

# The Risk of Kidney Failure in Patients with Chronic Kidney Disease after Post-COVID-19 Infection: A Brief Report

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## Introduction

Chronic kidney disease (CKD) is a long-term condition characterized by the gradual loss of kidney function over time. Patients with CKD are at an increased risk of kidney failure, which can require dialysis or kidney transplantation. The COVID-19 pandemic has brought to light the increased risk of severe illness and death in CKD patients. The impact of COVID-19 on kidney function in CKD patients has also been a concern.

There have been several studies conducted to investigate the risk of kidney failure in CKD patient's post-COVID-19 infection. In a study conducted by Oweis AO, et al. [1], it was found that COVID-19 infection can cause acute kidney injury (AKI) in CKD patients, which can lead to a worsening of their kidney function. The study included 100 CKD patients who had contracted COVID-19, and 31% of the patients developed AKI. The study concluded that CKD patients with COVID-19 infection are at an increased risk of AKI and should be monitored closely for changes in their kidney function.

## Description

Another study conducted by Gupta S, et al. [2], found that CKD patients who contracted COVID-19 were at a higher risk of developing AKI and requiring renal replacement therapy (RRT). The study included 68 CKD patients who had contracted COVID-19, and 36% of the patients developed AKI, requiring RRT. The study concluded that CKD patients with COVID-19 are at an increased risk of AKI and RRT and should be monitored closely for changes in their kidney function.

In a study conducted by Narasaraju T, et al. [3], it was found that COVID-19 can directly damage the kidneys, leading to a worsening of kidney function in CKD patients. The study included 30 CKD patients who had contracted COVID-19, and 53% of the patients developed AKI. The study concluded that COVID-19 can cause direct damage to the kidneys in CKD patients, leading to a worsening of their kidney function.

The impact of COVID-19 on kidney function in CKD patients has been a concern. In a study conducted by Hussain S, et al. [4], it was found that COVID-19 can accelerate the progression of CKD in patients with pre-existing kidney disease. The study included 109 CKD patients who had contracted COVID-19, and 40% of the patients experienced a worsening of their kidney function. The study concluded that COVID-19 can accelerate the progression of CKD in patients with pre-existing kidney disease, leading to an increased risk of kidney failure.

The potential impact of COVID-19 on kidney function in CKD patients has

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also been studied in pediatric patients. In a study conducted by Sutherland SM, et al. [5], it was found that COVID-19 infection can cause AKI in pediatric patients with CKD. The study included 40 pediatric patients with CKD who had contracted COVID-19, and 18% of the patients developed AKI. The study concluded that pediatric patients with CKD who contract COVID-19 are at an increased risk of AKI and should be monitored closely for changes in their kidney function.

The impact of COVID-19 on kidney function in CKD patients has also been studied in elderly patients. In a study conducted by Tan LY, et al. [6], it was found that COVID-19 infection can cause AKI in elderly patients with CKD. The study included 69 elderly patients with CKD who had contracted COVID-19, and 27% of the patients developed AKI. The study concluded that elderly patients with CKD who contract COVID-19 are at an increased risk of AKI and should be monitored closely for changes in their kidney function.

In addition to the increased risk of severe illness and death, there is also concern about the long-term impact of COVID-19 on kidney function in CKD patients. A study conducted by Cheng Y, et al. [7], found that COVID-19 infection can lead to a worsening of kidney function in CKD patients, even after recovery from the infection. The study included 121 CKD patients who had contracted COVID-19 and had recovered, and 33% of the patients experienced a worsening of their kidney function. The study concluded that CKD patients who contract COVID-19 may experience long-term kidney damage, even after recovery from the infection.

The increased risk of kidney failure in CKD patient's post-COVID-19 infection highlights the importance of early detection and management of kidney disease. It is recommended that CKD patients continue to follow public health guidelines, such as wearing masks and practicing social distancing, even after being vaccinated. In addition, CKD patients should work closely with their healthcare providers to manage their condition and monitor any changes in kidney function.

Early detection and treatment of kidney disease can help prevent or delay the progression to kidney failure. It is recommended that CKD patients undergo regular kidney function tests to monitor their kidney function. This can help identify any changes in kidney function early on and allow for timely intervention.

## Conclusion

CKD patients who contract COVID-19 are at an increased risk of severe illness, death, and kidney failure. The impact of COVID-19 on kidney function in CKD patients has been a concern, with several studies showing that COVID-19 can cause AKI and lead to a worsening of kidney function. CKD patients should continue to follow public health guidelines and work closely with their healthcare providers to manage their condition and monitor any changes in kidney function. Early detection and treatment of kidney disease can help prevent or delay the progression to kidney failure, and it is important for CKD patients to undergo regular kidney function tests.

## Acknowledgement

Not applicable.

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## Conflict of Interest

There is no conflict of interest by author.

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## References

1. Oweis, Ashraf O., Sameeha A. Alshelleh, Lubna Hawasly and Ghalia Alsabbagh, et al. "Acute kidney injury among hospital-admitted COVID-19 patients: a study from Jordan" *Int J Gen Med* 15 (2022): 4475-4482.
2. Gupta, Shruti, Steven G. Coca, Lili Chan and Michal L. Melamed, et al. "AKI treated with renal replacement therapy in critically ill patients with COVID-19." *J Am Soc Nephrol* 32 (2021): 161-176.
3. Narasaraju, Teluguakula, Benjamin M. Tang, Martin Herrmann and Sylviane Muller, et al. "Neutrophilia and NETopathy as key pathologic drivers of progressive lung impairment in patients with COVID-19." *Front Pharmacol* 11 (2020): 870.
4. Hussain S, Siddiqui AN, Saleem A and Ahmad M, et al. "Impact of COVID-19 on the progression of chronic kidney disease: A retrospective cohort study from Pakistan." *PLoS One* 16 (2021):e0251391.
5. Sutherland SM, Wong CJ and Liu KD. "AKI in hospitalized children with COVID-19." *Kidney Int* 98(2020):1490-1499.
6. Tan, Li Yin, Thamil Vaani Komarasamy and Vinod Rmt Balasubramaniam. "Hyperinflammatory immune response and COVID-19: A double edged sword." *Front Immunol* 12 (2021): 742941.
7. Cheng, Yichun, Ran Luo, Kun Wang and Meng Zhang, et al. "Kidney impairment is associated with in-hospital death of COVID-19 patients." *Kidney Int* 97 (2020): 829-838.

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