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Pulmonary Function- Three Months after COVID-19

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Description

More than 197 million confirmed cases of COVID-19 had been recorded worldwide as of 4 July 2021, with a global mortality rate of around 2.2 percent. Thousands of people were hospitalised, and a large number of them required treatment in intensive care units (ICUs). Italy was one of the first countries to be heavily impacted by COVID-19, which began in February 2020. The acute clinical spectrum of COVID-19 has been thoroughly studied, with fever, cough, shortness of breath, anosmia, and ageusia being the most common symptoms [1].

Even months after the acute phase, a significant proportion of patients may experience ongoing symptoms. Previous research found persistent impairment in pulmonary function tests (lung volumes and respiratory gas exchange) in patients following COVID-19, with changes likely to be more pronounced in the ICU survivors subgroup. As with SARS-CoV and MERS-CoV infections, a high incidence of ICU-acquired weakness and cognitive impairment is expected in patients who survive COVID-19 pneumonia; however, post-acute symptomatology occurs not only in critically ill patients, but also in those with milder forms [2].

Chronic fatigue and dyspnea, breathlessness, mood and behaviour changes, insomnia, cognitive impairments, gastrointestinal and cardiological disorders, and musculoskeletal pain are some of the long-term consequences of COVID-19 due to persistent symptomatology and prolonged organ dysfunctions. Long COVID is the common name for this phenomenon. Furthermore, mental health disorders, depressive or post-traumatic stress symptoms, anxiety, and sleep disturbances were reported, with an increase in antidepressant and anxiolytic use.

The duration, severity, and prevalence of Long COVID symptoms are all being studied. In a UK Office for National Statistics (ONS) survey, the reported prevalence of any symptom among COVID-19 survivors at five weeks was 22.1 percent, while the 12-week prevalence was 9.9 percent. The recent study examined the long-term health and psychosocial consequences of COVID-19 in a cohort of 2649 patients six to eight months after discharge and discovered that half of the patients (47%) reported one or more persistent symptoms. Another recent study involving outpatients with mild COVID-19 symptoms found long-term health consequences in up to 27.8 percent of subjects after 4 months [3-4].

As the SARS-CoV-2 virus enters cells via the angiotensin-converting enzyme 2 (ACE2) receptor, it can cause damage in a variety of organs, with the potential for both acute and chronic damage. Some pathophysiological mechanisms of COVID-19 infection and the virus-induced immune response may be involved in the determination of multi-organ persistent sequelae. Neuropsychiatric sequelae, as well as long-term multiple organ dysfunctions (e.g., lungs, heart, and kidneys), could be caused by viral neuro-invasion, virus-induced immune dysregulation, or endothelial injury. The relationship between different organ dysfunctions needs to be investigated further in order to identify common pathophysiological pathways underlying long-term organ involvement [5].

Conflict of Interest

None.

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