

COVID-19 causes Kidney Damage?

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Received date: March 12, 2021; Accepted date: March 26, 2021; Published date: April 02, 2021

Citation: Huang L (2021) COVID-19 causes Kidney Damage? J Clin Exp Nephrol Vol.6 No.3: 112.

Abstract

The disease caused by the coronavirus that caused the global pandemic, COVID-19, is known to cause lung damage. As more people become infected, however, more information about the disease arises. Even if they had no underlying kidney issues before becoming infected with the coronavirus, some people with serious COVID-19 infections are showing signs of kidney damage.

Kidney damage can be serious enough to necessitate dialysis in some cases. Some hospitals are claiming that they are running out of the machines and sterile fluids required to conduct these kidney procedures due to a surge in COVID-19 patients. Many patients with extreme COVID-19 may have other chronic illnesses, such as high blood pressure or diabetes. Any of these factors boost the chances of developing kidney disease.

Keywords: COVID-19; Kidney disease

The immune system responds by releasing a flood of cytokines into the body. When the immune system battles an infection, cytokines are small proteins that help cells communicate. However, a large influx of cytokines in a short period of time may cause severe inflammation. This inflammatory response, in its attempt to kill the invading virus, can damage healthy tissue, including kidney tissue.

Blood clots

The kidneys act as filters, removing toxins, excess water, and waste from the body. COVID-19 can induce blood clots, which can clog the smallest blood vessels in the kidney and hinder its function.

Signs of Coronavirus kidney damage

Organ systems such as the heart, lungs, liver, and kidneys all depend on and support one another's functions, so if the new coronavirus damages one, it may put others at risk. The heart, lungs, and other structures are influenced by the kidneys' critical functions. That's why doctors warn that kidney damage in COVID-19 patients could signal a dangerous, even fatal course of the disease.

Recovery

It's unclear how many people with kidney damage caused by COVID-19 recover their function.

Patients with COVID-19-induced acute kidney injury that do not need dialysis may have better results than those who do, and we have seen patients regain kidney function at Johns Hopkins. We've also had patients in the ICU with acute kidney injury who needed dialysis but ultimately recovered kidney function. The extent at which this happens is unclear, but the need for dialysis is unquestionably a troubling trend in COVID-19 patients.

Medication

Kidney disease is often caused by hypertension (high blood pressure). Hypertension affects the kidneys' blood vessels, impairing their capacity to absorb blood. Kidney damage can

Effects of COVID-19 on the Kidneys

Coronavirus could invade kidney cells

The virus infects the kidney cells directly. The new coronavirus has receptors that allow it to bind to kidney cells, invade, and replicate, potentially causing damage to those tissues. Similar receptors have been located on lungs and heart cells, where the new coronavirus has been shown to cause damage.

Lack of oxygen

Another explanation is that kidney complications in coronavirus patients are caused by abnormally low oxygen levels in the blood, which may occur as a consequence of the pneumonia that is typical in serious cases of the disease.

Cytokine storms

The body's response to the infection may also be to blame. In some people, the immune response to the new coronavirus may be intense, resulting in a cytokine storm.

worsen hypertension because kidneys help control blood pressure. Hypertension can lead to kidney failure over time.

If you have hypertension, you will need to take medicine to treat it. You may have seen news reports raising questions about the safety of some prescription drugs used to treat their condition: Angiotensin-converting enzyme inhibitors (ACE inhibitors) and angiotensin-converting enzyme receptor blockers (ARBs) are (ARBs)

This subject is actually being discussed on two sides. Based on animal research, one side claims that these drugs could be

dangerous, raising the risk of infection. According to the other, these same drugs can protect against lung damage and other COVID-19-related issues.

Non-steroidal anti-inflammatory medications (NSAIDs), such as ibuprofen and naproxen, should be avoided by patients with kidney problems. These can increase blood pressure and body fluid volume, putting a strain on the kidneys.