

## COVID-19 doesn't only infect Lungs but also Kidneys

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**25-50% of the people infected with COVID-19 reported to develop symptoms of Acute Kidney Injury (AKI)**



The unprecedented COVID-19 pandemic has almost opened a Pandora's box. Besides other challenges, it has been testing the current healthcare systems. Among the COVID-19 infected people, quite a few have developed kidney abnormalities in otherwise healthy kidneys.

A few patients even developed Acute Kidney Injury (AKI), a condition known to impact survival of patients. Also, a recent report of the International Society of Nephrology (ISN) reveals that of the people infected with COVID-19, 25-50% of them were seen with Kidney abnormalities, which manifested as a substantial leak of protein and blood in urine, resulting in the development of AKI in close to 15% patients, hinting that COVID-19 also attacks the kidney.

Dr. Tushar Parmar, Intensivist, Apollo Hospital, Mumbai said, "It is generally perceived that COVID-19 types of viruses are borne from respiratory systems — Lungs, but a growing body of evidence shows that COVID-19 also attacks the kidneys either directly or mediated by excessive immune response seen in severe COVID-19 patients and not just the lungs. As per earlier reports of SARS and MERS-CoV infections, Acute Kidney Injury (AKI) had developed in 5 to 15 per cent cases, but about 60 to 90 per cent of those cases reported mortality. While the preliminary reports of COVID-19 patients suggested a lower incidence (3 to 9 per cent) of AKI, the later reports indicated a higher frequency of kidney abnormalities. A study of 59 patients with COVID-19 found that about two-thirds of patients developed a massive leak of protein in urine during their stay in hospital."

The current treatment of COVID-19 with AKI includes general and supportive management and kidney replacement therapy. In the absence of effective antiviral therapy with smaller proportion requiring acute or urgent dialysis, Continuous Renal Replacement Therapy (CRRT) a term used for a collection of acute dialysis techniques can support these patients for 24 hours in a day especially to the critically ill patients suffering with AKI or having overwhelming immune response.

Dr. Ansari, Intensivist, Nanavati Hospital, Mumbai said, "Previous studies show that CRRT had been successfully applied in the treatment of SARS and MERS illnesses related to previously known coronaviruses, which also manifested as respiratory illnesses. At relatively higher doses, it can help clear the immune toxins, thus suggesting CRRT may play a role in patients with COVID-19 with AKI or high immune toxin load."

He further adds, "In situations where shifts in fluid balance and metabolic fluctuations are poorly tolerated and in situations where other extracorporeal therapies are required, CRRT can be used as an integrated system and is preferred over parallel systems, as was highlighted by a recently published retrospective cohort study. In the study, it was found that 36 COVID-19 patients required invasive mechanical ventilation, where CRRT was associated with a reduction in mortality than those treated without CRRT. However, the potential role of extracorporeal therapy techniques needs to be evaluated by the treating physician."

Experts are unanimous that acute dialysis techniques such as CRRT may also be effective in treating patients with COVID-19 and sepsis syndrome irrespective of their kidney function. Considering the ongoing scenario and the increasing rate of kidney involvement due to COVID-19, such extra-corporeal therapies may play an important role in the treatment of severely ill patients. Right treatment by the experts at the right time can save the lives of the infected people who are battling between life and death.