

## Research Article

# What Effect Does The Corona Virus Have on Various Organs?

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## Abstract:

The new coronavirus does not only attack the lungs; the heart, kidneys, brain, arteries, nerves, and skin are other organs that have been shown to be affected by the new virus and their function.

Much has been written about the fact that Covid 19 lung disease affects the lungs and airways the most. Because the disease most commonly affects the lower respiratory tract, patients with moderate to severe disease, especially those with a dry cough, struggle with one of two problems: They have trouble breathing or pneumonia.

But articles show that the virus affects not only the lungs but also other organs such as the heart, brain, pancreas, liver, and bone.

**Keywords:** covid-19, effect covid19, nerves covid19, kidney covid19

## 1. Introduction

Infection with the new Corona virus (SARS-CoV-2) was first reported in China in December 2019 and then spread rapidly to other parts of the world. On December 31, 2019, the World Health Organization (WHO) for the first time informed people about pneumonia of unknown origin in Wuhan City (Hubei Province, China) to people who epidemiologically sell to a local market of seafood and wet animals in Wuhan. Were related, informed. Coronavirus (COVID-19) (2019corona virus disease) spread rapidly in most countries of the world after China, and on March 11, 2020, the World Health Organization declared it a pandemic [1], the third most common disease. It was human and animal [2].

Coronavirus is a group of single-stranded non-branched RNA-positive round viruses belonging to the family Coronaviridae and Nidovirales with four subfamilies: AlphaCoV (AcoV), BetaCoV (BcoV), DeltaCoV (DcoV) and GammaCoV [3]

CoV-OC-43 and CoV-229E as pathogens in humans and responsible for two viral diseases of beta-coronavirus (BcoVs) Middle East Respiratory Syndrome (MERS-CoV) [4] and

Acute Respiratory Syndrome (SARS-CoV) [5, 6] The current epidemic of coronavirus (SARSCoV-2) has created a unique (unprecedented) health crisis. [8]

COVID-19 has directly or indirectly affected the entire human population. Directly causing a range of disorders from no symptoms to death and indirectly leading to illness or loss of a family member or socio-economic turmoil due to limited movement of packages and individuals. [9] The estimated percentage of people who will experience the symptoms of the disease with infection can be up to 50-80% of the world's population. [10] The disease mortality rate is currently approximately 3-4% [11]

The clinical and pathological manifestations of COVID-19 are very similar to SARS and MERS [12,2] In addition to acute respiratory infections, CoVs are neuroinvasive and cause inflammation and nerve damage [13,14] leading to nerve damage. Multiple sclerosis and encephalomyelitis [15,16] This report also applies to neurological manifestations in patients (COVID-19) throughout the body including the epithelium of the respiratory tract, lung parenchyma, heart, vascular endothelium, gastrointestinal tract and system.

Central nervous system (CNS) is distributed. [8] An autopsy revealed the presence of viral RNA and the SARS-CoV-N protein in the small intestine, liver, sweat glands, parathyroid, stomach, kidney, pituitary gland, and brain, confirming the ability of SARS-CoV to cause systemic infection. [17,18] CoVs can cause extrapulmonary damage in children such as myocarditis, severe diarrhea, and multiorgan failure [19-24].

## **2. Coronavirus is a highly functional virus**

SARS-CoV-2 was initially thought to be a respiratory virus, but now available evidence suggests that it may be independently associated with severe inflammatory reactions on various organs (e.g., heart, liver, kidney, Gastrointestinal tract and nervous system) Common symptoms COVID-19 fever [68.0%], dry cough [74.9%], lethargy, sore throat and body aches, headache (30% to 45.5%) 2), shortness of breath [60.9%], nasal congestion, conjunctivitis [26.2%], taste disturbance (88%) and olfactory (85.6%) acute kidney damage (AKI) is 40%. A small number of patients had diarrhea and vomiting [36-47] Although the symptoms disappear in about 5 weeks on average, in some people the symptoms persist for 2 months or more. Nervous signs and symptoms related to central nervous system attack [48] appear simultaneously with respiratory symptoms or alone. Clinical studies report olfactory and taste dysfunction as the most common symptom in patients with COVID19. [49] Women are significantly more affected by olfactory and taste disorders than men. [50] In a study [51], gastrointestinal symptoms in 23.6% of patients had respiratory symptoms in 44.3% of cases and 32.1% in respiratory and gastrointestinal symptoms. However, older people are prone to severe infections including pneumonia, shortness of breath, and acute respiratory distress syndrome, resulting in higher mortality. [8]

