggering pathways that promote both dysregulated repair and fibrosis. Since inflammation can lead to fibrosis in several forms of interstitial lung disease, treatment often targets inflammation [7].

COVID-19 is an inflammatory and hypercoagulable state, with an increased risk of thromboembolic events ^[1]. So in post COVID dyspnea, pulmonary fibrosis and pulmonary embolism have to be considered ^[2].

Perhaps 20% of patients admitted with COVID-19 have clinically significant cardiac involvement; involvement may be even commoner. Cardiopulmonary complications include myocarditis, pericarditis, myocardial infarction, dysrhythmias, and pulmonary embolus; they may present several weeks after acute COVID-19. Left ventricular systolic dysfunction and heart failure after COVID-19 can occur. They are commoner in patients with pre-existing cardiovascular disease, but they have also been described in young, previously active patients. Various pathophysiological mechanisms have been proposed, including viral infiltration, inflammation and microthrombi, and down-regulation of ACE-2 receptors [1].

Emerging data from different studies is showing that adult patients with acute COVID 19 infection can develop a hyper inflammatory syndrome [8].

Approach towards a patient with post COVID dyspnoea

Patients with post COVID dyspnoea should have routine examination blood to rule out anaemia. Multisystem inflammatory syndrome has to be ruled out in these patients and they should be tested for markers of inflammation and coagulopathy (CRP, serum ferritin, Interleukin-6, D-Dimer). A chest x ray/HRCT is needed to rule out pulmonary fibrosis. They should also have an echocardiogram to rule out cardiomyopathy. Patients who had asymptomatic COVID 19 infection should have an antibody test to diagnose them as post COVID case.

Severe breathlessness, which is rare in patients who were not hospitalised, may require urgent referral. Breathlessness tends to improve with breathing exercises. Pulse oximeters may be extremely useful for assessing and monitoring respiratory symptoms after COVID-19. Self-monitoring of oxygen saturations over three to five days may be useful in the assessment and reassurance of patients with persistent dyspnoea in the post-acute phase, especially those in whom baseline saturations are normal and no other cause for dyspnoea is found on thorough evaluation [1].

Rehabilitation treatment plans should be individualized according to the patient's needs, taking into consideration their comorbidities. Eating a healthy diet, engaging in physical exercises and getting good sleep will improve outlook and feelings of well-being.

Scope of homoeopathy

Since persistent inflammation affecting different organs, an

individualistic approach based on principles of Homoeopathy, will make essential changes and control inflammation. Based on the site of pathology, organ specific medicines especially medicines having action on cardio-pulmonary system can be considered while treating post COVID dyspnoea. Some of the important medicines mentioned in the Homoeopathic Materia Medica for chronic cardio respiratory diseases which can be considered for post COVID dyspnea include the following [10, 11, 12].

Antimonium arsenicosum: Catarrhal pneumonia associated with influenza

Coca: Palpitaion, dyspnoea, anxiety, sleeplessness

Ammonium carbonicum: Fat persons with weak heart, wheezing, feel tired. Much oppression in breathing, worse after any effort

Lachesis: Sensation of suffocation and strangulation on lying down. Feels he must take a deep breath.

Carbo vegetabilis: Persons who have never fully recovered from the acute exhausting effects of some previous illness.

Kalium carbonicum: Weakness, very sensitive chest with stitching pains. Palpitation and burning in the heart region

Antimonium tartaricum: Oedema and impending paralysis of lungs. Great rattling of mucus but very little is expectorated.

Calcarea arsenica: Dyspnea with feeble heart. Slightest emotion causing palpitation.

Though Homoeopathic literature mentions several medicines for management of chronic cardiorespiratory problems including pulmonary fibrosis, the post COVID dyspnoea should be managed based on severity of the problem. Cases requiring immediate attention should be referred to higher centres. In sub-acute and chronic cases an integrated approach along with standard therapy can be considered to minimize the progression and severity of the disease, and also to improve the quality of life of patients.

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