

Perspective

The effect of COVID-19 on lungs

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DESCRIPTION

COVID 19 can be detected using reverse transcription polymerase chain reaction RT-PCR kits and computed tomography CT images of the lungs. CT imaging allows for a speedier diagnosis than the RT-PCR approach. CT is also utilised for prognosis in identifying the severity of the disease and the proposed treatment technique, in addition to having a low false-negative rate. Lung infection segmentation from computed tomography CT images can provide crucial information for COVID-19 measurement and diagnosis in clinical situations. COVID-19 diagnosis is a difficult task for medical professionals because the virus's modified version manifests itself in a variety of ways. The Lung function is one of the most important diagnostics in this COVID-19 illness. The automatic identification of pulmonary infection utilising chest X-rays, in particular, provides healthcare professionals with a comprehensive opportunity to design hospital practises to deal with COVID-19. The Coronavirus infection in the lungs is diagnosed. It is still difficult to precisely segment COVID-19 infected lesions on CT scans due to uneven forms, varying diameters, and indistinct boundaries between normal and infected tissues. By increasing supervised information and merging multi-scale feature maps of different levels based on the encoder-decoder architecture, a novel segmentation approach for COVID-19 infections. The COVID-19 pandemic, which was caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and has since spread around the world, has posed a serious threat to the entire health-care system in terms of infection prevention, prompt detection, and treatment. Lung ultrasound (LUS) is a rapidly evolving

diagnostic technique that is utilised in intensive care, cardiology, and nephrology. It can also be used to diagnose and monitor pneumonia. The most prevalent clinical manifestation of coronavirus infection appears to be interstitial pneumonia. The COVID-19 epidemic has a high fatality rate and is infecting almost everyone on the planet. As a result of an intensified inflammatory response followed by excessive oxidative stress as well as the inflammatory reaction at the lung level, severe acute respiratory syndrome is the primary cause of death. There is now no specific and conclusive treatment for this pathology that concerns the global population, particularly the elderly, who are the main risk group. In this context, there is a keen interest in assessing the efficacy of available pharmacological medications for overcoming or reducing the severity of this pulmonary problem, which has claimed the lives of many people around the world. COVID-19 causes a variety of symptoms; with a significant risk of severe respiratory failure and death in patients who have predisposing risk factors such advanced age or obesity. COVID-19 containment is problematic due to asymptomatic carriers and poor testing. In severe COVID-19, the lungs are the primary source of infection, and post-mortem lung tissue gives vital insights into the biology of the illness. COVID-19 can produce significant microangiopathy in alveolar capillaries, which can contribute to mechanical changes in the tissues and help to distinguish it from other types of viral lung damage that have been examined. The high rate of spreading of COVID-19 is attributed to airborne particles exhaled by infected but often asymptomatic individuals. The essential properties of the coronavirus virus transported inside aerosol droplets, their successive inhalation, and size-dependent deposition in the respiratory system.

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