There is compelling evidence that SARS-CoV 2 can affect the nervous system through nerve damage and changes. The olfactory pathway and cranial nerves are the most logical explanation for an attack on the CNS. [52] Neurotropic viruses have developed mechanisms to escape host immune monitoring to access the CNS. Primary infection of neurons leads to acute cell dysfunction, which can lead to fatal encephalomyelitis. SARS-CoV-2 . [53] It can also damage the spinal cord and lead to acute myelitis. [4,555] The neurological symptoms in acute disease are far greater. [44] Preliminary reports indicate that neurological disorders are associated with the severity of SARS-CoV-2 infection, which includes loss of mind (cognitive impairment and impaired consciousness), olfactory and visual impairment, headache, dizziness, delirium, and pain. Nervousness, encephalopathy, ataxia and seizures, acute and ischemic stroke, cerebral venous thrombosis, paresthesia, neuropathy, movement disorders and intracranial infection [8,44,46,55-62] Epilepsy and paralysis and impaired consciousness are the symptoms that It is associated with many intracranial lesions and has been reported in COVID-19 patients. Oxygen deprivation, multiple organ failure, or metabolic and electrolyte disturbances may occur. In addition, Guillain-Barré syndrome and Miller-Fisher syndrome are subacute symptoms that are reported 3-10 days

after the onset of Covid-19 symptoms in several cases. Have been [63-65]. Several mechanisms may cause heart damage in COVID-19 [66]. Cardiac arrhythmia, cardiomyopathy and myocardial injury, heart failure, decreased output have been observed in patients who were severely ill or died of COVID-19 [67-70].

A 78% prevalence of cardiovascular involvement and myocardial infarction without left ventricular dysfunction in cardiac imaging in COVID-19 patients improved without cardiac symptoms has been reported after hospital discharge [71]. Evidence from the autopsy shows endothelial damage and vascular involvement and a high prevalence of deep vein thrombosis as well as pulmonary arterial thrombosis in COVID-19. Intravenous thromboembolism (VTE) with a incidence of 25% and pulmonary embolism with an incidence of 20% in hospitalized patients is another reason for the deterioration of patients [72-74].

Like other pneumonias requiring hospitalization, acute renal impairment in hospitalized patients with Covid-19 is up to 43%, and with proteinuria and hematuria, AKI is a risk factor for mortality [42] versus mortality in Covid-19 is less common in patients without acute kidney damage. About 15% of ICU patients develop acute kidney damage. In patients with chronic kidney disease, kidney function may deteriorate. Covid-19 often affects the liver and causes varying degrees of liver dysfunction. [75-77] In a study, 20.4% of patients with onset of the disease developed skin manifestations that included a wide range of clinical manifestations including macular, papular, maculopapular eruptions, mouth ulcers and blisters [78], and herpetiform lesions [79]. Because skin examinations are often not performed in patients with coronavirus, the prevalence of adverse skin outcomes in COVID-19 patients may be less reported [80,81].

At the time of admission, most patients have at least one underlying disease (diabetes, chronic kidney disease, chronic heart disease, etc.). Treatment potentials include remdesivir, chloroquine, tocilizumab, plasma therapy, and vaccination (if possible). [82]

## **3. Covid can have destructive effects on the pancreas and kidneys**

According to observations, people with Covid 19 can be exposed to damage to the pancreas (caused by a virus) as a result of diabetes. Long-term observations are needed to determine if the injury will be permanent or if the hyperglycemia is temporary and will resolve over time. In a review of 61 improvements in SARS, Liu et al found that 39.3% had hypocortisolism and 83.3% had central adrenal insufficiency. They concluded that adrenal insufficiency could be a late complication of SARS, which could be a secondary consequence of pituitary or direct hypothalamic injury. Other researchers have found central hypothyroidism in SARS survivors, which may be the result of damage to the hypothalamic-pituitary axis [83].

