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COVID-19 Associated Nephropathy

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ABSTRACT

Kidney disease is a common side effect of viral infection, and it can cause both acute and chronic kidney disease through a variety of pathways, including immune-mediated injury, direct viral infection injury to kidney cells, and antiviral drug-induced nephrotoxicity. Acute kidney damage is a life-threatening complication in individuals with COVID-19, and it is rather common. The etiological agent of Covid 19 is the severe acute respiratory syndrome coronavirus 2, and the virus's high transmissibility resulted in a rapid global spread and massive pandemic. Sars-Cov-2 recognises human angiotensin converting enzymes-2 (ACE-2) as a cellular receptor, allowing it to infect and disrupt the rennin-angiotensin-aldosterone system in diverse host cells. COVID-19 can cause a wide range of symptoms, from non-apparent or modest symptoms to severe acute respiratory syndrome and multiorgan damage. Acute kidney damage often necessitates kidney replacement treatment. There is a high prevalence of various renal problems linked to COVID-19, such as proteinuria, haematuria, and acute kidney damage. SARS-COV-2 has recently been shown to infect podocytes and tubular epithelial cells, which may play a role in the development of the aforementioned renal abnormalities. The kidneys act as filters, removing pollutants, excess water, and waste from the body. COVID-19 may induce blood clots, which can clog the tiniest blood arteries in the kidney and compromise its function. In some patients, the immunological reaction to the COVID can be very aggressive, resulting in a cytokine storm. The immune system responds by releasing a flood of cytokines into the body. However, a massive inflow of cytokines in a short period of time might produce acute inflammation.

Keywords: Nephrotoxicity, Renal complications, SARS, Kidney, Covid-19

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DOI: 10.21467/abstracts.137 ISBN: 978-81-942709-8-0 (eBook), 978-81-942709-9-7 (Print)