In a cohort study conducted in March 2020 on the effect of viral load on acute renal impairment (AKI) at the time of hospitalization among patients (1049 patients) with sars cov2

in New York City, viral load using instantaneous RT-PCR method Was measured and information was extracted by (EHRs). The viral load was associated with an increased risk of AKI.

(aHR = 1.04, 95% CI: 1.01–1.08, p = 0.02)

People at the top 50 percent of the viral load were 1.27 times more likely to be infected with AKI than those at the bottom 50 percent. In patients with AKI, C-reactive protein, procalcitonin, D-dimer, and ferritin levels were significantly higher than the control group and lymphocyte levels were significantly lower than the control group. High levels of viral load at admission may indicate greater disease severity, and strong proinflammatory status, but even after setting inflammatory markers, viral load still showed a strong association with an increased risk of AKI. Lead to the development of AKI, but viral load has a separate and independent role in the development of AKI through other mechanisms [84].

#### **4. Respiratory problems are one of the most common symptoms of Covid**

Sevim acaroz et al. Wrote an article entitled "Attention to Prevention and Management of Long-Term Consequences of Hot Respiratory Distress Syndrome in Patients with Coronary Artery" with the aim of predicting the complications of coronary heart disease. They have mild coronary but can develop aggressively, leading to acute respiratory syndrome, which can lead to complete bed rest, immobility in patients, and even hospitalization in the ICU. [85]

Focusing on the long-term effects of Acute Respiratory Syndrome has shown that this syndrome leads to hospitalization in the ICU. Weakness and myopia. [86] Based on previous studies of severe acute respiratory distress syndrome and influenza A, we expect that severe dysfunction of the patient's body may occur on the basis of prolonged mechanical ventilation and prolonged stay in intensive care, and this is exactly what happens. It can occur in patients with sars and quid. This phenomenon is characterized by a sudden onset. Decreased muscle strength and muscle mass. Myopathy and neuropathy;

The mentioned complications can bother the patient for a long time, so it is necessary to recognize the coronary complications and acute respiratory syndrome and take the necessary measures to deal with them. [88]

#### **5. Conclusion**

Most cases are expected to improve and survive this viral outbreak, but the long-term consequences of SARS-CoV-2 infection are unknown. With other serious respiratory illnesses and the wider subsequent intensive care syndrome, it predicted potential long-term consequences. After recovery, patients are at high risk for delayed onset lung disease, heart disease, neurological disorders, weakness, mental health disorders, and even mortality that often persist for months and years after discharge from hospital. Long-term side effects may also occur during COVID-19 and its treatment. These complications are likely to place additional medical,

psychological, and economic pressures on all patients. Therefore, there should be a comprehensive post-COVID-19 complication prevention and management plan to suppress their clinical, economic, and public health consequences and to support patients experiencing morbidity and disability as a consequence.

Also, all health care providers (physicians, nurses, and health care workers) should be aware of these complications so that they can be fully evaluated for health care workers and a suitable program can be considered according to the patient's condition and the goals of the treatment team. To achieve such a plan and goals, it is first necessary to identify the lasting effects on coronary arteries in the community and evaluate the frequency and prevalence of each in individuals in the community.

Previous studies on the persistent effects of COVID-19 in different countries have been limited to the statistical population and only due to the persistent effects of COVID-19 on one or two major body systems. In this study, we intend to discuss the wider statistical community as well as more systems of the body and to examine the relationship between the incidence of complications and symptoms in different body systems, age and sex, and underlying diseases. Quality of life And the performance of the recovered after Covid becomes 19.

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